

# International Law and Sea-Level Rise: Forced Migration and Human Rights

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**Abstract**

This report provides a general overview of the international law issues relating to sea-level rise, (forced) migration and human rights. The first part provides a brief account of “What We Know and What We Can Expect”, discussing sea-level rise and its impacts, and then, in turn, their relationship and interaction with the criteria of statehood, human rights and mobility. The second part features “tools” with the potential to address the mobility and human rights implications associated with sea-level rise and its impacts. Part two initially explores interventions that would enable affected persons to remain in situ, before embarking on an examination of extant “tools” pertinent to internal and cross-border movements, respectively. The final part presents the way forward, drawing out key areas and principles of international law with the capacity to lend clarity and content to States’ obligations to address the challenges presented by sea-level rise.

**Keywords**

Forced migration, migration, displacement, planned relocation, human rights, sea-level rise, climate change, disasters, international law, statehood

## Contents

Acknowledgments	iii
1 What We Know and What We Can Expect	1
1.1 Sea-Level Rise and its Impacts	1
1.2 Sea-Level Rise and the Criteria of Statehood	5
1.2.1 Territory	5
1.2.2 Permanent Population	8
1.2.3 Governance Capacity	11
1.3 Sea-Level Rise and Human Rights	11
1.3.1 Right to Life	13
1.3.2 Right to Adequate Food	14
1.3.3 Right to Water	15
1.3.4 Right to the Highest Attainable Standard of Physical and Mental Health	15
1.3.5 Right to Adequate Housing	16
1.3.6 Right to Self-Determination	16
1.3.7 Right to Cultural Identity	17
1.3.8 Other Rights	18
1.4 Sea-Level Rise and Mobility	18
2 Tools	23
2.1 Avoiding Movement: Strategies to Remain <i>in situ</i>	24
2.2 Movement as an Adaptation Strategy	27
2.2.1 Internal Movements	28
2.2.2 International Movements	30
3 Outlook	43
3.1 Human Rights Law	43
3.2 Other Principles of International Law	45
3.2.1 Duty to Cooperate	46
3.2.2 Common but Differentiated Responsibilities	46
3.2.3 Elementary Considerations of Humanity and Human Dignity	47



## Acknowledgments

In November 2012, the International Law Association's (ILA) Executive Council approved the establishment of the Committee on International Law and Sea-Level Rise (Committee). The decision was prompted by a resolution adopted in August 2012, at the 75th ILA General Conference in Sofia, which recognized that prospects of substantial territorial loss resulting from sea-level rise raises fundamental considerations under several areas of international law. The mandate of the Committee through November 2016 is set to "study the possible impacts of sea-level rise and the implications under international law of the partial and complete inundation of state territory, or depopulation thereof, in particular of small island and low-lying states"; and to "develop proposals for the progressive development of international law in relation to the possible loss of all or of parts of state territory and maritime zones due to sea-level rise, including the impacts on statehood, nationality and human rights".<sup>1</sup>

This report formed the basis of discussions on "forced migration and human rights" relating to international law and sea-level rise at the inter-sessional Committee meeting hosted by the Fridtjof Nansen Institute and held in Oslo in June 2015. This sub-theme is one of three that was identified as requiring particular attention during the course of Committee meetings held in Washington DC in April 2014.<sup>2</sup>

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<sup>1</sup> International Law Association (ILA), *International Law and Sea-Level Rise*, Webpage, available at: <http://www.ila-hq.org/en/committees/index.cfm/cid/1043>.

<sup>2</sup> ILA, *International Law and Sea-Level Rise*, Committee Documents, available at: <http://www.ila-hq.org/en/committees/index.cfm/cid/1043>.





# 1 What We Know and What We Can Expect

## 1.1 Sea-Level Rise and its Impacts

- (1) Oceans have waxed and waned over time, continually changing their level relative to land due to geological, geomorphological and climate-related processes. More recently, anthropogenic activities have contributed to this pattern. For instance, their influence on the warming of the Earth's climate system has led to unprecedented changes.<sup>3</sup> According to the fifth assessment report of the Intergovernmental Panel on Climate Change (IPCC), between 1901 and 2010, global mean sea level (GMSL) rose by 0.19m,<sup>4</sup> growing at a rate of 1.7mm per year.<sup>5</sup> This rate is accelerating, rising from 2.0mm per year between 1971 and 2010, and then by 3.2mm per year between 1993 and 2010.<sup>6</sup> Scientists are virtually certain<sup>7</sup> that GMSL will continue to rise over this century and into the next, very likely at a faster rate than 2.0 mm per year.<sup>8</sup> In absolute terms, scientists predict that from 2081 to 2100, GMSL will likely rise

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<sup>3</sup> IPCC, *Climate Change 2014: Synthesis Report. Contribution of Working Group I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, R. Pachauri and L. Meyer (eds.), Geneva, 2015, 2, available at: [http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_FINAL\\_full.pdf](http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full.pdf) [hereinafter, "IPCC, *Synthesis Report*"]. The effects of atmospheric concentrations of greenhouse gases and other anthropogenic drivers have been a dominant cause of observed warming since the mid-20<sup>th</sup> century (4), and "since the 1950s, many observed changes are unprecedented over decades to millennia." (2) These factors are regarded as *very likely* to have made a substantial contribution to global mean sea-level rise observed since the 1970s (5), particularly through their impact on ocean thermal expansion and glacier mass loss, identified as the major contributors and thought to account for about 75 per cent of global mean sea-level rise (42). Anthropogenic influences unrelated to the climate that affect sea level include activities such as extraction of groundwater and fossil fuels and creation of artificial drainage, which affect subsidence rates. These aspects are discussed later in this report. The term "climate system" as defined by the IPCC means, "the highly complex system consisting of five major components: the atmosphere, the hydrosphere, the cryosphere, the lithosphere and the biosphere and the interactions between them. The climate system evolves in time under the influence of its own internal dynamics and because of external forcings such as volcanic eruptions, solar variations and anthropogenic forcings such as the changing composition of the atmosphere and land-use change." (121) With respect to findings, the IPCC notes that, "[e]ach finding is grounded in an evaluation of underlying evidence and agreement. In many cases, a synthesis of evidence and agreement supports an assignment of confidence. The summary terms for evidence are: limited, medium or robust. For agreement, they are low, medium or high. A level of confidence is expressed using five qualifiers: very low, low, medium, high and very high.... The following terms ... indicate the assessed likelihood of an outcome or a result: virtually certain 99–100% probability, very likely 90–100%, likely 66–100%, about as likely as not 33–66%, unlikely 0–33%, very unlikely 0–10%, exceptionally unlikely 0–1%. Additional terms (extremely likely 95–100%, more likely than not >50–100%, more unlikely than likely 0–<50%, extremely unlikely 0–5%) [are] also be used when appropriate" (2, fn.1).

<sup>4</sup> *Ibid.*, 4.

<sup>5</sup> *Ibid.*, 42. As indicated in n. 3, the IPCC uses a number of terms to indicate the assessed likelihood of an outcome or a result. This rate of increase is assessed as "very likely".

<sup>6</sup> *Ibid.*, 42 and 62.

<sup>7</sup> As indicated in n. 3, "virtually certain" is 99–100% probability.

<sup>8</sup> *Ibid.*, 13 and 62.

somewhere between 0.26m and 0.82m above 1985 to 2005 levels.<sup>9</sup> Projections suggest sea levels in over 95 per cent of the world's ocean area will rise by the end of the 21<sup>st</sup> century.<sup>10</sup> Even if mitigation efforts stabilize global temperatures—and, in turn, the rate and magnitude of sea-level rise—GMSL will continue to increase for many centuries.<sup>11</sup> This will present unique challenges for human society for the foreseeable future.

- (2) Sea-level rise is widely recognized as posing a significant threat to coastal and low-lying areas of the world.<sup>12</sup> The nature of the threat varies from region to region and locality to locality because sea-level rise is not uniform across space and time.<sup>13</sup> Both climatic and non-climatic factors lead to variability.<sup>14</sup> Non-climatic factors can include natural uplift and subsidence processes, such as tectonics and glacial isostatic adjustments, and anthropogenic-induced subsidence caused by activities such as groundwater and resource extraction and reduced sediment delivery.<sup>15</sup> The concept of

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<sup>9</sup> *Ibid.*, 13.

<sup>10</sup> *Ibid.*

<sup>11</sup> *Ibid.*, 13 and 16. See also R. Nicholls et al., *Sea-level Rise and its Possible Impacts Given a 'Beyond 4° World' in the Twenty-first Century*, *Philosophical Transactions of the Royal Society A*, 2011, 369(1934): 161–181, 177. On the physical science aspects of sea-level change generally, see J. Church et al., *Sea Level Change*, in: *Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, T. Stocker et al., (eds.), Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2013, available at: [http://ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5\\_Chapter13\\_FINAL.pdf](http://ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5_Chapter13_FINAL.pdf) [hereinafter, “IPCC, *WG I: Chapter 13*”].

<sup>12</sup> See e.g. L. Nurse et al., *Small Islands*, in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part B: Regional Aspects, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, V. Barros et al., (eds.), Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2014, 1613–1654, 1619, available at: [http://ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap29\\_FINAL.pdf](http://ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap29_FINAL.pdf) [hereinafter, “IPCC, *WG II: Chapter 29*”]; P. Wong et al., *Coastal Systems and Low-lying Areas*, in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part A: Global and Sectoral Aspects, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, C. Field et al., (eds.), Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2014 361–409, 367, available at: [http://ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap5\\_FINAL.pdf](http://ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap5_FINAL.pdf) [hereinafter, “IPCC, *WG II: Chapter 5*”]; R. Nicholls, *Planning for the Impacts of Sea-level Rise*, *Oceanography*, 2011, 24(2): 144–157. The IPCC does not provide a definition of coastal and low-lying areas. In general, it uses the term “coastal systems and low-lying areas” or “coasts” throughout its report and these are described as including all areas near mean sea-level rise. The coastal system is conceptualized as including both natural and human systems and an explanation of what each system encompasses can be found in IPCC, *WG II: Chapter 5*, 366–67.

<sup>13</sup> IPCC, *WG II: Chapter 5*, n. 12, 367–69.

<sup>14</sup> *Ibid.*

<sup>15</sup> See e.g. R. Nicholls, n. 12, 146; IPCC, *WG II: Chapter 5*, *ibid.*, 369; D. J. Stanley, *Subsidence in the Northeastern Nile Delta: Rapid Rates, Possible Causes, and Consequences*, *Science*, 1988, 240(4851): 497–500; J. Eggleston and J. Pope, *Land Subsidence and Relative Sea-level Rise in the Southern Chesapeake Bay Region: U.S. Geological Survey Circular 1392*, U.S. Department of the Interior, 2013, available at: <http://pubs.usgs.gov/circ/1392/pdf/circ1392.pdf>. “For example, in the equatorial Pacific, sea levels can vary from the global mean by up to 40cm due to El Niño-Southern Oscillation and this can strongly influence trends on decadal scales. ... Natural subsidence can occur because of sediment compaction and loading, as in the Mississippi River, and

“relative sea-level rise” (RSLR) captures the interaction between these dynamics by accounting for the sum of global, regional and local components that affect sea levels.<sup>16</sup>

- (3) We know that the observed and projected physical impacts of sea-level rise are multiple, can occur over both short and longer timeframes, and differ in their scope. This is a function of RSLR, among other things.<sup>17</sup> The major physical impacts of sea-level rise have been categorized as falling into five groups:
- Increased flooding and inundation (from the sea and rivers);
  - Erosion;
  - Intrusion of saltwater into surface water and groundwater;
  - Impeded drainage/higher water tables; and
  - Loss and change of wetlands.<sup>18</sup>

Sea-level rise is also regarded as the main contributor to increased sea-level extremes, which are predicted to significantly increase in some regions by 2100.<sup>19</sup> Sea-level extremes are experienced through rapid-onset events such as astronomical tides, storm surges and wind and swell waves.<sup>20</sup> These increase the severity of other physical impacts, including flooding, erosion and saltwater intrusion.<sup>21</sup>

- (4) RSLR and sea-level extremes are not the only climate change-related threats to coastal and low-lying areas, however. Ocean acidification and the warming of sea surface temperatures are particularly important drivers of change, and pose significant negative consequences for coastal ecosystems.<sup>22</sup> Alterations in hydrological systems affect water quality and quantity.<sup>23</sup> Heavy precipitation events are predicted to become more intense and

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other deltas. Tectonic movements, both sustained and abrupt, have brought about relative sea-level changes. The Great East Japan Earthquake in 2011 caused subsidence up to 1.2m of the Pacific coast of northeast Japan. The Sumatra-Andaman earthquake in 2004 and subsequent earthquakes in 2005 produced vertical deformation ranging from uplift of 3m to subsidence of 1m. These movements are especially important in coastal zones located near active plate margins. Anthropogenic causes of [relative sea-level rise] include sediment consolidation from building loads, reduced sediment delivery to the coast, and extraction of subsurface resources such as gas, petroleum, and groundwater. Subsidence rates may also be sensitive to the rates of oil and gas removal” (IPCC, *WG II: Chapter 5*, n. 12, 369) internal citations omitted.

<sup>16</sup> IPCC, *WG II: Chapter 5*, n. 12, 367; R. Nicholls, n. 12, 146.

<sup>17</sup> IPCC, *WG II: Chapter 29*, n. 12, 1619; R. Nicholls, n. 12, 146.

<sup>18</sup> R. Nicholls, n. 12, 148; IPCC, *WG II: Chapter 5*, n. 12, 368.

<sup>19</sup> IPCC, *Synthesis Report*, n. 3, 8 and 62; IPCC, *WG I: Chapter 13*, n. 11, 1140.

<sup>20</sup> IPCC, *Synthesis Report*, n. 3, 8; IPCC, *WG II: Chapter 5*, n. 12, 370; IPCC, *WG II: Chapter 29*, n. 12, 1616; see also IPCC, *WG I: Chapter 13*, n. 11, 1140. Changes in storms and associated storm surges may further contribute to changes in sea-level extremes, although due to limited studies and uncertainties associated with cyclones, the IPCC notes this with a low-level of confidence (IPCC, *WG II: Chapter 5*, n. 12, 364).

<sup>21</sup> IPCC, *WG II: Chapter 5*, n. 12, 368.

<sup>22</sup> *Ibid.*, 364. “Warming and acidification will lead to coral bleaching, mortality and decreased constructional ability (*high confidence*), making coral reefs the most vulnerable marine ecosystem with little scope for adaptation” (364) internal references omitted.

<sup>23</sup> IPCC, *Synthesis Report*, n. 3, 6; *Ibid.*, 381.

frequent in many regions,<sup>24</sup> increasing the risk of flooding and landslides. Heat waves are expected to occur more often and to last longer.<sup>25</sup> The IPCC notes that impacts from recent climate-related extremes, such as heat waves, droughts, floods and cyclones, reveal significant vulnerability and exposure to climate variability.<sup>26</sup>

- (5) Together, the combined and cumulative impacts of RSLR, sea-level extremes and other effects of climate change present a range of direct and indirect negative consequences for human lives and living conditions in coastal and low-lying areas, progressively threatening human rights and human security over the course of this century and beyond.<sup>27</sup> They pose risks to all aspects of human life, including mortality, food and water security, health and well-being, homes, land and other property, livelihoods and industry, infrastructure and critical services,<sup>28</sup> and cultural heritage.<sup>29</sup> Not all communities will experience the same pressures or have the same needs, and the needs of particular individuals within communities will also vary. This is because underlying socio-economic circumstances, differing degrees of exposure and vulnerability, adaptive capacity and resilience and the resources of governing institutions will all affect the ability of individuals, communities and governments to respond to change.
- (6) These impacts, and the pressures on and needs of communities, will, in turn, affect human mobility. Where people cannot live in safe conditions with access to livelihoods—or expect that they will not be able to in future—they may move elsewhere. Sometimes they may move because of a sudden-onset event, such as a storm surge, astronomical tide or flooding. At other times, they may plan to move in anticipation of longer-term changes to their environment due to erosion, change in wetlands or saltwater intrusion into groundwater. The nature of any movement—as well

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<sup>24</sup> IPCC, *Synthesis Report*, n. 3, 6, 8 and 10. “Changes in precipitation will not be uniform” (11).

<sup>25</sup> *Ibid.*, 10.

<sup>26</sup> *Ibid.*, 8.

<sup>27</sup> IPCC, *Summary for Policymakers*, in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part A: Global and Sectoral Aspects, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, C. Field et al., (eds.), Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2014, 1–32, available at: [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5\\_wgII\\_spm\\_en.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5_wgII_spm_en.pdf) [hereinafter, “WG II: Summary for Policymakers”]; W. Adger et al., *Human Security*, in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, C. Field et al., (eds.), Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2014, 755–791, available at: [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap12\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap12_FINAL.pdf) [hereinafter, “IPCC, WG II: Chapter 12”]. Disentangling the impacts of RSLR and sea-level extremes from other impacts of climate change is complex and, arguably, futile. Nonetheless, the IPCC does project with high confidence, risk of death, injury, ill health and disrupted livelihoods in low-lying coastal areas including small islands due to storm surges, coastal flooding and sea-level rise (IPCC, WG II: *Summary for Policymakers*, 13).

<sup>28</sup> IPCC, WG II: *Summary for Policymakers*, n. 27, 13 and more generally.

<sup>29</sup> IPCC, WG II: *Chapter 5*, n. 12, 381.

as its geography—will depend in part on mitigation and adaptation action, what assistance and protection is available to people and on legal and policy frameworks regulating cross-border movement. Even so, the precise scale and timeframes remain unclear.

## 1.2 Sea-Level Rise and the Criteria of Statehood

- (7) Sea-level rise poses a risk in almost all regions of the world.<sup>30</sup> While its impacts will be felt differently in different areas, and will be linked to the adaptive capacity of the area concerned (including the financial and technical resources available to it), in some countries substantial parts or even all of the territory may become uninhabitable. This report does not engage with the question whether a State whose territory is uninhabitable can continue to retain its status as a “State”,<sup>31</sup> but it does examine how sea-level rise may affect a State’s territory, population and government (which are three of the four classic criteria of statehood).<sup>32</sup> It notes variations in different parts of the world, and highlights the dynamics and interactions between the three indicators (on the assumption that no mitigation or adaptation interventions are undertaken).

### 1.2.1 Territory

- (8) Sea-level rise means that some coastal and low-lying areas will first become uninhabitable and may later disappear. Flooding, inundation, erosion, saltwater intrusion, impeded drainage and changes in wetlands, can result in loss of and damage to coastal land, infrastructure and ecosystems.
- (9) As the preceding discussion in section 1.1 highlights, however, not all coastal and low-lying areas are equally vulnerable to loss of habitable territory. Variations will be a function of RSLR, as well as the breadth of coastlines, among other factors. For example, land inundation due to sea-level rise poses particular risks to the territorial integrity of low-lying island States and those with extensive coastlines.<sup>33</sup> Approximately 70 per cent of the world’s coastlines are projected to experience a sea-level change within

<sup>30</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 21–25. The only regions in which it is not included as a *key* risk are Central and South America. See also Nansen Initiative, *Disasters and Cross-Border Displacement in Central America: Emerging Needs, New Responses*, Outcome Report, Nansen Initiative Central America Regional Consultation, San Jose, Costa Rica, 2–4 December 2013, available at: <https://www.nanseninitiative.org/central-america-consultations-intergovernmental/>, where sea-level rise is highlighted as driving relocation efforts.

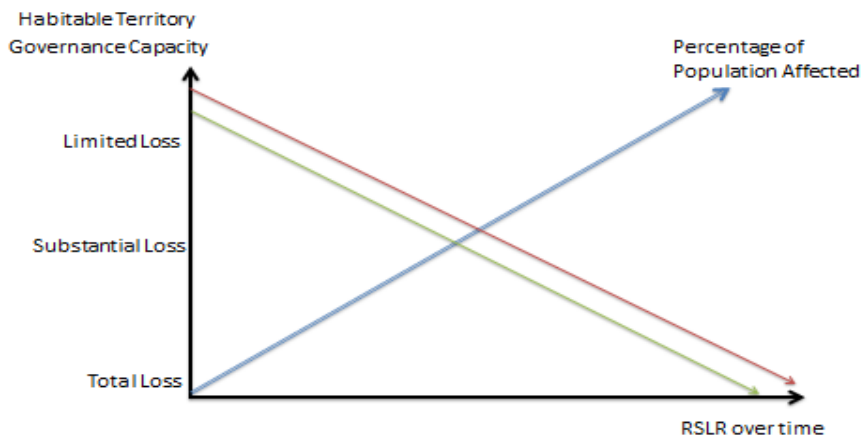
<sup>31</sup> Legal issues relating to statehood may be considered by the Committee post-2015, and therefore are not covered here.

<sup>32</sup> Montevideo Convention on the Rights and Duties of States, entered into force 26 December 1934, 165 LNTS 19, Article 1, which is generally regarded as reflecting customary international law. More specifically, the criteria are: a defined territory, a permanent population, an effective government and the capacity to enter into relations with other States. For a discussion of each of these criteria see e.g. J. McAdam, *Climate Change, Forced Migration, and International Law*, Oxford: Oxford University Press, 2012, 128–35.

<sup>33</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 20.

20 per cent of the GMSL.<sup>34</sup> Although relative sea level is falling in some parts of the world,<sup>35</sup> the vast majority of the world's coastlines are experiencing a RSLR.<sup>36</sup> The rate of rise varies between relatively stable coasts, such as Sydney, to naturally subsiding coasts, such as New York City, and the majority of the world's densely-populated deltas, where anthropogenic activities have contributed to subsidence.<sup>37</sup> Many large cities on deltas and coastal plains, such as Tokyo, Shanghai and Bangkok, have subsided over the past 100 years.<sup>38</sup> In some deltaic areas RSLR can exceed GMSL rise by more than 10 cm per year.<sup>39</sup>

- (10) The green line in Figure 1 seeks to provide a simple illustration of the relationship between the impacts of RSLR on habitable territory over time. The line depicts situations in which, over time, there is a positive correlation between GMSL rise and RSLR, bearing in mind that, as explained in the preceding sections, relative sea levels do not always increase in line with global changes. The green line is based on the simplified assumption that an increase in RSLR over time correlates positively and linearly with the loss of habitable territory. The gradient of this line, in respect of any given State, will vary depending on the particular national context.



**Figure 1: Simplified trends**

<sup>34</sup> IPCC, *Synthesis Report*, n. 3, 13.

<sup>35</sup> For example, coastlines near current and former glaciers and ice sheets are experiencing relative sea-level fall (IPCC, *WG II: Chapter 5*, n. 12, 369). According to Nicholls, relative sea level is falling due to ongoing glacial isostatic adjustment-induced rebound in some high-latitude locations that were sites of large glaciers, such as the northern Baltic and Hudson Bay (R. Nicholls, n. 12, 146).

<sup>36</sup> IPCC, *WG II: Chapter 5*, n. 12, 369.

<sup>37</sup> R. Nicholls, n. 12, 146; *Ibid.*

<sup>38</sup> IPCC, *WG II: Chapter 5*, n. 12.

<sup>39</sup> “[I]t is also estimated that the delta surface area vulnerable to flooding could increase by 50% for 33 deltas around the world under the sea-level rise as projected for 2100 by the IPCC AR4” (*Ibid.*, 369–70).

- (11) Three types of cases are worth further examination: (a) States in which there will be a limited loss of habitable territory; (b) States in which substantial habitable territory will be lost; and (c) States that risk a complete loss of habitable territory. These three paradigm cases fall at different points along a continuum, with zones of transition in between given the effects of RSLR over time on the affected State.
- (12) Australia arguably represents an example within the first category. Sea-level rise poses some risks to Australia, with regional sea-level rise over the 21<sup>st</sup> century very likely to exceed the historical rate between 1971 and 2010, consistent with GMSL trends.<sup>40</sup> Risks from sea-level rise are expected to continue beyond 2100,<sup>41</sup> with large increases in the frequency of extreme sea-level events.<sup>42</sup> While Australia's current exposure to coastal inundation is small, it is expected to increase rapidly if sea-level rise exceeds 0.5m.<sup>43</sup> Projected increases in erosion and inundation stemming from rising sea levels (and heavy rainfalls), are expected to result in damage to infrastructure, low-lying ecosystems and housing.<sup>44</sup> The severity and breadth of these impacts will be heightened if sea levels reach the upper ranges of IPCC projections.<sup>45</sup> Given the land area of Australia, compared to the other cases discussed in the next two paragraphs, the relative proportion of habitable territory claimed by the impacts of sea-level rise and extremes alone may arguably be limited.<sup>46</sup>
- (13) Due to their low-lying elevation, deltas face extensive threats from the impacts of sea-level rise,<sup>47</sup> with the potential for substantial territory loss. Bangladesh is a poignant example of a State in this second category, with sea-level rise anticipated to aggravate many pre-existing hazards, such as flooding, storm surges, saltwater intrusion and erosion, and to subsume up to 30 per cent of coastal land by 2080.<sup>48</sup>

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<sup>40</sup> A. Reisinger et al., *Australasia*, in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, V. Barros et al., (eds.), Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2014, 1371–1438, 1374, available at: [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap25\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap25_FINAL.pdf) [hereinafter, "IPCC, *WG II: Chapter 25*"].

<sup>41</sup> *Ibid.*, 1376.

<sup>42</sup> *Ibid.*, 1381.

<sup>43</sup> *Ibid.*, 1412.

<sup>44</sup> *Ibid.*, 1374.

<sup>45</sup> *Ibid.*, 1411.

<sup>46</sup> *Ibid.*, 1375–76. The IPCC notes that sea-level rise will pose increasing risks to coastal infrastructure and low-lying ecosystems in Australia, with widespread damage towards the upper end of projected sea-level changes, although managed retreat is a long-term adaptation option. That said, sea-level rise combined with other impacts of climate change may present a broader range of threats and affect greater proportions of Australia's habitable territory.

<sup>47</sup> See e.g. IPCC, *WG II: Chapter 5*, n. 12, 80–81; see also J. McAdam (ed.), *Climate Change and Displacement: Multidisciplinary Perspectives*, Oxford and Portland, Oregon: Hart Publishing, 2010, 84.

<sup>48</sup> J. McAdam, n. 32, 163.

- (14) In the third category are low-lying island States, especially in the Pacific and Indian Oceans, which face far-reaching threats to the on-going habitability of their territory. Over the course of the 21<sup>st</sup> century, some low-lying island States, such as the Maldives and Tuvalu, “face the real prospect of submergence”.<sup>49</sup> Significantly, it is likely that long before the territory itself is submerged, other factors may render the land unsuitable for human habitation (such as the quality and availability of water resources).<sup>50</sup>

### 1.2.2 Permanent Population

- (15) Whereas the previous section focused on the physical impacts of sea-level rise on territory itself, this section focuses on the implications of those changes—in terms of populations potentially at risk of impacts and the potential consequences for their living conditions, including livelihoods. A key point to note is that even if land is not submerged, it may not be suitable for human habitation. Saltwater intrusion into groundwater, surface water and land may jeopardize fresh water supplies, diminish the fertility of agricultural land, and in turn also affect livelihoods and food and water security. For instance, people may not be able to cultivate the land or, in extreme cases, remain there at all if no alternative drinking water source is available. Immediate and short-term impacts, such as flooding, inundation and saltwater intrusion into surface water are likely to be exacerbated by longer-term impacts, such as erosion.<sup>51</sup> When flooding and inundation is experienced through extreme sea-level events in particular, such as astronomical tides and storm surges, people’s lives may be directly at risk.
- (16) With large concentrations of people residing in coastal and low-lying areas, and trends suggesting increased movement to, population growth in, and urbanization of coastal zones, the number of people exposed to the impacts of sea-level rise and sea-level extremes will continue to grow.<sup>52</sup> In 2005, there were 136 port cities in the world with over a million inhabitants each. Almost 40 per cent of these were in Asia.<sup>53</sup> In 2007, a study estimated that around 634 million people were living in low-elevation coastal zones—defined in the study as the contiguous area along the coast that is less than 10 metres above sea level—

<sup>49</sup> R. Nicholls and A. Cazenave, *Sea-Level Rise and its Impact on Coastal Zones*, Science, 2010, 328(5985): 1517–20, 1519.

<sup>50</sup> IPCC, *WG II: Chapter 29*, n. 12; IPCC, *WG II: Summary for Policymakers*, n. 27; see also J. McAdam, n. 32, Chapter 5 and J. McAdam, n. 47, 108.

<sup>51</sup> R. Nicholls, n. 12, 147; For example, “...erosion of sedimentary features (e.g. salt marshes, mangroves, sand dunes, and coral reefs) will tend to degrade or remove natural protection and hence increase the likelihood of coastal flooding.”

<sup>52</sup> R. Nicholls et al., *Ranking Port Cities with High Exposure and Vulnerability and Climate Extremes: Exposure Estimates*, OECD Environmental Working Papers, No. 1, 2008, 3; G. McGranahan et al., *The Rising Tide: Assessing the Risks of Climate Change and Human Settlements in Low Elevation Coastal Zones*, Environment & Urbanization, 2007, 19(1): 17–37, 17 and 20; IPCC, *WG II: Chapter 12*, n. 27, 767. On this theme more generally, see also R. McLeman, *Climate and Human Migration: Past Experiences, Future Challenges*, New York, NY: Cambridge University Press, 2014, Chapter 7.

<sup>53</sup> R. Nicholls et al., n. 52, 7.



predominately in lower- and middle-income countries.<sup>54</sup> This figure represented approximately 10 per cent of the world's total population, and 13 per cent of the world's urban population (approximately 360 million people), even though low elevation coastal zones cover only two per cent of the world's land area.<sup>55</sup> Although a 10-metre sea-level rise is extremely unlikely in the foreseeable future,<sup>56</sup> as discussed earlier, a smaller rise will still have impacts.

- (17) In absolute numbers, Africa (especially Mozambique and the Nile Delta in Egypt) and Asia (especially South, South-East and East) appear to be the areas most at risk.<sup>57</sup> Within Asia, Vietnam and Bangladesh are especially susceptible because of the large number of people living in low-lying deltaic plains.<sup>58</sup> Small island regions in the Pacific and Indian Oceans and the Caribbean are particularly vulnerable.<sup>59</sup> Small island States have 16 per cent of their land area (the highest share relative to other regions) and 13 per cent of their total population in the low-elevation coastal zone.<sup>60</sup> Maldives, Marshall Islands, Tuvalu, Cayman Islands and Turk and Caicos Island each have more than 90 per cent of their population in the low-elevation coastal zone.<sup>61</sup> "Populations [living in] low-lying island nations such as the Maldives or Tuvalu face the real prospect of increased flooding, submergence and forced abandonment."<sup>62</sup> Other vulnerable areas include Guyana, Suriname and French Guiana in South America and coastal areas around the southern North Sea.<sup>63</sup>
- (18) Returning to the cases discussed in section 1.2.1, the 2007 study revealed that three million people in Australia and New Zealand live in areas that are 10 metres or less above sea level.<sup>64</sup> A 1.1 metre RSLR would affect roughly 274,000 residential and 8600 commercial buildings and lead to service disruption and negative effects on health and ecosystems.<sup>65</sup>

<sup>54</sup> G. McGranahan et al., n. 52, 21, 24 and 25. The study used data from 2000.

<sup>55</sup> *Ibid.*, 17 and 24.

<sup>56</sup> *Ibid.*, 21.

<sup>57</sup> R. Nicholls, n. 12, 150. This is based on a synthesis of various research studies. G. McGranahan et al., *ibid.* indicate that Africa has only one per cent of its land area within the low-elevation coastal zone, but 12 per cent of its urban population and seven per cent of its total population (24). Asia has three per cent of its land area within the low-elevation coastal zone, but 18 per cent of its urban population and 13 per cent of its total population (24). This represents roughly one-third of the world's land area in the low-elevation coastal zone, but two-thirds of the urban population, and almost three-quarters of the total population in the zone due to much higher population densities (23–24).

<sup>58</sup> R. Nicholls, n. 12, 150. G. McGranahan et al., rank China, India, Bangladesh, Vietnam and Indonesia as the top five countries in terms of the actual number of people living within the low-elevation coastal zone (n. 52, 26).

<sup>59</sup> R. Nicholls, n. 12, 150.

<sup>60</sup> G. McGranahan et al. n. 52, 24. Note, however, for the purposes of this assessment, this grouping "has 65 members, 32 of which are not listed as Small Island States in the IPCC regional listing."

<sup>61</sup> *Ibid.*, 26.

<sup>62</sup> R. Nicholls, n. 12, 151.

<sup>63</sup> *Ibid.*, 150.

<sup>64</sup> G. McGranahan et al., n. 52, 24.

<sup>65</sup> IPCC, *WG II: Chapter 25*, n. 40, 1384.

- (19) Bangladesh contains one of the most populous deltaic regions in the world, with almost half of its population living 10 metres or less above sea level.<sup>66</sup> By the 2070s, the IPCC projects that Dhaka will be among the most affected Asian cities, in terms of population exposed to coastal flooding.<sup>67</sup> The impacts of sea-level rise threaten rice production,<sup>68</sup> which has attendant implications for livelihoods of rural populations. Sediment balance and the salinity of water and soil in coastal regions may also be altered by sea-level rise, threatening freshwater supplies, fish stocks, water drainage and arable land.<sup>69</sup>
- (20) While small island States do not have uniform climate change risk profiles, sea-level rise is one of the most widely recognized threats to low-lying coastal areas on islands and atolls,<sup>70</sup> where the majority of human communities and infrastructure is located.<sup>71</sup> Other threats affecting these regions include tropical and extra-tropical cyclones, increased air and sea surface temperature, changing rainfall patterns, ocean acidification and increased ocean temperatures.<sup>72</sup> The degradation of coral reef ecosystems is expected to negatively affect the livelihoods of island communities, given their dependence on such ecosystems for such things as coastal protection, subsistence fisheries and tourism.<sup>73</sup> The degradation of fresh groundwater resources<sup>74</sup> may also mean that communities cannot survive in some areas.
- (21) The blue line in Figure 1 seeks to represent the percentage of a State's population affected by the impacts of RSLR over time. It is based on the simplified assumption that as RSLR increases, and as habitable territory decreases, the greater the percentage of a State's population affected (and that the nature of this relationship is linear). A range of factors will impact this dynamic, including the correlation between where communities are located and which part of the territory becomes uninhabitable. Again, the gradient of this blue line, in respect of any given State, will vary depending on the particular national context. Australia, Bangladesh and low-lying island States (such as the Maldives, Marshall Islands and Tuvalu) arguably illustrate limited, substantial and extensive impacts on populations, respectively.

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<sup>66</sup> G. McGranahan et al., n. 52, 32.

<sup>67</sup> Y. Hijioka et al., *Asia*, in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part B: Regional Aspects, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, V. Barros et al., (eds.), Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2014, 1327–70, 1345, available at: [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap24\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap24_FINAL.pdf). Other cities mentioned are Kolkata, Mumbai, Guangzhou, Ho Chi Minh City, Shanghai, Bangkok, Rangoon and Hai Phòng.

<sup>68</sup> *Ibid.*, 1346.

<sup>69</sup> J. McAdam, n. 32, 162.

<sup>70</sup> IPCC, *WG II: Chapter 29*, n. 12, 1616.

<sup>71</sup> *Ibid.*, 1619.

<sup>72</sup> *Ibid.*, 1616, 1621.

<sup>73</sup> *Ibid.*, 1616.

<sup>74</sup> *Ibid.*

### 1.2.3 Governance Capacity

- (22) As the impacts of sea-level rise change the contours of a State's habitable territory, and in turn impact upon the ability of the population to remain there, this may also affect governance. In simplified terms, States may face enhanced challenges to their capacity to govern as habitable territory decreases, and the percentage of the population affected increases. While limited-to-medium loss of territory and population (see the cases of Australia and Bangladesh discussed above in sections 1.2.1 and 1.2.2) is unlikely to affect governance capacity, as understood as an element of statehood, substantial loss of territory and population (such as envisaged for small-island States in the Pacific) certainly has the capacity to do so.
- (23) The red line in Figure 1 attempts to illustrate this dynamic. There will be significant differentials in the gradient of this line when developmental status, political will, financial and technical resources and other relevant factors are taken into account. Additionally, States whose governance capacity is already weak may be significantly challenged long before substantial portions of habitable territory are lost and populations are seriously affected.

## 1.3 Sea-Level Rise and Human Rights

- (24) The preceding discussion has sought to illustrate the ways in which the impacts of sea-level rise affect States by highlighting their implications for habitable territory, the percentage of the population affected and the State's governance capacity. This section focuses on the observed and projected impacts of sea-level rise on the enjoyment of human rights of affected populations. It briefly examines how the enjoyment of certain human rights is likely to be affected.
- (25) It is "firmly established" that adverse environmental changes can interfere with the effective enjoyment of human rights.<sup>75</sup> As knowledge and understanding of the impacts of climate change on

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<sup>75</sup> See e.g. J. Knox, *Report of the Independent Expert on Issues of Human Rights Obligations relating to the Enjoyment of a Safe, Clean Healthy and Sustainable Environment: Preliminary Report*, United Nations Human Rights Council (HRC), UN Doc. A/HRC/22/43, 24 December 2012, [hereinafter, "J. Knox, *Preliminary Report*"], paragraphs 18, 19 and 34, available at: [http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A-HRC-22-43\\_en.pdf](http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A-HRC-22-43_en.pdf); J. Knox, *Report of the Independent Expert on Issues of Human Rights Obligations relating to the Enjoyment of a Safe, Clean Healthy and Sustainable Environment: Mapping Report*, HRC, UN Doc. A/HRC/25/53, 30 December 2013, paragraph 17, available at: <http://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/MappingReport.aspx>; see also United Nations Office of the High Commissioner for Human Rights (OHCHR), *Mapping Human Rights Obligations relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment: Focus Report on Human Rights and Climate Change*, June 2014, available at: <http://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/MappingReport.aspx>.

human lives and living conditions have evolved,<sup>76</sup> many actors have turned their attention to the relationship between climate change and human rights.<sup>77</sup>

- (26) States themselves have acknowledged in successive UN Human Rights Council (HRC) resolutions that “the adverse effects of climate change have a range of direct and indirect implications for the effective enjoyment of all human rights”,<sup>78</sup> including “immediate and far-reaching threats to people and communities around the world”.<sup>79</sup> The HRC has stressed that “the adverse effects of climate change are felt most acutely by those segments of the population that are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status, national or social origin, birth or other status and disability”.<sup>80</sup> It has observed that “people in developing countries, particularly in least developed countries, small island developing States and African countries ... among the most vulnerable to the adverse effects of climate change on the full and effective enjoyment of all human rights”.<sup>81</sup>
- (27) There is already a substantial body of material describing the implications for the enjoyment of human rights stemming from observed and projected impacts of climate change, including sea-level rise.<sup>82</sup> The HRC has referenced many of these in its

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<sup>76</sup> OHCHR, *Report of the Office of the United Nations High Commissioner for Human Rights on the Relationship between Climate Change and Human Rights*, UN Doc. A/HRC/10/61, 15 January 2009, paragraph 3, available at: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G09/103/44/PDF/G0910344.pdf?OpenElement>; UN General Assembly resolutions on climate change and human rights demonstrates the broadening of this debate (see e.g. UNGA, *Human Rights and Climate Change*, UN Doc. A/HRC/RES/7/23, 28 March 2008, available at [http://ap.ohchr.org/documents/E/HRC/resolutions/A\\_HRC\\_RES\\_7\\_23.pdf](http://ap.ohchr.org/documents/E/HRC/resolutions/A_HRC_RES_7_23.pdf)).

<sup>77</sup> Aside from States, through resolutions of the HRC (discussed below), other actors include UN treaty and other bodies, special procedures of the HRC, regional human rights bodies, courts and academics. It should be noted that a broader debate also exists regarding the relationship between the environment and human rights. For more on this, see reports discussed in n. 75.

<sup>78</sup> UNGA, *Human Rights and Climate Change*, UN Doc. A/HRC/26/L.33/Rev.1, /27, 25 June 2014, paragraph 1. Other resolutions that address “human rights and climate change” are: UNGA, UN Doc. A/HRC/RES/7/23, 28 March 2008; UNGA, UN Doc. A/HRC/RES/10/04, 25 March 2009; UNGA, UN Doc. A/HRC/RES/18/22, 17 October 2011; and the most recent UNGA, UN Doc. A/HRC/29/L.21, 30 June 2015. Beyond these, resolutions on the thematic topic of the “environment”, including “human rights and the environment”, also reference climate change.

<sup>79</sup> UNGA, UN Doc. A/HRC/RES/18/22, n. 78, paragraph 1.

<sup>80</sup> UNGA, UN Doc. A/HRC/29/L.21, n. 78, preamble.

<sup>81</sup> UNGA, UN Doc. A/HRC/26/L.33/Rev.1, /27, n. 78, preamble.

<sup>82</sup> For example, a study conducted by the OHCHR on the effects of climate change on the enjoyment of human rights at the request of the HRC “concluded that climate change will pose direct and indirect threats to many rights, including: the rights to life and food, as a result of malnutrition and extreme weather events; the right to water, as a result of melting glaciers and reductions in snow cover; and the right to the highest attainable standard of health, as a result of malnutrition, extreme weather and an increasing incidence of malaria and other diseases that thrive in warmer weather. The study noted that rising sea levels caused by global warming threaten the very existence of small island States, which has ‘implications for the right to self-determination, as well as for the full range of rights for which individuals depend on the State for their protection’” (J. Knox, *Preliminary Report*, n. 75, paragraph 20), internal citation omitted.

resolutions on climate change and human rights, including impacts on the rights to life, adequate food, the highest attainable standard of health, adequate housing, safe drinking water and sanitation and self-determination.<sup>83</sup> A number of these and other relevant human rights are discussed in this section.

- (28) The purpose of this section is simply to describe some of the human rights whose enjoyment is affected by the impacts of climate change, including sea-level rise and sea-level extremes. It does not focus on the obligations States have to safeguard the human rights of all people within their jurisdiction and territory, which include protecting people from environmental harm. It should be noted, however, that while sea-level rise may threaten the enjoyment of certain human rights, this does not automatically mean that States will be accountable for violating their obligations under international human rights law. Part 3 examines this in more detail. A subsequent research question for this Working Group could be to analyse the specific obligations States have with respect to each threatened right. In this context, it is important to bear in mind that the impacts of climate change, including sea-level rise, on the enjoyment of human rights can be favourably influenced by State action on disaster-risk management, climate change adaptation and development policies, among others.<sup>84</sup>
- (29) Additionally, existing material on the relationship between climate change and human rights does not always make clear whether the identified threats to human rights stem from the impacts of sea-level rise on their own, their combination with other climate change impacts or other climate change impacts only. In virtually all cases, though, it will be a combination of several climate change impacts that will affect the enjoyment of human rights (even if sea-level rise is not always among them). Similarly, in almost all cases, more than one human right will be impacted, in part because of the interdependence of many rights, as explained below.

### 1.3.1 *Right to Life*

- (30) The right to life is explicitly protected in a number of human rights treaties, in particular the International Covenant on Civil and Political Rights (ICCPR).<sup>85</sup> It is described as the “supreme right”, “basic to all human rights”, which cannot be derogated from, even in times of public emergency.<sup>86</sup> Protection of the right to life is closely linked to other rights, such as the right to adequate food,

<sup>83</sup> See e.g. the resolutions mentioned in n. 78.

<sup>84</sup> Disaster risk reduction and climate change adaptation are discussed in part 2.

<sup>85</sup> International Covenant on Civil and Political Rights, entered into force 23 March 1976, UNTS 171, Article 6 [hereinafter, “ICCPR”].

<sup>86</sup> UN Human Rights Committee, *General Comment No. 6: Article 6 (Right to Life)*, UN Doc. HRI/GEN/1/Rev.9 (Vol. I), 30 April 1982, paragraph 1; UN Human Rights Committee, *General Comment No. 14: Article 6 (Right to Life) Nuclear Weapons and the Right to Life*, UN Doc, HRI/GEN/1/Rev.9 (Vol. I), 9 November 1984, paragraph 1.

adequate water, the highest attainable standard of health and adequate housing.<sup>87</sup>

- (31) Observed and projected impacts of climate change, including the impacts of sea-level rise, pose both direct and indirect threats to human life.<sup>88</sup> Mortality is one impact of climate-related extremes, such as heat waves, droughts, floods, cyclones and wildfires.<sup>89</sup> There is high confidence of “[r]isk of death [specifically] ... in low-lying coastal zones and small island developing States and other small islands due to storm surges, coastal flooding and sea level rise.”<sup>90</sup>

### 1.3.2 *Right to Adequate Food*

- (32) The right to adequate food is explicitly and most comprehensively articulated in the International Covenant on Economic, Social and Cultural Rights (ICESCR), which also enshrines the right of everyone to be free from hunger.<sup>91</sup> Having sufficient food to live and thrive is of crucial importance to the enjoyment of other rights.<sup>92</sup> The “core content of the right to adequate food implies” the “availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals” and the “accessibility of food in ways that are sustainable and do not interfere with enjoyment of other human rights.”<sup>93</sup>
- (33) Observed implications for the availability and accessibility of food, stemming from climate-related hazards, include disrupted food production, negative impacts on livelihoods, reductions in crop yields, increased food prices and food insecurity.<sup>94</sup> Warming, drought, flooding and precipitation variability and extremes are linked to risks of food insecurity and the breakdown of food systems, particularly for the poor.<sup>95</sup> There is also high confidence that livelihoods will be disrupted “in low-lying coastal zones and small island developing States and other small islands” due to storm surges, coastal flooding and sea-level rise.<sup>96</sup>

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<sup>87</sup> OHCHR, n. 76, paragraph 24.

<sup>88</sup> See in general IPCC, *Synthesis Report*, n. 3 and IPCC, *WG II: Summary for Policymakers*, n. 27.

<sup>89</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 6.

<sup>90</sup> *Ibid.*, 13; With respect to this right in general, see also OHCHR, n. 76, paragraphs 22–24.

<sup>91</sup> International Covenant on Economic, Social and Cultural Rights, entered into force 3 January 1976, 993 UNTS, 3, Article 11 [hereinafter, “ICESCR”].

<sup>92</sup> B. Saul, D. Kinley and J. Mowbray, *The International Covenant on Economic, Social and Cultural Rights: Commentary, Cases, and Materials*, Oxford: Oxford University Press, 2014, 868.

<sup>93</sup> UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 12: Article 11 (The Right to Adequate Food)*, UN Doc. E/C.12/1999/5, 12 May 1999, paragraph 8.

<sup>94</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 5–8.

<sup>95</sup> *Ibid.*, 13.

<sup>96</sup> *Ibid.* With respect to this right in general, see also OHCHR, n. 76, paragraphs 25–27.

### 1.3.3 *Right to Water*

- (34) The right to water is not expressly articulated in the ICESCR, but it is regarded as implicit in the right to an adequate standard of living and the right to the highest attainable standard of health.<sup>97</sup> It is indispensable for leading a life of dignity and is a prerequisite for the realization of other human rights.<sup>98</sup> The right entitles “everyone to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic uses”, including for consumption, cooking and personal and domestic hygiene.<sup>99</sup>
- (35) Changing precipitation and melting snow and ice are affecting the quality and quantity of the world’s water resources.<sup>100</sup> Other climate-related extremes, including floods, have led to disruptions in water supply.<sup>101</sup> The proportion of the world’s population affected by water scarcity is expected to increase with the level of warming over the 21<sup>st</sup> century.<sup>102</sup> During this period, renewable surface water and groundwater resources are also projected to decrease significantly in most dry sub-tropical regions due to climate change.<sup>103</sup> RSLs is a significant threat to contamination of freshwater reserves in coastal systems and low-lying areas.<sup>104</sup>

### 1.3.4 *Right to the Highest Attainable Standard of Physical and Mental Health*

- (36) The most comprehensive articulation of the right to the highest attainable standard of physical and mental health (right to health) is in article 12 of the ICESCR.<sup>105</sup> It encompasses not only “timely and appropriate health care but also ... underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, nutrition and housing, [and] healthy occupational and environmental conditions”.<sup>106</sup>
- (37) At present, the negative effects of climate change on human health are not well quantified and are assumed to be relatively small.<sup>107</sup> Nevertheless, heat-related mortality has increased and local changes in temperature and rainfall have altered the distribution of

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<sup>97</sup> OHCHR, n. 76, paragraph 28; “The Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of Persons with Disabilities explicitly refer to access to water services in provisions on adequate standard of living, while the Convention on the Rights of the Child refers to the provision of ‘clean drinking water’ as part of measures States shall take to combat disease and malnutrition”.

<sup>98</sup> CESCR, *General Comment No. 15: Articles 11 and 12 (The Right to Water)*, UN Doc. E/C.12/2002/11, 20 January 2003, paragraph 1.

<sup>99</sup> *Ibid.*, 2.

<sup>100</sup> IPCC, *Synthesis Report*, n. 3, 6.

<sup>101</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 6.

<sup>102</sup> *Ibid.*, 14.

<sup>103</sup> *Ibid.*

<sup>104</sup> IPCC, *WG II: Chapter 5*, n. 12, 367. With respect to this right in general, see also OHCHR, n. 76, paragraphs 28–30.

<sup>105</sup> ICESCR, n. 91, Article 12.

<sup>106</sup> CESCR, *General Comment No. 14: Article 12 (The Right to the Highest Attainable Standard of Health)*, UN Doc. E/C.12/2000/4, 11 August 2000, paragraph 11.

<sup>107</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 6.

water-borne illnesses and disease vectors.<sup>108</sup> Between now and 2050, climate change is expected to exacerbate existing health problems.<sup>109</sup> Over the course of the 21<sup>st</sup> century, ill-health—experienced through injury, disease, under-nutrition from diminished food production in poor regions, risks from lost work capacity and reduced labour productivity and risks from food- and water-borne diseases, etc.—is expected to increase in many regions (especially developing countries with low income),<sup>110</sup> with the magnitude and severity of negative impacts projected to increasingly outweigh any positive effects.<sup>111</sup> Storm surges, coastal flooding and sea-level rise are expected to lead to injury and ill-health in “low-lying coastal zones and small island developing States and other small islands”.<sup>112</sup>

### 1.3.5 *Right to Adequate Housing*

- (38) Article 11 of the ICESCR addresses the right to adequate housing, as a component of the right to an adequate standard of living. Having a place of shelter is fundamental to many aspects of human existence and is closely associated with a number of other human rights.<sup>113</sup> Core elements of the right include legal security of tenure (including protection against forced eviction), availability of services, materials, facilities and infrastructure, affordability, habitability, accessibility, location and cultural adequacy.<sup>114</sup>
- (39) The observed and projected impacts of climate change have a number of direct and indirect implications for the enjoyment of the right to adequate housing, including through impacts on infrastructure and settlements.<sup>115</sup> Inappropriately located, poor quality housing is often the most vulnerable to extreme events, including floods.<sup>116</sup> Settlements and infrastructure in coastal areas are particularly at risk.<sup>117</sup>

### 1.3.6 *Right to Self-Determination*

- (40) The collective right to self-determination is a fundamental principle of international law. It establishes that “all peoples” have the right to “freely determine their political status and freely pursue

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<sup>108</sup> *Ibid.*

<sup>109</sup> IPCC, *Synthesis Report*, n. 3, 15.

<sup>110</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 19. This is as compared to a baseline without climate change.

<sup>111</sup> *Ibid.*, 20.

<sup>112</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 13. With respect to this right in general, see also OHCHR, n. 76, paragraphs 31–34.

<sup>113</sup> B. Saul, D. Kinley and J. Mowbray, n. 92, 926.

<sup>114</sup> CESCR, *General Comment No. 4: Article 11(1) (The Right to Adequate Housing)*, UN Doc. E/1992/23, 13 December 1991, paragraph 8; see also CESCR, *General Comment No. 7: Article 11(1) (The Right to Adequate Housing): Forced Evictions*, UN Doc. E/1998/22, 20 May 1997.

<sup>115</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 6–8 and more generally. See also IPCC, *Synthesis Report*, n. 3, 65.

<sup>116</sup> IPCC, *Synthesis Report*, n. 3, 71.

<sup>117</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 23–24. With respect to this right in general, see also OHCHR, n. 76, paragraphs 35–38.



their economic, social and cultural development.”<sup>118</sup> The right to self-determination is essential for the effective enjoyment of other human rights,<sup>119</sup> and includes the right of peoples not to be deprived of their own means of subsistence.<sup>120</sup>

- (41) The IPCC notes that land inundation stemming from sea-level rise is expected to pose risks to the territorial integrity of States with extensive coastlines and small island States; at its most extreme, sea-level rise may threaten the continued existence of some low-lying States.<sup>121</sup> In such cases, the right to self-determination is at risk since it is unlikely that the whole community will be able to be relocated and remain together elsewhere, with functioning institutions and governance capacity.<sup>122</sup> In these and other cases, the impacts of sea-level rise may “deprive indigenous peoples of their traditional territories and sources of livelihoods”.<sup>123</sup>

### 1.3.7 Right to Cultural Identity

- (42) Article 15 of the ICESCR addresses cultural rights, including the right of everyone to “take part in cultural life”.<sup>124</sup> The notion of culture is “broad” and “inclusive”, “encompassing all manifestations of human existence” such as “ways of life, language, oral and written literature, music and song, non-verbal communication, religious or belief systems, rites and ceremonies, sports and games, methods of production of technology, natural and man-made environments, food, clothing and shelter and the arts, customs and traditions through which individuals, groups of individuals and communities express their humanity and the meaning they give to their existence”.<sup>125</sup> Cultural rights have both individual and collective dimensions,<sup>126</sup> and have particular importance for indigenous peoples.<sup>127</sup>
- (43) In addition, Article 27 of the ICCPR protects the rights of individuals belonging to minorities. The Human Rights Committee states that Article 27 is “directed towards ensuring the survival and continued development of the cultural, religious and social identity

<sup>118</sup> ICCPR, n. 85, Article 1; ICESCR, n. 91, Article 1.

<sup>119</sup> UN Human Rights Committee, *General Comment No. 12: Article 1 (Right to Self-determination)*, *The Right to Self-determination of Peoples*, UN Doc. HRI/GEN/1/Rev.9 (Vol. I), 13 March 1984, paragraph 1.

<sup>120</sup> ICCPR, n. 85, Article 1(2).

<sup>121</sup> IPCC, *WG II: Summary for Policymakers*, n. 27, 20; IPCC, *WG II: Chapter 12*, n. 27, 775.

<sup>122</sup> See e.g. J. McAdam, n. 32, Chapter on ‘Disappearing States’, Statelessness, and Relocation.

<sup>123</sup> OHCHR, n. 76, paragraph 40; see also IPCC, *WG II: Chapter 12*, n. 27, 763 and 765. With respect to this right in general, see also 39–41; see also UN mechanisms relevant to indigenous people including the working group on indigenous populations, available at: <http://www.ohchr.org/EN/Issues/IPeoples/Pages/MandateWGIP.aspx>.

<sup>124</sup> ICESCR, n. 91, Article 15(1)(a).

<sup>125</sup> CESCR, *General Comment No. 21, Article 15(1)(a) (Right of Everyone to Take Part in Cultural Life)*, UN Doc E/C.12/GC/21, 21 December 2009, paragraphs 11 and 13.

<sup>126</sup> *Ibid.*, paragraph 9.

<sup>127</sup> *Ibid.*, in general.

of the minorities concerned”.<sup>128</sup>

- (44) Climate change has significant implications for the enjoyment of the right to cultural identity.<sup>129</sup> Negative cultural impacts for small-island and coastal communities stemming from loss of land and displacement are well documented.<sup>130</sup> Climate change threatens cultural practices that are expressed and embedded in individual and community identity, community cohesion, narratives, a sense of place and livelihoods.<sup>131</sup> It has the potential to affect coping mechanisms,<sup>132</sup> and is expected to compromise cultural values relevant for individual and community well-being.<sup>133</sup> It poses particular challenges for many indigenous peoples, including for their cultural practices, knowledge systems, traditional food systems and livelihoods and adaptive strategies.<sup>134</sup>

### 1.3.8 Other Rights

- (45) Beyond the rights specifically mentioned in this section, the impacts of climate change have implications for many other human rights, including the rights to private and family life, property, means of subsistence, freedom of residence, freedom of movement and the right to freely dispose of natural resources.<sup>135</sup> Moreover, in addition to indigenous populations, climate change impacts are likely to acutely and disproportionately affect other vulnerable groups, including women, children, the elderly, persons with disabilities and the poor.<sup>136</sup>

## 1.4 Sea-Level Rise and Mobility

- (46) Based on estimates produced by the Internal Displacement Monitoring Centre (IDMC), in 2014, more than 19.3 million people fled their homes in the context of disasters stemming from

<sup>128</sup> UN Human Rights Committee, *General Comment No. 23: Article 27 (Rights of Minorities)*, UN Doc. CCPR/C/21/Rev.1/Add.5, 8 April 1994, paragraph 9.

<sup>129</sup> IPCC, *WG II: Chapter 12*, n. 27, 763. See also additional literature referenced in chapter.

<sup>130</sup> *Ibid.*, 758.

<sup>131</sup> *Ibid.*

<sup>132</sup> *Ibid.*, 763–64.

<sup>133</sup> *Ibid.*

<sup>134</sup> *Ibid.*, 765. With respect to indigenous peoples in particular, see also OHCHR, n. 76, paragraphs 51–54.

<sup>135</sup> See e.g. S. McInerney-Lankford, M. Darrow and L. Rajamani, *Human Rights and Climate Change: A Review of the International Legal Dimensions*, Washington, DC: The World Bank Group, 2011, 18, available at:

<https://openknowledge.worldbank.org/bitstream/handle/10986/2291/613080PUB0Huma158344B09780821387207.pdf?sequence=1>. More generally on the relationship between human rights, climate change and cross-border displacement, see J. McAdam and M. Limon, *Policy Report: Human Rights, Climate Change and Cross-Border Displacement: The Role of the International Human Rights Community in Contributing to Effective and Just Solutions*, Universal Rights Group, August 2015, available at: <http://www.universal-rights.org/urg-policy-reports/human-rights-climate-change-and-cross-border-displacement-the-role-of-the-international-human-rights-community-in-contributing-to-effective-and-just-solutions/>.

<sup>136</sup> See e.g. HRC Resolutions discussed in paragraphs 26–27 of this report.

natural hazards.<sup>137</sup> Each year since 2008, disasters have displaced an average of more than 26 million people.<sup>138</sup> While these figures represent movements related to both non-weather and weather-related hazards, the latter accounts for the vast majority.<sup>139</sup> For example, of the 26 million displaced each year since 2008, an average of 22.5 million have been displaced by the impacts of climate- or weather-related disasters.<sup>140</sup> In 2014, disasters stemming from weather-related hazards, in particular floods and storms, displaced 17.5 million people, accounting for 92 per cent of the global total.<sup>141</sup> In addition to increasing exposure and vulnerability, “climate change ... is expected to exacerbate this trend further”.<sup>142</sup> In 2014, 87 per cent of the world’s displaced people were in Asia, with China, India and the Philippines experiencing the highest levels of displacement in absolute terms.<sup>143</sup> This was also the case for the 2008–14 period.<sup>144</sup> Over this period, developing countries have consistently been the worst affected, accounting for 95 per cent of the global total (or almost 175 million people).<sup>145</sup> Small island developing States are disproportionately affected by development associated with floods and storms (as well as earthquakes). Relative to their population sizes, between 2008 and 2014, they experienced levels of displacement that were three times higher than the global average.<sup>146</sup>

- (47) Global estimates for movements linked to slower-onset environmental changes, such as sea-level rise, including in the context of climate change, do not exist. Nonetheless, an array of literature, including research and findings from the Nansen Initiative (see paragraph 61), highlights that movement is increasingly associated with slower-onset environmental changes, including sea-level rise, and this is expected to increase.<sup>147</sup>

<sup>137</sup> Internal Displacement Monitoring Centre (IDMC), *Global Estimates 2015: People Displaced by Disasters*, July 2015, 8, available at: <http://www.internal-displacement.org/assets/library/Media/201507-globalEstimates-2015/20150713-global-estimates-2015-en-v1.pdf>.

<sup>138</sup> *Ibid.*

<sup>139</sup> *Ibid.*

<sup>140</sup> *Ibid.*, 20.

<sup>141</sup> *Ibid.*

<sup>142</sup> *Ibid.*

<sup>143</sup> *Ibid.*, 8–9.

<sup>144</sup> *Ibid.*, 9.

<sup>145</sup> *Ibid.*

<sup>146</sup> *Ibid.*

<sup>147</sup> See e.g. Nansen Initiative, *Human Mobility, Natural Disasters and Climate Change in the Pacific*, Outcome Report, Nansen Initiative Intergovernmental Pacific Regional Consultations, Rarotonga, Cook Islands, 21–24 May 2013; Nansen Initiative, *Human Mobility in the Context of Disasters and Climate Change in Southeast Asia*, Background Paper for the Nansen Initiative Southeast Asia Regional Consultation, Manila, Philippines, 15–17 October 2014; Nansen Initiative, *Natural Hazards, Climate Change, and Cross-Border Displacement in the Greater Horn of Africa: Protecting People on the Move*, Background Paper for the Nansen Initiative Greater Horn of Africa Regional Consultation, Nairobi, Kenya, 21–23 May 2014, all available at: <http://www.nanseninitiative.org/>. Background papers and conclusion documents for each of the five intergovernmental regional consultations—the Pacific, Central America, Horn of Africa, Southeast Asia and South Asia—as well as commissioned and other relevant research, are also available at this link.

- (48) However, the overall relationship between the impacts of climate change, including sea-level rise, and human mobility is complex and non-linear, and depends on a range of intersecting factors.<sup>148</sup> Climate change-related movement is a multi-causal phenomenon in which climate change impacts interact with other economic, social and political drivers (or stressors) that themselves affect migration.<sup>149</sup> Further, as noted above, in many cases it will be impossible to disentangle the impacts of sea-level rise from other impacts of climate change when it comes to mobility decisions.
- (49) Nevertheless, as the combined and cumulative impacts of RSLR, sea-level extremes and other impacts of climate change undermine the habitability of coastal and low-lying areas, adversely affecting lives and living conditions, populations located in these areas may seek alternative places to live in dignity. In all regions of the world, movement away from the impacts of environmental change has long been a natural human adaptation strategy.<sup>150</sup> However, a number of factors mean that movement will not always be an option: the most vulnerable may be “trapped” because they do not have the resources to move at all;<sup>151</sup> those who can move may not be able to go very far because they do not have the economic or social networks to assist them; and movement across international borders may be hampered by immigration formalities and high costs.<sup>152</sup>
- (50) Most movement in this context is expected to be within countries, not across international borders.<sup>153</sup> The case of low-lying island States presents a special case in which significant international movement may become inevitable over time.
- (51) Movement will fall somewhere on a spectrum from forced to voluntary. It is generally described as falling into one of three categories: displacement, migration and planned relocation. Displacement refers to (primarily) forced movement of persons. Migration refers to (primarily) voluntary movement. Planned relocation describes a process carried out by the State in which persons or groups move away from their homes, are settled in a

<sup>148</sup> See e.g. W. Kälin, *Conceptualising Climate-induced Displacement*, in J. McAdam, n. 47, 82.

<sup>149</sup> See e.g. Foresight, *Migration and Global Environmental Change (2011)*, Final Project Report, London: The Government Office for Science, available at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/287717/11-1116-migration-and-global-environmental-change.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/287717/11-1116-migration-and-global-environmental-change.pdf) [hereinafter, “*Foresight Report*”]; see also J. McAdam, n. 32, in particular Chapter 1, synthesizing other research.

<sup>150</sup> IPCC, *WG II: Chapter 12*, n. 27, 758.

<sup>151</sup> See e.g. *Foresight Report*, n. 149; S. Martin, S. Weerasinghe and A. Taylor, *Humanitarian Crises and Migration: Causes, Consequences and Responses*, London: Routledge, 2014, in particular Chapters 1 and 14. See also *ibid.*

<sup>152</sup> See e.g. IPCC, *WG II: Chapter 12*, n. 27, 758; *Foresight Report*, n. 149; Asian Development Bank, *Addressing Climate Change and Migration in Asia and the Pacific*, Final Report, Manila: Asian Development Bank, 2012, available at: <http://beta.adb.org/sites/default/files/pub/2012/addressing-climate-change-migration.pdf>.

<sup>153</sup> See e.g. W. Kälin and N. Schrepfer, *Protecting People Crossing Borders in the Context of Climate Change: Normative Gaps and Possible Approaches*, Geneva: United Nations High Commissioner for Refugees (UNHCR), February 2012, 32–34, available at: <http://www.refworld.org/docid/4f38a9422.html>; *Foresight Report*, n. 149.

new location, and are provided with the conditions for rebuilding their lives.<sup>154</sup> It can be forced or voluntary, depending on the circumstances.<sup>155</sup>

- (52) Whereas people may be displaced suddenly, often in the face of an imminent disaster, migration and planned relocation are more likely to occur with a longer lead-time. The precise nature of movement will depend in part upon whether laws and policies have been put in place to facilitate planned movement (ideally ahead of extreme conditions), or whether people will be forced to flee. Most movement will be triggered by “interim” extreme weather and sea-level events, such as storm surges, astronomical tides and flooding, rather than the inundation of territory by sea-level rise. However, gradual impacts of sea-level rise, such as erosion, saltwater intrusion into groundwater and rising water tables, as well as other forms of environmental degradation, will progressively affect living conditions and livelihood opportunities, which may spur progressive movement. Experience indicates that people will initially seek to migrate from at risk areas, rather than waiting for a crisis point.<sup>156</sup>
- (53) It is important to appreciate the interaction between the so-called “sudden-onset” events and the “slow-onset” impacts of climate change. Sea-level rise itself falls into the latter category, but some of its physical impacts may be sudden. Further it does not happen in isolation from other climate change-related processes. Even though it will take decades for sea levels to subsume territory, they will have more immediate impacts through, for instance, salt-water intrusion into surface water (corrupting the fresh water lens), flooding and storm surges. These, in turn, may render parts of the land uninhabitable. The cumulative effects of a series of sudden-onset events can erode resilience and prompt displacement over time. By way of analogy, drought is regarded a slow-onset process, but its impacts can be felt through more immediate triggers, such as food insecurity becoming famine.

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<sup>154</sup> A descriptive definition of “planned relocation” has been developed over the course of successive expert meetings organized through a collaborative partnership between the Brookings Institution, the Institute for the Study of International Migration (ISIM) at Georgetown University and UNHCR. The first of these meetings was held in Sanremo, Italy, in March 2014. The report of that meeting is available at: <http://www.unhcr.org/54082cc69.pdf>. The second meeting was held in Washington, DC, in February 2015. The third meeting was held in Bellagio, Italy, in May 2015. Specific guidance stemming from discussions at each of these meetings on undertaking planned relocation in the context of disasters and environmental change, including the effects of climate change has been developed and is available at: <http://www.brookings.edu/research/papers/2015/10/07-planned-relocation-guidance>. This guidance also contains the prevailing descriptive definition of planned relocation stemming from the expert meetings.

<sup>155</sup> S. Weerasinghe et al., *Planned Relocation, Disasters and Climate Change: Consolidating Good Practices and Preparing for the Future*, Report, UNHCR, Brookings Institution and Georgetown University Consultation, Sanremo, Italy, 12–14 March 2014, 11, fn. 12, available at: <http://www.unhcr.org/54082cc69.pdf>.

<sup>156</sup> See e.g. Nansen Initiative, n. 147; J. McAdam, n. 32; J. McAdam, n. 47; S. Martin, S. Weerasinghe and A. Taylor, n. 151.

- (54) Storm surges and astronomical tides, as well as other sudden-onset events associated with climate change, are likely to trigger internal displacement, sometimes on a large scale. Depending on recovery efforts, the ensuing displacement need not be long-term, and return may remain possible in some cases. Depending on the context, some people may be displaced across international borders.
- (55) In the face of sudden- and slow-onset impacts of sea-level rise, planned relocation may be used as a *preventive measure* to reduce the risk of future displacement by moving people out of risk-prone areas. Planned relocation may also serve as a *durable solution* by enabling displaced people to return to a new part of the country where their original place of origin has been rendered uninhabitable. Most planned relocations will take place *within* countries, rather than across international borders (for practical, legal, cultural and related reasons). In cases where internal planned relocation is not a viable long-term solution, such as in some low-lying island States, it is likely that most movement will take the form of individual/household migration, rather than whole community relocation. This will depend on what other States are prepared to offer, however.<sup>157</sup>
- (56) Without planned responses, widespread displacement to other States may become inevitable. For example, if the cumulative impacts of climate change (interacting with socio-economic and political factors) create extreme threats to lives and living conditions, leading to permanent and extensive deterioration of habitable territory in a given State, then people will have to move on their own.

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<sup>157</sup> See e.g. S. Weerasinghe, n. 155; Repository of materials on planned relocation available at: <http://www.brookings.edu/research/papers/2015/06/planned-relocations-climate-change-annotated-bibliography-petz>; J. McAdam and E. Ferris, *Planned Relocation in the Context of Climate Change: Unpacking the Legal and Conceptual Issues*, Cambridge Journal of International and Comparative Law, 2015, 4(1): 137–66; J. McAdam, *Historical Cross-Border Relocation in the Pacific: Lessons for Planned Relocations in the Context of Climate Change*, Journal of Pacific History, 2014, 49(3): 301–27; E. Ferris, *Planned Relocations, Disasters and Climate Change: Consolidating Good Practices, Preparing for the Future*, Background Document, UNHCR, Brookings Institution and Georgetown University Consultation, Sanremo, Italy, 12–14 March 2014, available at: <http://www.unhcr.org/53c4d6f99.pdf>; E. Ferris, *Protection and Planned Relocations in the Context of Climate Change*, UNHCR, August 2012, available at: <http://www.refworld.org/docid/5023774e2.html>; Nansen Initiative, n. 147, including the Agenda for the Protection of Cross-Border Displaced Persons in the context of Disasters and Climate Change, Final Draft, 6 October 2015, available at: <https://www.nanseninitiative.org/global-consultations/>.

## 2 Tools

- (57) Mobility issues associated with the impacts of sea-level rise<sup>158</sup> require both timely and proactive interventions and pertinent reactive responses. Movement can itself be an important adaptation strategy to the impacts of climate change,<sup>159</sup> including sea-level rise, but there may be obstacles to this—practical, financial and legal. For instance, if people cross a border to get out of harm’s way, but do not have prior authorization to do so, they may be characterized as irregular immigrants and subject to removal. Concurrent and complementary efforts are therefore needed to minimize movements that compromise human security, facilitate movements as a form of adaptation and to assist those lacking social networks and capital to move. These may be described as different “tools” in a “toolkit” of possible responses.<sup>160</sup>
- (58) Appropriate legal and policy frameworks and operational measures are needed to help people: (a) remain *in situ*, where this is possible and desirable; (b) move elsewhere, in anticipation of harm; and (c) be protected and assisted if they are displaced (whether internally or across an international border). These are discussed in more detail below. While there are some gaps, existing legal/policy frameworks and operational measures could be used more effectively and consistently to address each of these aspects. In all cases, the dignity of the person must be a paramount consideration.<sup>161</sup>

<sup>158</sup> In general, throughout this part 2 and the following part 3, unless the context indicates otherwise or “sea-level extremes” is explicitly mentioned, whenever a reference is made to sea-level rise, it is intended to also encompass sea-level extremes.

<sup>159</sup> See e.g. *Decision 1/CP.16, The Cancún Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention*, UN Doc. FCCC/CP/2010/7/Add.1, 15 March 2011, paragraph 14(f), available at:

<http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=4> See; [hereinafter,

“Cancún Agreements”]; *Decision 3/CP.18, Approaches to Address Loss and Damage Associated with Climate Change Impacts in Developing Countries that are Particularly Vulnerable to the Adverse Effects of Climate Change to Enhance Adaptive Capacity*, UN Doc. FCCC/CP/2012/8/Add.1, 28 February 2013, paragraph 7(vi), available at:

<http://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf#page=21>;

K. Warner et al., *Changing Climate, Moving People: Framing Migration, Displacement and Planned Relocation*, UNU-EHS Policy Brief, 2013, available at:

<http://collections.unu.edu/collection/UNU:1900>; see also research available under the Migration as Adaptation tab of the “What We Are Learning” page of the Nansen Initiative, n. 147. Note however that some perceive human movement as a failure of

adaptation and some research indicates that in certain contexts, movement may be used to “survive” not “flourish” and may be an erosive coping strategy. See e.g. K. Warner et al.; IPCC, *WG II: Chapter 5*, n. 12.

<sup>160</sup> We acknowledge the work of the Nansen Initiative in developing this approach, and draw upon it in the following analysis: see Nansen Initiative Protection Agenda, n. 157.

<sup>161</sup> See e.g. the Nansen Principles, the recommendations stemming from the Nansen Conference on Climate Change and Displacement in the 21st Century, held in Oslo 6–7 June 2011, available at:

[https://www.regjeringen.no/globalassets/upload/ud/vedlegg/hum/nansen\\_prinsipper.pdf](https://www.regjeringen.no/globalassets/upload/ud/vedlegg/hum/nansen_prinsipper.pdf). Principle 1 specifically references human dignity.

## 2.1 Avoiding Movement: Strategies to Remain *in situ*

- (59) Mitigation and adaptation are the two main complementary strategies for addressing climate change, and they have been central to the international climate change negotiations. Mitigation efforts can have an important indirect preventative effect on human movement, which is why it is the ultimate objective under the UN Framework Convention on Climate Change (UNFCCC).<sup>162</sup> Nonetheless, even if mitigation efforts manage to reduce emission levels and stabilize greenhouse gas concentrations in the atmosphere, sea levels are expected to continue to rise for many centuries.<sup>163</sup> This means that parallel adaptation efforts that strengthen the capacity of individuals, households and communities to cope with and adapt to the impacts of sea-level rise are crucial.
- (60) Adaptation (and its financing) is the other central component of the climate change negotiations. In 2010, the non-binding Cancún Adaptation Framework, adopted by States parties to the UNFCCC, called for enhanced action and international cooperation on adaptation, and emphasized the need to give adaptation the same importance as mitigation.<sup>164</sup> Building resilience—the capacity to cope and adapt—is necessary to enable individuals, households and communities to remain in their homes for as long as possible, provided this is both desirable and possible.
- (61) Most communities likely to be adversely affected by the impacts of climate change and disasters want to remain in their homes for as long as they can. Since 2012, the Nansen Initiative—an intergovernmental process spearheaded by Norway and Switzerland—has been building a global evidence base about the needs of vulnerable communities.<sup>165</sup> In sub-regional consultations with community leaders, government officials and experts, an attitude of “self-help” has been paramount: the desire to strengthen community resilience, raise awareness and increase preparedness. For example, in the South Pacific, where low-lying islands are particularly susceptible to adverse climate change impacts (including sea-level rise), participants wanted to develop adaptation initiatives to enable people to remain in their homes for as long as possible, while also developing strategies to facilitate migration for those who wished to move.<sup>166</sup> Similar sentiments were expressed at other regional consultations, particularly those held in South and Southeast Asia.<sup>167</sup>

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<sup>162</sup> United Nations Framework Convention on Climate Change (UNFCCC), entered into force 21 March 1994, 1771 UNTS 107. There are 196 States parties to the treaty. For States parties, see: [http://unfccc.int/parties\\_and\\_observers/parties/items/2352.php](http://unfccc.int/parties_and_observers/parties/items/2352.php). See also associated instruments and decisions including The Kyoto Protocol available at: <http://unfccc.int/2860.php>.

<sup>163</sup> See section 1.1 of this report.

<sup>164</sup> Cancún Agreements, n. 159.

<sup>165</sup> Nansen Initiative, n. 147.

<sup>166</sup> Nansen Initiative, *Pacific Regional Consultation: Outcome Report*, n. 147, available at: <http://www.nanseninitiative.org/pacific-consultations-intergovernmental/>.

<sup>167</sup> See relevant regional consultation reports and conclusions from the Nansen Initiative, n. 147.



- (62) Disaster risk reduction is important in its own right, and is also a key adaptation strategy.<sup>168</sup> It seeks to avert damage, lessen its negative impacts when it does occur, protect the most susceptible through risk and vulnerability assessments, build resilience and take multi-sectoral approaches to creating national strategies.<sup>169</sup> For these reasons—and because disaster risk management is already well established, with recognized guidelines, mechanisms and approaches<sup>170</sup>—it is an important tool for building the capacity of people to remain *in situ*. This is recognized by the Sendai Framework on Disaster Risk Reduction 2015–2030 which highlights, *inter alia*, the need to develop disaster risk reduction policies based on information about persons and communities particularly exposed to disaster risks,<sup>171</sup> and to formulate “public policies, where applicable, aimed at addressing the issues of prevention [...] of human settlements in disaster risk zones”.<sup>172</sup> It also calls for the promotion of “transboundary cooperation [...] to build resilience and reduce disaster risk, including [...] displacement risk”.<sup>173</sup> Such measures are conducive to identifying areas at risk of displacement and to take preventive action.
- (63) Relevantly, key climate change instruments refer to disaster risk reduction instruments. For instance, the Cancún Adaptation Framework cross-references the Hyogo Framework for Action 2005–15: Building Resilience of Nations and Communities to Disasters (the predecessor to the Sendai Framework),<sup>174</sup> which calls for the integration of “existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change”.<sup>175</sup>
- (64) Falling within the purview of climate change adaptation and disaster risk reduction are a range of interventions that seek to enable people to stay in their homes for as long as possible. Some of these strategies seek to prevent the landward encroachment of the sea (and attendant impacts of sea-level rise) by constructing long-standing barriers, such as seawalls, bulkheads, revetments and retaining walls.<sup>176</sup> Dykes, dunes, tide gates and storm surge barriers

<sup>168</sup> J. McAdam, n. 32, 242; Nansen Initiative Protection Agenda, n. 157, paragraphs 77–86, 117–18.

<sup>169</sup> J. McAdam, n. 32, 242.

<sup>170</sup> *Ibid.*

<sup>171</sup> UNGA, *Sendai Framework for Disaster Risk Reduction 2015–2030*, UN Doc.

A/RES/69/283, 23 June 2015, available at:

<http://www.preventionweb.net/files/resolutions/N1516716.pdf> [hereinafter, “The Sendai Framework”].

<sup>172</sup> *Ibid.*, paragraph 27.

<sup>173</sup> *Ibid.*, paragraph 28.

<sup>174</sup> Cancún Agreements, n. 159, paragraph 14(e).

<sup>175</sup> United Nations, *Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters*, World Conference on Disaster Reduction, Hyogo, 18–22 January 2005, available at: <http://www.un-documents.net/hfa.htm>.

<sup>176</sup> C. McGuire, *Adapting to Sea Level Rise in the Coastal Zone: Law and Policy Considerations*, Boca Raton: CRC Press, 2013, 101–03. In brief, seawalls are long-standing barriers engineered to withstand high-energy impacts from the ocean by dissipating energy from oncoming waves. Bulkheads are walls designed to hold the land in and prevent erosive impacts that often accompany tidal water flows and are meant to

can also help to protect against flooding and/or permanent inundation.<sup>177</sup> Other techniques, such as breakwaters, jetties and groins, beach nourishment and living shorelines, try to maintain traditional features of the coastline so as to limit negative impacts on coastal resources, ecosystems and dependent industries and livelihoods.<sup>178</sup> Mangrove forests can play a critical role in coastline stabilization and preventing erosion.<sup>179</sup> Finally, some strategies do not try to barricade against sea-level rise, but instead seek to accommodate people in the face of these changes.<sup>180</sup> Elevating and modifying land and structures by creating dunes or dredging fall into this category.<sup>181</sup>

- (65) The adaptation strategies described above are not necessarily mutually exclusive because different strategies can serve different purposes. Their feasibility and merits will be context-dependent, influenced by a range of factors including coastal development, population attributes, physical conditions of the coast and economic capacity. While the benefits of adaptation are, in general, expected to outweigh the costs, for countries with extensive coastlines and limited economic capacity, the costs of undertaking adaptation may be prohibitive unless external financial assistance is available.<sup>182</sup>
- (66) Where *in situ* adaptation is not viable, has been exhausted or is unsatisfactory for other reasons, movement away from impacted areas may be another form of adaptation/disaster risk reduction.

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provide support for near shore areas. Revetments are similar to seawalls but are built to follow the natural slope of the shoreline. Retaining walls are structures that are built into the coastal zone feature and often buried within it. On the strategies discussed in this paragraph, see also R. McLeman, n. 52.

<sup>177</sup> *Ibid.*, 103–06. In brief, dykes are similar to seawalls but are often placed some distance from the ocean and usually made with earthen material. Dunes are often large mounds of sand (or other earth material) located on the landwards side of a beach within a coastal zone often near a line of vegetation. Tide gates are human created barriers with two components, a wall structure that elevates an area to hold back the sea and a “gate” that either prevents water from flowing past, or allows water to flow through. These are used to moderate the influences of tidal ranges. Storm surge barriers are used to prevent or mitigate storm surges and are large-scale versions of tidal gates.

<sup>178</sup> *Ibid.*, 106–08. In brief, breakwaters are hard structures, placed some distance from, and parallel to, the shoreline. Jetties and groins are hybrid techniques that protect against the incoming sea. They are hard structures placed perpendicular to the shoreline with the purpose of stopping the alongshore transport of sediment, so as to allow nourishment of certain areas and mitigate the impact of erosive forces. Beach nourishment can be a natural process or one that is passively or actively managed. It adds sediment to the dry part of a beach or intertidal zone area to reinforce against erosion and other impacts of sea-level rise. Living shorelines are a management technique that prioritizes natural coastal processes.

<sup>179</sup> See e.g. National Oceanic and Atmospheric Administration, United States Department of Commerce (NOAA), *NOAA Habitat Conservation*, Webpage, available at: <http://www.habitat.noaa.gov/about/habitat/mangroves.html>.

<sup>180</sup> C. McGuire, n. 176, 108–12. Nourishment projects can also fall into this category.

<sup>181</sup> *Ibid.*

<sup>182</sup> See e.g. IPCC, *WG II: Chapter 5*, n. 12, 392–93; R. McLeman, n. 52, 188 and more generally; see also IPCC C. McGuire, n. 176.

## 2.2 Movement as an Adaptation Strategy

- (67) Movement can be both a form of adaptation in its own right, as well as a sign that other types of adaptation have failed.<sup>183</sup> The extent to which it can be used proactively will depend upon the legal frameworks in place, and the resources available to those wishing to move.
- (68) In this context, paragraph 14(f) of the Cancún Adaptation Framework invites States to enhance action on adaptation by undertaking, *inter alia*, “measures to enhance understanding, coordination, and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate at the international, regional and national levels”.<sup>184</sup> Although non-binding, paragraph 14(f) has both rhetorical and operational significance. First, it evidences States’ recognition of the impacts of climate change on human movement and the need for strategies to address this. Secondly, it provides a basis for securing adaptation funding to develop strategies that support mobility as an adaptation option.
- (69) The Sendai Framework contains several explicit references to human mobility in the context of disasters. It calls for public policies on the “relocation, where possible, of human settlements in disaster risk zones”,<sup>185</sup> and encourages “the adoption of policies and programmes addressing disaster-induced human mobility to strengthen the resilience of affected people and that of host communities”.<sup>186</sup> It also promotes “regular disaster preparedness, response and recovery exercises, including evacuation drills, training and the establishment of area-based support systems, with a view to ensuring rapid and effective response to disasters and related displacement” and calls for strengthening “the capacity of local authorities to evacuate persons living in disaster-prone areas”.<sup>187</sup> Finally, the Framework states that “[m]igrants contribute to the resilience of communities and societies and their knowledge, skills and capacities can be useful in the design and implementation of disaster risk reduction”.<sup>188</sup>
- (70) Proactive interventions that can be put in place now to allow people to undertake planned migration can be an effective way to build long-term resilience, especially in the face of the slower-onset impacts of sea-level rise (and sea-level rise itself). Research has shown that resilience determines the extent to which people can use migration to “flourish”, rather than just to “survive”.<sup>189</sup>

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<sup>183</sup> See n. 159. See also the Nansen Initiative Protection Agenda, n. 157, paragraphs 87–93, 119–20.

<sup>184</sup> Cancún Agreements, n. 159.

<sup>185</sup> The Sendai Framework, n. 171, paragraph 27.

<sup>186</sup> *Ibid.*, paragraph 30.

<sup>187</sup> *Ibid.*, paragraph 33.

<sup>188</sup> *Ibid.*

<sup>189</sup> K. Warner et al., n. 159, 21.

Equally, the experience of development agencies involved in the relocation of groups and communities shows that careful planning is essential if the risk of impoverishment in the longer-term is to be alleviated.<sup>190</sup>

- (71) Binding international human rights law, which sets out minimum standards of treatment that States must afford to individuals within their territory or jurisdiction, is highly relevant. Any migration or relocation strategies must be developed and executed in a manner fully consistent with the minimum standards of protection articulated under human rights law. These are elaborated in part 3.

### 2.2.1 *Internal Movements*

- (72) As noted in section 1.4, most displacement, migration and planned relocation is likely to take place *within* countries, rather than across international borders.
- (73) There are existing legal tools that are relevant to this context, even though they were not specifically designed with disasters or climate change in mind. In particular, the UN Guiding Principles on Internal Displacement are an internationally-recognized soft law instrument, addressing people's needs and rights in the pre-movement phase, during movement and post-movement.<sup>191</sup> Although the Guiding Principles themselves are non-binding, they reflect binding international legal standards and have been recognized by the international community as an "important international framework for the protection of internally displaced persons".<sup>192</sup> Other international and regional instruments on human rights and disasters also complement the Guiding Principles.
- (74) The Guiding Principles describe "internally displaced persons" (IDPs) 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 ... natural or human made disasters, and who have not crossed an internationally recognized State border".<sup>193</sup> This description is sufficiently broad and flexible to cover (a) people who are evacuated or flee from their homes to escape the anticipated impacts of a disaster; and (b) people who are forced to leave their homes in the aftermath of a disaster. A further advantage is that its application does not require a preliminary determination as to whether a specific disaster was linked to climate change, or whether it was human-made or natural (to the extent that such determinations are even possible).<sup>194</sup>

<sup>190</sup> See e.g. S. Weerasinghe et al., n. 155; E. Ferris, n. 157.

<sup>191</sup> *Guiding Principles on Internal Displacement*, UN Doc. E/CN.4/1998/53/Add.2, 11 February 1998, available at: <http://www.un-documents.net/gpid.htm> [hereinafter, "Guiding Principles"]. For discussion of internal displacement in the context of disasters and climate change, see the Nansen Initiative Protection Agenda, n. 157, paragraphs 99–105, 123–24.

<sup>192</sup> See e.g. UNGA, *2005 World Summit Outcome*, UN doc. A/RES/60/1, 24 October 2005, paragraph 132.

<sup>193</sup> Guiding Principles, n. 191, paragraph 2 in "Introduction – Scope and Purpose".

<sup>194</sup> W. Kälin, n. 148, 87.

- (75) In Africa, the 2009 African Union Convention for the Protection and Assistance of Internally Displaced in Africa incorporate the same description of an IDP as the Guiding Principles.<sup>195</sup> The Kampala Convention also has a specific provision obliging States parties to take measure to protect and assist persons who have been internally displaced due to natural and human made disasters, including climate change.<sup>196</sup>
- (76) Thus, if people are forcibly displaced *within* countries on account of the impacts of sea-level rise, existing legal frameworks provide a sufficient articulation of the rights, needs and obligations of States and IDPs. The challenge lies in strengthening the normative and operational implementation of these instruments. They can be strengthened *normatively* through the development/amendment of national laws, policies and strategies to recognize and respond to displacement as a response to disasters, including those linked to climate change. They can be strengthened *operationally* by building/enhancing the capacities of national and local authorities to implement and apply them.<sup>197</sup>
- (77) There remain some potential gaps, however. For instance, do the Guiding Principles extend to cover certain categories of non-citizens, such as tourists, temporary visitors or migrant workers? According to Roberta Cohen, co-founder and former co-director of the Brookings Institution’s Project on Internal Displacement for over a decade, such people “were not intended to be included since they come to a country “temporarily” and can return home”.<sup>198</sup> But some experts have since begun to question whether these categories of non-citizens should also come under the description of IDPs in some circumstances.<sup>199</sup>
- (78) In addition, specific guidance on carrying out planned relocations in the context of disasters and environmental change, including the effects of climate change, do not exist, despite the fact that many States have undertaken planned relocations within their borders (or are planning to do so).<sup>200</sup> Experts are seeking to address this gap by developing guidance and operational tools to equip States and other actors supporting them to undertake planned relocation in a manner that respects and protects the rights and dignity of those to be relocated and other relevant affected populations.<sup>201</sup>

<sup>195</sup> African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa, entered into force 6 December 2012, Article 1(k).

<sup>196</sup> *Ibid.*, Article 5(4).

<sup>197</sup> W. Kälin, n. 148, 94; see also W. Kälin and N. Schrepfer, n. 153.

<sup>198</sup> R. Cohen, *Lessons Learned from the Development of the Guiding Principles on Internal Displacement*, Working Paper, Georgetown University Institute for the Study of International Migration, October 2013, 9, available at: <https://isim.georgetown.edu/crisis-migration-working-papers>. Internal citations omitted.

<sup>199</sup> See e.g. K. Koser, *Responding to New Internal Displacement Challenges: The Displacement of Non-Citizens*, Brookings Institution, 2 December 2012, available at: <http://www.brookings.edu/research/opinions/2012/12/20-displacement-noncitizens-koser>.

<sup>200</sup> China, Fiji, Japan, Philippines, United States and Vietnam are some examples. But see n. 154 detailing expert efforts to develop guidance. See also n. 157 on additional literature and resources on planned relocation.

<sup>201</sup> See n. 154 detailing expert efforts to develop such guidance.

- (79) Another pertinent area that has become the subject of normative activity in recent years is that of disaster relief. In 2014, the International Law Commission adopted Draft Articles on the Protection of Persons in the event of Disasters.<sup>202</sup> A background memorandum noted that, unlike the extensive body of law applying in situations of armed conflict, there is no universal treaty comprehensively covering the main aspects of disaster relief—prevention, response and protection.<sup>203</sup> While internal movements are not explicitly mentioned in the Draft Articles, Article 1 states that they apply to the “protection of persons in the event of disasters” and Article 2 explains that their purpose is “to facilitate an adequate and effective response to disasters that meets the essential needs of persons concerned, with full respect for their rights.”<sup>204</sup> The Draft Articles are with governments and international organizations for comment (until 1 January 2016),<sup>205</sup> but even in the draft stage, they are valuable for identifying norms of general international law that could usefully underpin frameworks and solutions relating to movements in the context of impacts of climate change.
- (80) Of course, in all of these situations, international (and regional) human rights norms continue to apply. As noted in paragraph 71, human rights law sets out minimum standards of treatment that States must afford to *all* individuals within their territory and subject to their jurisdiction, whether citizens or not. These are elaborated in part 3.

### 2.2.2 *International Movements*

- (81) As discussed in section 1.4, cross-border movements in the context of sea-level rise are expected to be the exception rather than the norm. For some low-lying island States, international movement may become a necessity over the longer-term, although precise timeframes remain uncertain. The *extent* to which international movement will be necessary may be tempered by mitigation and adaptation. The *nature* of that movement will depend in part upon what assistance and protection is available to people who are displaced within the country, and on legal and policy frameworks regulating cross-border movement. Some international movement is inevitable and is already occurring in the context of climate change (although the scale is unclear).<sup>206</sup> While there are some tools to address cross-border movement, there are also considerable legal gaps.

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<sup>202</sup> International Law Commission (ILC), *Protection of Persons in the Event of Disasters: Texts and Titles of the Draft Articles Adopted by the Drafting Committee on First Reading*, 66<sup>th</sup> Session, UN Doc. A/CN.4/L.831, 15 May 2014, available at: <http://legal.un.org/docs/?symbol=A/CN.4/L.831>.

<sup>203</sup> ILC, *Protection of Persons in the Event of Disasters: Memorandum by the Secretariat*, 60<sup>th</sup> Session, UN Doc. A/CN.4/590, 11 December 2007, available at <http://legal.un.org/docs/?symbol=A/CN.4/590>.

<sup>204</sup> ILC, n. 202.

<sup>205</sup> ILC, *Report of the International Law Commission*, 66<sup>th</sup> Session, UN Doc. A/69/10, available at: <http://legal.un.org/ilc/reports/2014/>.

<sup>206</sup> See e.g. Nansen Initiative, n. 147.

## *Displacement*

### Refugee Law

- (82) International law recognizes only a very small class as people whom other countries have an obligation to protect when they are displaced across an international border: “refugees”, “stateless persons” and those eligible for complementary protection.
- (83) People displaced by the impacts of sea-level rise are unlikely to fall within the definition of a “refugee” in the 1951 Convention relating to the Status of Refugees, unless the reasons for that displacement are also linked to more conventional grounds.<sup>207</sup> The Refugee Convention, read in conjunction with its 1967 Protocol,<sup>208</sup> defines a refugee as someone who:

owing to well-founded 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.<sup>209</sup>

A number of obstacles make it difficult to argue that people displaced across international borders on account of the impacts of sea-level rise are, without more, “refugees” within the meaning of the Refugee Convention. First, there are difficulties in characterizing the impacts of sea-level rise as “persecution”. Part of the problem is identifying a “persecutor”. One might argue that the persecutor is the “international community”, and industrialized countries in particular, but these are the very countries to which movement might be sought. This de-linking of the actor of persecution from the territory from which flight occurs is a complete reversal of the traditional refugee paradigm: a person fleeing the impacts of sea-level rise is not escaping his or her government, but rather is seeking refuge from—yet within—countries that have arguably contributed to their predicament. Second, even if the impacts of sea-level rise could be characterized as “persecution”, the Refugee Convention requires such persecution to be *for reasons of* an individual’s race, religion, nationality, political opinion or membership of a particular social group. The difficulty in the present context is that the impacts of sea-level rise are largely indiscriminate. Although impacts affect some countries more than others by virtue of their geography and resources, the reason it does so is not premised on the nationality or race of their inhabitants. An argument that people affected by impacts could constitute “a particular social group” would be

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<sup>207</sup> Convention relating to the Status of Refugees, entered into force 22 April 1954, 189 UNTS 137 [hereinafter, “Refugee Convention”].

<sup>208</sup> Protocol relating to the Status of Refugees, entered into force 4 October 1967, 606 UNTS 267.

<sup>209</sup> Refugee Convention, n. 207, Article 1A(2).

difficult to establish, because the law requires that the group must be connected by a fundamental, immutable characteristic other than the risk of persecution itself.<sup>210</sup>

- (84) In some circumstances, however, such as where government authorities withhold or obstruct assistance or protection to persons impacted by sea-level rise on the basis of one of the five grounds mentioned in definition, and as a consequence expose them to treatment amounting to persecution, they may qualify as refugees. In this respect, it is useful to examine a 2013 case from the New Zealand Immigration and Protection Tribunal (NZIPT), in which a man unsuccessfully claimed refugee status on the basis of environmental changes in Kiribati associated with climate change, including sea-level rise.<sup>211</sup> The Tribunal held that the legal concept of “being persecuted” rested on human agency.<sup>212</sup> Nevertheless, this requirement did not automatically mean that environmental degradation, whether associated with climate change or not, could never create pathways into the Refugee Convention.<sup>213</sup> The Tribunal acknowledged that persons fleeing natural disaster could not obtain refugee status, insofar as the effects of natural disasters were felt indiscriminately, rather than for any Convention reason.<sup>214</sup> However, the Tribunal observed that there was a complex relationship between environmental degradation, natural disasters and human vulnerability, and that this complex relationship could create pathways to international protection, including under the Refugee Convention.<sup>215</sup> By way of example, the Tribunal noted that if a States response to a natural disaster sidelined the recovery needs of marginalized groups, or its provision of post-disaster humanitarian relief became highly politicised, then protection might be forthcoming.<sup>216</sup> Nonetheless, in most cases, international refugee law will not be applicable.<sup>217</sup>

<sup>210</sup> For an expanded discussion of the relevance of the Refugee Convention, see J. McAdam, n. 32, 42–48.

<sup>211</sup> *AF (Kiribati)* [2013] NZIPT 800413, available at: [https://forms.justice.govt.nz/search/IPT/Documents/RefugeeProtection/pdf/ref\\_20130625\\_800413.pdf](https://forms.justice.govt.nz/search/IPT/Documents/RefugeeProtection/pdf/ref_20130625_800413.pdf). In this case, the Tribunal found that the limited capacity of South Tarawa to carry its population was being significantly compromised by the effects of population growth, urbanization and limited infrastructure development, particularly in relation to sanitation, and these factors were exacerbated by the effects of both sudden-onset environmental events (storms) and slow-onset processes (sea-level rise) (paragraph 39). The decision was subsequently upheld in *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2013] NZHC 3125, *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2014] NZCA 173 and *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2015] NZSC 107.

<sup>212</sup> *AF (Kiribati)* [2013] NZIPT 800413, paragraph 54.

<sup>213</sup> *Ibid.*, paragraph 55.

<sup>214</sup> *Ibid.*, paragraph 56.

<sup>215</sup> *Ibid.*, paragraphs 56–70.

<sup>216</sup> *Ibid.*, paragraphs 58–59; Much of this summary is taken from the *Complementary Protection Decisions case summaries* document prepared by the Andrew & Renata Kaldor Centre for International Refugee Law, available at:

<http://www.kaldorcentre.unsw.edu.au/complementary-protection-decisions>.

<sup>217</sup> See e.g. W. Kälin and N. Schrepfer, n. 153, 32–34; *AD (Tuvalu)* [2014] NZIPT 501370–371 and *AC (Tuvalu)* [2014] NZIPT 800517–520), in which claims for refugee status, including on the basis of effects of climate change, consisting of, *inter alia*, sea-



- (85) In Africa and Latin America, a “refugee” is defined more broadly. The 1969 Convention governing the Specific Aspects of Refugee Problems in Africa (OAU Convention) is the regional legal instrument governing refugee protection in Africa.<sup>218</sup> It replicates the definition in the Refugee Convention but also includes an expanded definition which provides that:

the term refugee shall also apply to every person who, owing to external aggression, occupation, foreign domination or events seriously disturbing public order in either part or the whole of his country of origin or nationality, 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>219</sup>

The 1984 Cartagena Declaration on Refugees, a non-binding instrument, adopted by the Colloquium on the International Protection of Refugees in Latin America, Mexico and Panama,<sup>220</sup> “remains the most encompassing definition of a refugee to have emerged from Latin America.”<sup>221</sup> It has become the basis for refugee policy in the region and has been adopted into national legislation. Like the OAU Convention, it enlarges the regional definition of a refugee to include “persons who have fled their country because their lives, safety or freedom have been threatened by generalised violence, foreign aggression, internal conflicts, massive violation of human rights or other circumstances which have seriously disturbed public order”.<sup>222</sup>

- (86) The inclusion in each of these regional instruments of serious disruptions to public order—as events or circumstances that could prompt flight—could potentially cover situations where acute impacts of sea-level extremes, such as severe flooding or inundation, cause a breakdown of public order. While such an interpretation is theoretically possible, the prevailing view among States in Africa and Latin America, applying the OAU Convention or the Cartagena Declaration, respectively, appears to be that these instruments do not support such an interpretation.<sup>223</sup>

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level rise, failed; See also analysis in J. McAdam, *The Emerging New Zealand Jurisprudence on Climate Change, Disasters and Displacement*, *Migration Studies*, 2015, 3(1): 131–42.

<sup>218</sup> Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, entered into force 20 January 1974, 1001 UNTS 45.

<sup>219</sup> *Ibid.*, Article 1(2).

<sup>220</sup> Cartagena Declaration on Refugees (adopted by the Colloquium on the International Protection of Refugees in Central America, Mexico, and Panama, 22 November 1984), in *Annual Report of the Inter-American Commission on Human Rights*, OAS Doc. OEA/Ser.L/V/II.66/doc. 10, rev 1, 1984–85, available at: <http://www.refworld.org/docid/3ae6b36ec.html>.

<sup>221</sup> M. Gibney and R. Hansen (eds.), *Immigration and Asylum: From 1900 to the Present: Volume I: Entries A to I*, Santa Barbara, California: ABC CLIO Inc., 2005, 71.

<sup>222</sup> Cartagena Declaration, n. 220, paragraph III (3).

<sup>223</sup> On the OAU Convention, see T. Wood, *Protection and Disasters in the Horn of Africa: Norms and Practice for Addressing Cross-border Displacement in Disaster Contexts: Article I(2) of the 1969 African Convention*, Report Prepared for the Nansen Initiative Consultation, Nairobi, Kenya, 21–23 May 2014, 23–29, available at: <https://www.nanseninitiative.org/greater-horn-africa-consultation-intergovernmental/>. On the Cartagena Declaration see D. Cantor, *Law, Policy, and Practice Concerning the*

- (87) Further, the *opinio juris* of African States does not support such an interpretation;<sup>224</sup> at most, it could be said to be “ambiguous”.<sup>225</sup> Although African States have typically permitted people fleeing natural disasters to remain temporarily, they have never characterized this as an *obligation* arising under the OAU Convention.<sup>226</sup> By way of example, in 2002, Uganda afforded temporary refuge within its borders to persons fleeing the eruption of Mount Nyiragongo in Goma, Democratic Republic of Congo, while taking the view that such persons were not refugees under the expanded refugee definition.<sup>227</sup> The treaty was, however, applied to persons fleeing famine in war-torn Somalia in 2011–12 because of the inter-linkage between conflict, drought and the lack of protection and assistance within their country.<sup>228</sup> In this respect, the expanded definition in the OAU Convention arguably “has the potential to extend protection to persons displaced in the context of disasters, at least in situations where the disaster is accompanied by conflict, widespread violence and/or a breakdown of national government systems.”<sup>229</sup> In the absence of these accompanying factors, though, its capacity to protect persons fleeing across borders, particularly in light of State practice, is less clear.<sup>230</sup>
- (88) The Cartagena Declaration does not seem to have been envisaged as applying to natural disasters.<sup>231</sup> According to Cantor, the general view among States applying the expanded definition “is that disasters do not as such engage the expanded Cartagena refugee definition. The rationale for this view is that the serious disturbances of public order that are referred to by the ‘other circumstances’ element of the definition must have a connection with the institutional or political world of men.”<sup>232</sup> In this context, whether impacts of sea-level rise, which are influenced by anthropogenic changes to the climate, engage the definition as at least partial “man-made” disasters remains an open question.<sup>233</sup> Even so, States in Central and South America have recognized Haitians applying for asylum following the 2010 earthquake as refugees under the Cartagena Declaration definition. In Ecuador, a

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Humanitarian Protection of Aliens on a Temporary Basis in the Context of Disasters, States of the Regional Conference on Migration and Others in the Americas, Background Study for the Regional Workshop on Temporary Protection Status and/or Humanitarian Visas in Situations of Disasters, San José, 10–11 February 2015, 23–31, available at: <https://www.nanseninitiative.org/central-america-consultations-intergovernmental/>.

<sup>224</sup> J. McAdam, n. 32, 48, referring to A. Edwards, *Refugee Status Determination in Africa*, *African Journal of International and Comparative Law*, 2006, 14(2): 204–33, 225–27.

<sup>225</sup> T. Wood, n. 223, 25.

<sup>226</sup> J. McAdam, n. 32, 48; see also T. Wood, *ibid.*

<sup>227</sup> T. Wood, n. 223, 25, fn. 149 noting an intervention made by representatives of the Government of Uganda during the Nansen Initiative Horn of Africa Regional Consultation.

<sup>228</sup> T. Wood, *ibid.*, 23, 25.

<sup>229</sup> *Ibid.*, 23.

<sup>230</sup> *Ibid.* and more generally.

<sup>231</sup> W. Kälin and N. Schrepfer, n. 153, 34; see also D. Cantor, n. 223, 24–26.

<sup>232</sup> D. Cantor, n. 223, 25.

<sup>233</sup> *Ibid.*, fn. 67.

small number of asylum claims were recognized.<sup>234</sup> “The rationale was that the ‘other circumstances’ element is engaged not by the earthquake directly, but rather by the breakdown in law and order that it generated. In other words, the Ecuadorian authorities took the view that the insecurity, violence and disruption of police and justice structures amounted to ‘a serious disturbance of public order’.”<sup>235</sup> Mexico also recognized some asylum claims from Haitians fleeing from zones affected by the earthquake based on lack of protection and increased insecurity faced by these individuals.<sup>236</sup>

- (89) Thus, in situations where violence, unrest seriously disturbing the public order or even armed conflict, is triggered at least partially by a decrease in essential resources (such as freshwater or arable land) due to the impacts of sea-level rise, it is possible that people fleeing across borders in Africa and Latin America could be granted refugee protection.<sup>237</sup>
- (90) The 2014 Brazil Declaration,<sup>238</sup> adopted on the occasion of the 30<sup>th</sup> anniversary of the Cartagena Declaration, recognizes cross-border displacement of persons in the context of climate change and natural disasters as a new challenge.<sup>239</sup> Nonetheless, it does not describe such persons as “refugees”.
- (91) While it cannot be excluded that a process leading to an expanded interpretation of the OAU Convention and the Cartagena Declaration could be set in motion, and should be promoted to make better use of these existing tools, regional refugee law currently provides limited protection for people displaced across borders in the context of sea-level rise.<sup>240</sup> In this respect, Wood makes a valuable argument for interpreting “natural hazards and disasters” as events eligible for prompting circumstances that lead to recognition under the expanded definition of the OAU Convention.<sup>241</sup> A UNHCR-led roundtable held in 2011 on Climate Change and Displacement also highlighted the potential for the expanded definitions in the OAU Convention and the Cartagena

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<sup>234</sup> *Ibid.*, 26

<sup>235</sup> *Ibid.*

<sup>236</sup> *Ibid.*

<sup>237</sup> Persons fleeing to Europe in these contexts could also potentially benefit from temporary or subsidiary protection. The EU Temporary Protection Directive is intended to provide temporary protection in situations of mass influx, although it is yet to be utilized to address such a situation. The EU Qualification Directive allows subsidiary protection to be granted in cases of “serious and individual threats to civilian life or person by reason of indiscriminate violence in situations of international or internal armed conflict”, as well as in cases of inhuman or degrading treatment in the country of origin (see W. Kälin and N. Schrepfer, n. 153, 33; J. McAdam, n. 32, 102–04).

<sup>238</sup> Brazil Declaration: A Framework for Cooperation and Regional Solidarity to Strengthen the International Protection of Refugees, Displaced and Stateless Persons in Latin America and the Caribbean, Brasilia, 3 December 2014, available at: <http://www.refworld.org/pdfid/5487065b4.pdf>.

<sup>239</sup> *Ibid.*, Preamble and Chapter 7.

<sup>240</sup> W. Kälin and N. Schrepfer, n. 153, 34.

<sup>241</sup> T. Wood, n. 223, 24–26.

Declaration to extend to persons fleeing sudden-onset disasters, while accepting that such a position is “yet to be fully tested”.<sup>242</sup>

#### Law on Statelessness

- (92) The international statelessness regime is also ill-fitting. Apart from the fact that the two statelessness treaties, the Convention relating to the Status of Stateless Persons<sup>243</sup> and the Convention on the Reduction of Statelessness,<sup>244</sup> are poorly ratified, and very few countries have a procedure in place to determine who is stateless, the legal definition of a stateless person is deliberately narrow.<sup>245</sup> A stateless person is someone whom no State recognizes as its national.<sup>246</sup> The concept does not extend to de facto statelessness—that is, where someone has a nationality but is unable to exercise the rights of a citizen. The statelessness regime may become more relevant in the long-term if the complete inundation of low-lying island States presents implications for the nationality of populations from those States. Whether or not statelessness definition could be met may depend on whether the “State” is considered to still exist.<sup>247</sup>

#### Human Rights Law

- (93) Without considerable jurisprudential development, extant complementary protection mechanisms, arising under human rights law, also currently fail to offer adequate protection for persons displaced across borders in the context of sea-level rise. Human rights law goes beyond refugee law by prohibiting States from removing people to any place where they would face a risk of torture; cruel, inhuman or degrading treatment; or arbitrary deprivation of life. Courts have recognized that “destitution” or “dire humanitarian conditions” can amount to inhuman or degrading treatment, especially cumulatively. The advantage of this approach is that by focusing on the underlying human rights that are compromised if an individual is removed, it avoids complex issues of causation about climate change that are not directly relevant to establishing whether or not a right has been violated. In other words, the combination of environmental, social, economic and political factors, which draw on human-made as well as natural vulnerabilities, may better substantiate a claim than one based solely on the impacts of “climate change”.<sup>248</sup>

<sup>242</sup> UNHCR, *Summary of Deliberations on Climate Change and Displacement*, Bellagio, Italy, 22–25 February 2011, paragraph 9, available at: <http://www.refworld.org/docid/4d9f22b32.html>.

<sup>243</sup> Convention relating to the Status of Stateless Persons, entered into force 6 June 1960, 360 UNTS 117.

<sup>244</sup> Convention on the Reduction of Statelessness, entered into force 13 December 1975, 989 UNTS 175.

<sup>245</sup> Although, since 2011, there has been an uptake in ratifications, see: <http://www.unhcr.org/pages/4a2535c3d.html>.

<sup>246</sup> Convention relating to the Status of Stateless Persons, n. 243, Article 1.

<sup>247</sup> This issue is expected to be the subject of further research by this Committee. See further J. McAdam, n. 32, Chapter 5.

<sup>248</sup> For an expanded discussion of these issues, see e.g. J. McAdam, n. 32, Chapter 3.

- (94) However, there are a number of stumbling blocks at present. First, courts have carefully circumscribed the meaning of “inhuman or degrading treatment” so that it cannot be used as a remedy for general poverty or a lack of resources except in exceptional circumstances. They have been especially reluctant to find that a person needs international protection unless a State deliberately withholds resources or actively occasions harm. In a case decided by the New Zealand Immigration and Protection Tribunal, concerning a family of four from Tuvalu who claimed protection on the basis of, *inter alia*, the adverse effects of climate change, a dynamic approach to “treatment” was articulated.<sup>249</sup> Acknowledging the existence of positive State duties in disaster settings,<sup>250</sup> and drawing on previous jurisprudence that had established that in order to be protected, there must be “treatment”—an act or omission (committed or tolerated) by the State,<sup>251</sup>—the Tribunal highlighted circumstances under which such requirements could conceivably be satisfied. If the State were to deny access to available humanitarian relief, for example, or arbitrarily withhold its consent for necessary foreign humanitarian assistance, then such situations could conceivably constitute a “treatment” of the affected population.<sup>252</sup> In this respect, it is unlikely that a lack of basic services alone would substantiate a complementary protection claim unless this were to render survival on return impossible.
- (95) Secondly, the timing of a claim matters. It seems that for protection to be forthcoming, harm needs to be relatively imminent. For example, in the same Tribunal case referred to earlier in paragraph 84, the Tribunal held that there was no evidence to establish that the environmental conditions faced by the man on return to Kiribati would be “so parlous that his life [would] be placed in jeopardy, or that he and his family [would] not be able to resume their prior subsistence life with dignity.”<sup>253</sup> It was emphasized that the man was unable to show that there was a sufficient risk to his life “at the present time.”<sup>254</sup> In the case concerning the family from Tuvalu, discussed in the preceding paragraph, the Tribunal highlighted the difficulties of satisfying this aspect. The Tribunal observed: “[I]t must be shown that there is a prospective risk of such treatment occurring to such a degree that extends beyond mere speculation or surmise” and “the appellant must produce sufficient and compelling information and

<sup>249</sup> *AC (Tuvalu)* [2014] NZIPT 800517–520.

<sup>250</sup> *Ibid.*, paragraph 84.

<sup>251</sup> See *BG (Fiji)* [2012] NZIPT 800091; *AC (Tuvalu)* [2014] NZIPT 800517–520, paragraph 76.

<sup>252</sup> *AC (Tuvalu)* [2014] NZIPT 800517–520, paragraph 84.

<sup>253</sup> *AF (Kiribati)* [2013] NZIPT 800413, paragraph 74. As noted earlier, this decision was subsequently upheld in *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2013] NZHC 3125, *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2014] NZCA 173 and *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2015] NZSC 107.

<sup>254</sup> *AF (Kiribati)* [2013] NZIPT 800413, paragraph 89.

evidence to establish that a danger of such treatment exists at the time of determination.”<sup>255</sup>

- (96) As noted in paragraphs 71 and 80, where international human rights law is particularly pertinent, is in setting out minimum standards of treatment that States owe all people within their territory and subject to their jurisdiction, including those whose legal status may be irregular. Accordingly, people who are displaced across an international border in the context of sea-level rise are entitled to the benefits of these minimum standards regardless of whether they are recognized as a “refugee”, a “stateless person” or a “beneficiary of complementary protection” or none of the above.<sup>256</sup>
- (97) At the national level, there are a number of examples of legislative and policy mechanisms addressing admission, stay (generally temporary) and/or status of those displaced in the context of disasters, generally based on humanitarian considerations.<sup>257</sup> While similar types of mechanisms could be applied to displacement in the context of sea-level rise, at present they are largely *ad hoc*, uncoordinated and unpredictable, often based on discretionary considerations. UNHCR’s Guidelines on Temporary Protection and Stay Arrangements, published in February 2014, advocate for expanded and better coordinated temporary protection mechanisms,<sup>258</sup> with recommendations on admission, stay and status for potential beneficiaries. Broadening access to temporary protection options, in a more consistent and predictable way, is one means through which the protection needs of people displaced by disasters and climate change impacts could be accommodated. While temporary protection will not provide a solution in all cases, for example where return is not possible, it would add value and certainty to the overall protection framework.<sup>259</sup>
- (98) Overall, there remains a normative gap for the protection of people displaced across borders in the context of disasters, including those relating to the impacts of sea-level rise and extremes.<sup>260</sup> The Nansen Initiative has attempted to bridge this gap. In October 2015, it presented an Agenda for the Protection of Cross-Border Displaced Persons in the context of Disasters and Climate

<sup>255</sup> *AC (Tuvalu)* [2014] NZIPT 800517–520, paragraph 99.

<sup>256</sup> Human rights law is discussed in more detail in part 3.

<sup>257</sup> See e.g. *D. Cantor*, n. 223, 42–54. In *AD (Tuvalu)* [2014] NZIPT 501370-371, protection was granted on humanitarian and discretionary grounds. Key factors influencing the decision included the fact that the appellant was the only sibling left in Tuvalu, he was the only son of the family, and there was a strong cultural need for him to be with his New Zealand-resident mother. While the effects of climate change and natural disasters were accepted to be a humanitarian circumstance within the meaning of the relevant statutory test, it was not the factor that determined the outcome.

<sup>258</sup> UNHCR, *Guidelines on Temporary Protection or Stay Arrangements*, February 2014, available at: <http://www.refworld.org/docid/52fba2404.html>.

<sup>259</sup> See e.g. *Protection for Persons Moving across Borders in the Context of Disasters: A Guide to Effective Practices for RCM Member Countries* (2015); Nansen Initiative Protection Agenda, n. 157, paragraphs 46–63.

<sup>260</sup> See e.g. Nansen Initiative, n. 147.

Change,<sup>261</sup> which was endorsed by 110 States.<sup>262</sup> The agenda is based on the empirical findings from the Nansen Initiative's five sub-regional consultations over the course of the past four years. The agenda outlines the normative gaps in addressing displacement, migration and planned relocation in the disaster context, and suggests proactive steps that States need to take at the national, regional and international levels to address them. The agenda is a roadmap, not a soft law instrument. Indeed, legal experts engaged with the process considered it premature to develop any formal legal instrument at this point in time.<sup>263</sup>

### *International Migration as Adaptation*

- (99) Many of the existing tools to address cross-border displacement are premised on the idea that it is too dangerous to return *now*. They are more remedial than proactive. These tools have the capacity to address only displacement, and even then, in a very limited way. Movements that are anticipatory—where people calculate future risks and decide to leave rather than stay—are not easily accommodated by such frameworks. Legal (and sometimes physical) barriers to entry imposed by States also restrict the ability of people to move across borders lawfully. If they are in danger and need somewhere to go, this may lead to irregular migration.
- (100) In this context, while international refugee and human rights law may provide useful benchmarks for identifying people's needs, they must be complemented by other strategies, particularly ones that allow for safe and planned international migration.
- (101) Migration can be an effective way to build long-term resilience of people and communities, allowing them to cope with adverse impacts of sea-level rise and potentially reduce or avoid displacement at a later stage. Even though extreme sea-level events, such as storm surges and astronomical tides, may trigger displacement, movements away from the cumulative and combined impacts of flooding, erosion, saltwater intrusion, rising water tables and wetland change, and their direct and indirect effects, are likely to be slow and gradual. Experience indicates that people will initially seek to migrate from at risk areas rather than wait until a crisis point arrives.<sup>264</sup> In this respect, proactively anticipating and planning for migration is an important policy option. Migration can enable people to move “voluntarily” and relatively safely away from the impacts of sea-level rise, be a beneficial channel for livelihood diversification, and play an important role in risk management strategies. Increased migration could also help relieve

<sup>261</sup> Nansen Initiative Protection Agenda, n. 157.

<sup>262</sup> Statement by Governments, Geneva, 13 October 2015, available at: <https://www.nanseninitiative.org/global-consultations/>.

<sup>263</sup> See e.g. *Ibid.*; J. McAdam, *Swimming Against the Tide: Why a Climate Change Displacement Treaty is Not the Answer*, *International Journal of Refugee Law*, 2011, 23: 1–26; W. Kälin and N. Schrepfer, n. 153.

<sup>264</sup> See e.g. n. 156.

population and resources pressures, particularly in some low-lying island States, where these are of pressing concern.<sup>265</sup>

- (102) Existing national immigration laws and regulations related to employment, family or education, as well as other forms of privileged access to territory,<sup>266</sup> might allow for adaptive international migration, whether temporary or permanent.<sup>267</sup> These mechanisms may, over time, also allow for transition to residence in another country, and in turn, facilitate the movement of persons impacted by sea-level rise and extremes. In some parts of the world, former colonial ties have provided the foundation for sub-regional “clusters” of States between which movement is facilitated (e.g. via privileged access to temporary or permanent residence). Examples in the Pacific include New Zealand, USA and France, and new clusters are emerging centred around countries such as Australia. Ways in which privileged access has been provided include visa-free or visa-on-arrival entry rights, potential to obtain or transition to short-term work visas/permits and pathways to residency. The effects of clustering, the existence of multi-tiered structures and the provision of different bundles of privileges related to admission, stay and access to labour markets has the capacity to greatly enhance cross-border migration.<sup>268</sup> New Zealand’s Pacific Access Category visa, while not a response to the impacts of climate change *per se*, enables hundreds of Pacific Islanders to migrate permanently to New Zealand each year. At the regional level, existing free movement agreements, such as the Economic Union of the Organisation of Eastern Caribbean States, the Caribbean Single Market and Economy and the Economic Community of West African States (ECOWAS), also present important prospects for migration as adaptation. Significantly, in 2015, Central American States developed a non-binding guide to effective practices for the protection of people moving across borders in the context of disasters.<sup>269</sup>

<sup>265</sup> See e.g. J. McAdam, n. 32.

<sup>266</sup> For example, in the aftermath of a series of earthquakes in Christchurch, New Zealand, the number of New Zealanders who left that area and moved to Australia was more than double the previous year (ca 3,600 versus ca 1,600). Their movement was facilitated by the Trans-Tasman Travel Arrangement, which enables Australian and New Zealand citizens (without health or character concerns) to visit, live and work in either country indefinitely and without restrictions. This provided a ready “self-help” mechanism that enabled people to plan for their future, rather than leaving them without a solution or reliant on a hastily conceived ad hoc response. See e.g. P. Lafferty, *International Migration to/from Christchurch after the Earthquakes*, Statistics New Zealand, 29 November 2011, available at: [http://www.population.org.nz/wp-content/uploads/2012/02/3b3\\_peter-lafferty.pdf](http://www.population.org.nz/wp-content/uploads/2012/02/3b3_peter-lafferty.pdf).

<sup>267</sup> Family reunification may provide greater scope for more permanent international migration through sponsorship and other mechanisms. See generally Nansen Initiative Protection Agenda, n. 157, paragraphs 46–63, 87–93, 119–20.

<sup>268</sup> B. Burson and R. Bedford, *Clusters and Hubs: Toward a Regional Architecture for Voluntary Adaptive Migration in the Pacific*, Discussion Paper, Nansen Initiative, 9 December 2013, Executive Summary, available at: [https://www2.nanseninitiative.org/wp-content/uploads/2015/02/DP\\_Clusters\\_and\\_Hubs\\_Toward\\_a\\_Regional\\_Architecture\\_for\\_Voluntary\\_Adaptive\\_Migration\\_in\\_the\\_Pacific.pdf](https://www2.nanseninitiative.org/wp-content/uploads/2015/02/DP_Clusters_and_Hubs_Toward_a_Regional_Architecture_for_Voluntary_Adaptive_Migration_in_the_Pacific.pdf).

<sup>269</sup> See *Protection for Persons Moving across Borders in the Context of Disasters*, n. 259.



- (103) These examples show the potential of existing immigration mechanisms. Nevertheless, targeted mechanisms for enabling people to migrate in the context of sea-level rise, and indeed the broader effects of climate change, need to be greatly expanded. Managed regular admission schemes, including immigration quotas or targeted admission of migrants from particularly affected areas, would assist adaptation efforts, and at the same time potentially reduce the extent of irregular migration. These could be implemented through bilateral or (sub-) regional agreements between countries, building on historical migration flows and new patterns of movements. Similarly, offering educational or labour opportunities to nationals of affected States could also provide a targeted form of assistance, while also helping to develop skills. The Kiribati-Australia Nursing Initiative (KANI) is one such example.<sup>270</sup>
- (104) Some States affected by sea-level rise and extremes have called for the expansion of existing migration opportunities to create planned movement pathways for their nationals and to enable them to “migrate with dignity”.<sup>271</sup> These calls should be heeded as policy interventions. Their timing will play a major role in shaping outcomes and will determine whether migration is a form of adaptation or a sign of failure to adapt.

### ***Planned Relocation***

- (105) The planned relocation of persons or groups of persons should be an option of last resort. This was the clear message from the Pacific Island consultation held by the Nansen Initiative in 2013,<sup>272</sup> and is borne out both by the fraught experiences of cross-border relocation in the past in that region,<sup>273</sup> and the experiences of development actors in moving populations to facilitate various development projects.<sup>274</sup> While most planned relocations are likely to take place within States, over the course of this century and beyond, the planned cross-border relocation of groups may become necessary for those remaining in low-lying island States, as their territory becomes uninhabitable from the impacts of sea-level rise and other effects of climate change. In part, this will depend on what other mitigation and adaptation strategies are put in place—including migration strategies to enable people to move if and when they so desire.
- (106) If planned relocation becomes a necessary and viable option, policymakers will need to pay acute attention to planning, embrace lessons learned from past experiences, prioritize a human rights-

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<sup>270</sup> See J. McAdam, n. 32, 206.

<sup>271</sup> Kiribati is one example. See J. McAdam, n. 32, 12. See also Nansen Initiative, n. 147.

<sup>272</sup> Nansen Initiative, *Pacific Regional Consultations-Intergovernmental: Outcome Report*, n. 147.

<sup>273</sup> J. McAdam, 2014, n. 157.

<sup>274</sup> See e.g. S. Weerasinghe et al., n. 155; E. Ferris, August 2012, n. 157; Nansen Initiative, n. 147.

centred approach throughout the process, and involve and consult with those to be relocated, as well as potential host communities.<sup>275</sup>

- (107) Planned relocation is a tool with myriad complexities. Aside from the intricacies of securing agreement to relocate communities to the territory of another State, there are implications for self-determination, identity and legal status, as well as other important facets of daily life including livelihoods, health and shelter and cultural and property rights. Effects of dislocation can have intergenerational consequences. Experiences from the development field demonstrate that impoverishment of relocated groups is a distinct possibility. There are also questions about how to balance the human rights of relocated groups with those of the communities into which they move.
- (108) Experts are attempting to provide additional guidance to States on carrying out planned relocation *within* States, which is already very complicated.<sup>276</sup> While the strategies they develop may be of some benefit in the cross-border context as well, the overarching point is that this tool is not a panacea and must be approached with considerable care and caution.

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<sup>275</sup> See e.g. J. McAdam, *Relocation and Resettlement from Colonisation to Climate Change: The Perennial Solution to 'Danger Zones'*, London Review of International Law, 2015, 3(1): 93–130; J. McAdam, 2014, n. 157; Nansen Initiative Protection Agenda, n. 157, paragraphs 94–98, 121–22.

<sup>276</sup> See n. 154.

### 3 Outlook

- (109) As the preceding discussion shows, as the impacts of sea-level rise the habitability of territory in coastal and low-lying areas, this has human rights implications for the people living in those areas, including in relation to mobility. If Earth's climate system continues to warm as expected, these repercussions will grow in scope and severity. Even if global temperatures are stabilized in the longer-term, sea levels are projected to increase over the coming centuries. With decreasing habitable territory, and increasing percentages of affected populations, States will face growing pressures on their capacity to govern.
- (110) There are some existing legal tools that partially address these challenges, but they need to be further clarified, broadened and developed. International human rights law, the duty to cooperate and the principles of common but differentiated responsibilities, elementary considerations of humanity and human dignity, provide important starting points, with the capacity to lend clarity and content to States' obligations. This section highlights their relevance, with a view to building on these aspects in the next phase of the Committee's research.

#### 3.1 Human Rights Law

- (111) All people have human rights. These rights are safeguarded by a range of international and regional instruments, which articulate a set of comprehensive and universal rights pertaining to all people. It is widely accepted that human rights are indivisible, interdependent and interrelated. Whether expressed as civil and political rights, or as economic, social or cultural rights, they are underpinned by the fundamental notion that they are derived from the inherent dignity of every human being.<sup>277</sup>
- (112) States are the principal duty-bearers under human rights law, and responsibility for fulfilling human rights obligations thus lies primarily with States. They involve both negative and positive obligations. The duty to *respect* human rights, which is characterized as a negative obligation, requires States to refrain from violating or otherwise interfering with the enjoyment of guaranteed human rights. The duties to *protect* and to *fulfil* human rights are characterized as positive obligations.
- (113) There are a number of reasons why international human rights law is important in the context of sea-level rise. As highlighted in preceding sections, one reason is that the law articulates minimum standards of treatment that States must afford to individuals within their territory or subject to their jurisdiction, with the scheme of negative and positive obligations further informing the content of

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<sup>277</sup> J. McAdam, *Human Rights and Forced Migration*, in E. Fiddian Qasmiyeh et al., *The Oxford Handbook of Refugee and Forced Migration Studies*, Oxford: Oxford University Press, 2014, 203.

States' duties.<sup>278</sup> Thus, irrespective of a State's contribution to anthropogenic climate change, States experiencing or threatened by the impacts of such change are first and foremost responsible for undertaking measures to protect people within their territory or subject to their jurisdiction, in accordance with human rights law. In other words, under existing human rights law, States have a duty to respect, protect and fulfil human rights so as to protect people from foreseeable harms emanating from the impacts of climate change, including sea-level rise.

- (114) Beyond this general duty, emerging jurisprudence from the European Court of Human Rights and UN treaty bodies has shed light on the ways in which States obligations to respect, protect and fulfil certain human rights relate to phases of disaster response.<sup>279</sup> Arguments have also been made that victims of natural disasters can claim a right to humanitarian assistance when in need, pursuant to extant human rights.<sup>280</sup> In these sorts of ways, there is growing recognition that there are duties inherent in existing human rights obligations that require States to address the adverse impacts of climate change. Various bodies are attempting to articulate and give meaning to the content of such duties.<sup>281</sup> In addition, two treaties address the need for disaster relief,<sup>282</sup> and there are also efforts to recognize a single, overarching right to a healthy environment.<sup>283</sup>
- (115) Human rights law, and the different categories of obligations (respect, protect and fulfil) intrinsic in specific rights, must inform the ways in which States undertake action to address the impacts of sea-level rise, including action to facilitate *in situ* adaptation and prevent and address internal and international movements. In some respects, extant tools such as the Guiding Principles on Internal Displacement take account of this framework of responsibilities. However, greater clarity and guidance is needed on the ways in which international and regional human rights law obligates States to take action to adapt to and address the impacts of sea-level rise

<sup>278</sup> Human rights law also provides a means of assessing which rights are undermined by the impacts of sea-level rise. See, for example, discussion in section 1.3. As highlighted in section 2.2.2, human rights law also provides a legal basis on which protection may be sought (and granted) in another State (known as complementary protection). Finally, as noted throughout this report, if movement across international borders does occur, human rights law requires minimum standards of treatment to be observed in the host State.

<sup>279</sup> W. Kälin, *The Human Rights Dimension of Natural or Human-Made Disasters*, German Yearbook of International Law, 2012, 55: 119–147, 128–29.

<sup>280</sup> *Ibid.*, 141.

<sup>281</sup> These aspects are also expected to be the subject of further research within this Committee. For this purpose, the material detailed in n. 75 and n. 76 are likely to be of particular relevance as are: J. McAdam and M. Limon, n. 135; J. Knox, *Report of the Independent Expert on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment: Compilation of Good Practices*, UNGA, UN Doc. A/HRC/28/61, 3 February 2015, available at: <http://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/GoodPractices.aspx>.

<sup>282</sup> Convention on the Rights of Persons with Disabilities, entered into force 3 May 2008, 2515 UNTS 3, Article 11; African Charter on the Rights and Welfare of the Child, entered into force 29 July 1999, OAU Doc. CAB//LEG/24.9/49, Articles 23 and 25.

<sup>283</sup> See, e.g. J. Knox, *Preliminary Report*, n. 75, paragraph 51.

on their populations, including as they pertain to the three different types of mobility discussed in part 2.

### 3.2 Other Principles of International Law

- (116) The enduring nature of challenges presented by the impacts of sea-level rise means that even States that are relatively well resourced, with relatively strong technical and institutional capabilities and respectable adherence to human rights norms, may struggle to discharge their human rights obligations. This is likely to be the case over time, as impacts take their toll on greater portions of habitable territory and populations, undermining the governance capacities of even the most highly-developed States. All the same, the science suggests that the impacts of sea-level rise will be distributed unevenly. They will disproportionately affect poorer parts of the world where responsive capacity is already hampered by insufficient resources, limited technical and institutional support and other stressors such as population growth, limited education and weak human rights protection. States that have contributed the least to anthropogenic changes to the climate system will be many of the worst affected.
- (117) In this context, greater clarity is needed on the role and responsibility of the international community to step into the breach. Affected States will require support to assist and protect their own populations and to respect, protect and fulfil their human rights obligations. Support may take the form of technical, financial and operational measures. These aspects are already envisioned under the UNFCCC and associated instruments. The Cancún Adaptation Framework, in particular, recognizes the urgent need for enhanced action and international cooperation on a range of adaptation measures. With respect to mobility, the Framework explicitly calls for measures to enhance understanding, coordination and cooperation on climate change-induced displacement, migration and planned relocation at the national, regional and international levels.<sup>284</sup>
- (118) The UNFCCC and international climate change negotiations are based on the need for the international community to take collective responsibility for a problem of its own making. Further guidance is needed on the ways in which the international community's collective responsibility to adapt to the impacts of climate change should be discharged in specific situations. With regard to the impacts of sea-level rise, two *general* principles of international law—the duty to cooperate, and the principle of common but differentiated responsibilities—have the potential to provide greater clarity on the role and responsibilities of the international community of States.

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<sup>284</sup> See discussion of the Cancún Adaptation Framework, including paragraph 14(f) of that Framework in paragraphs 60, 63 and 68.

### 3.2.1 *Duty to Cooperate*

- (119) The duty to cooperate is a fundamental principle of international law. It is listed in the UN Charter as one of the objectives of the UN, and is part of multiple environmental law agreements and a number of human rights instruments, including the ICESCR.<sup>285</sup> Commentary to the ILC Draft Articles on the Protection of Persons in the Event of Disasters describes the duty as “indispensable” in protecting victims of disasters.<sup>286</sup> In describing the relationship between climate change and human rights, the Office of the High Commissioner for Human Rights states that “[i]nternational human rights law complements the United Nations Framework Convention on Climate Change by underlining that international cooperation is not only expedient but also a human rights obligation and that its central objective is the realization of human rights.”<sup>287</sup>
- (120) The precise meaning of the duty to cooperate is unclear. It would be helpful if there could be greater guidance given as to the content of this duty when it comes to States taking joint and separate action to protect human rights in the context of sea-level rise. In particular, there is a need for a more nuanced understanding of who the effective duty bearer is, and what responsibilities the duty bearer has with respect to adaptation, including mobility.<sup>288</sup>

### 3.2.2 *Common but Differentiated Responsibilities*

- (121) The principle of “common but differentiated responsibilities” may also be instructive.<sup>289</sup> This principle has “considerable legal gravitas”,<sup>290</sup> embedded in the UNFCCC and a number of international environmental instruments and decisions.<sup>291</sup> It is arguably the “bedrock of burden sharing arrangements crafted in the new generation of environmental treaties”,<sup>292</sup> and an overarching principle guiding the development of the international climate change regime. By establishing the common responsibility of States to protect the global environment, and recognizing that

<sup>285</sup> United Nations, Charter of the United Nations, entered into force 24 October 1945, 1 UNTS XVI, Articles, 1(3), 55 and 56; ICESCR, n. 91, Articles 2(1), 11, 15, 22, 23. For other instruments, see e.g. J. McAdam, n. 32, 257, fn.132.

<sup>286</sup> ILC, n. 205, 105.

<sup>287</sup> OHCHR, n. 75, paragraph 99.

<sup>288</sup> The importance of international cooperation is well recognized in the forced migration context and these experiences may also be brought to bear in identifying the content of the duty to cooperate in the present context.

<sup>289</sup> Article 3.1 of the UNFCCC, n. 162, reads, “[t]he parties should protect the climate system for the benefit of present and future generations of human kind on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country parties should take the lead in combating climate change and the adverse effects thereof”; Article 4 also obligates Parties to take into account their common but differentiated responsibilities in fulfilling commitments under the UNFCCC.

<sup>290</sup> ILA, *Washington Conference (2014), The Legal Principles Relating to Climate Change*, 13, available at: <http://www.ila-hq.org/en/committees/index.cfm/cid/1029>.

<sup>291</sup> *Ibid.*

<sup>292</sup> *Ibid.*

States have made different contributions to anthropogenic climate change, and also have different capacities to address it. The principle ascribes a leadership role for industrialized States within the climate change regime.<sup>293</sup> The Cancún Adaptation Framework also includes the principle, notably in the introduction to paragraph 14(f), which invites States parties to enhance action on adaptation, including in relation to displacement, migration and planned relocation.<sup>294</sup>

### 3.2.3 *Elementary Considerations of Humanity and Human Dignity*

- (122) Beyond these principles, elementary considerations of humanity and the closely connected concept of human dignity may provide overarching normative concepts to guide the development of strategies to respond to the impacts of sea-level rise, acting as meta-principles guiding necessary conduct. Fundamentally, they place the needs and rights of affected individuals in the centre, so that legal and policy responses are human rights-focused. The Nansen Principles—a set of 10 principles designed to shape and inform further action on addressing the linkages between climate change and mobility, both normatively and practically—provide another valuable frame of reference.<sup>295</sup>
- (123) Clarifying the content of States' existing duties under human rights law as they pertain to the impacts of sea-level rise, and complementing them by determining the content of the duty to cooperate in light of the principle of common but differentiated responsibilities, has the potential to provide a substantial contribution to the field. Addressing both these aspects is crucial to ensure vulnerable States are not left alone in addressing the human rights implications of a problem that they cannot overcome alone. Such a rights-based approach also accords due recognition to the fact that affected individuals are bearers of rights, entitled to hold States to account for obligations with which they have agreed to comply. These aspects will be the subject of further research and discussion in the lead-up to the preparation of the Committee's final report in 2018.

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<sup>293</sup> L. Rajamani, *The Principle of Common but Differentiated Responsibility and the Balance of Commitments Under the Climate Regime*, *Review of European Community & International Environmental Law*, 2000, 9(2): 120–31, 121 and more generally.

<sup>294</sup> Cancún Agreements, n. 159.

<sup>295</sup> Nansen Principles, n. 161.





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