

Climate Change and Human Trafficking After the Paris Agreement

MICHAEL B. GERRARD*

At least 21 million people globally are victims of human trafficking, typically involving either sexual exploitation or forced labor. This form of modern-day slavery tends to increase after natural disasters or conflicts where large numbers of people are displaced from their homes and become highly vulnerable. In the decades to come, climate change will very likely lead to a large increase in the number of people who are displaced and thus vulnerable to trafficking. The Paris Climate Agreement of 2015 established objectives to limit global temperature increases, but the voluntary pledges made by nearly every country fall far short of what is needed to meet these objectives. Several international agreements and domestic laws are aimed at combating human trafficking, but it is highly uncertain whether they will be adequate to cope with the scale of the problem that is likely to occur as a result of climate change.

I. INTRODUCTION.....	346
II. CLIMATE CHANGE WILL WORSEN MIGRATION.....	347
III. U.N. CLIMATE AGREEMENTS NOT NEARLY ENOUGH TO REDUCE EMISSIONS.....	353
IV. MIGRATION INDUCED BY CLIMATE CHANGE WILL INCREASE TRAFFICKING.....	356

* Michael B. Gerrard is Andrew Sabin Professor of Professional Practice and Director of the Sabin Center for Climate Change Law at Columbia Law School, and chair of the Faculty of Columbia's Earth Institute. This article grew out of the author's participation in a meeting convened and attended by Pope Francis on June 3–4, 2016—the Judges' Summit on Human Trafficking and Organized Crime, held at the Pontifical Academy of Social Sciences in Vatican City.

V. CLIMATE MIGRATION, TRAFFICKING AND THE LAW	360
VI. CONCLUSION: TRAFFICKING CAUSED BY CLIMATE CHANGE	366

I. INTRODUCTION

Human trafficking is modern-day slavery. Unlike the state-sanctioned slavery that officially ended just about everywhere in or before the nineteenth century,¹ human trafficking is now illegal everywhere. But it still exists worldwide and now afflicts at least 21 million people, and possibly many more.² It typically involves either sexual exploitation or forced labor.³ Its victims are the most vulnerable—those living in terrible circumstances with few options.⁴ They are tricked or trapped by among the world’s most unscrupulous people—the human traffickers—and handed over to their enslavers, who may be brothels, plantations, ships, factories, private homes wanting domestic servants, or other “employers.”⁵

In the words of Kevin Bales, a leading authority on the subject, “[t]hroughout history, slavery has meant taking total control of a person and exploiting that person’s labor. The essence of slavery is

¹ ANNE T. GALLAGHER, *THE INTERNATIONAL LAW OF HUMAN TRAFFICKING* 55 (2010).

² INT’L LABOUR OFFICE, *PROFITS AND POVERTY: THE ECONOMICS OF FORCED LABOUR* 7 (2014), <http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1383&context=intl>. A different source estimates that 40 million people were victims of modern slavery in 2016, of whom 25 million were in forced labor and 15 million were in forced marriage. INT’L LABOUR OFFICE & WALK FREE FOUNDATION, *GLOBAL ESTIMATES OF MODERN SLAVERY: FORCED LABOUR AND FORCED MARRIAGE* 5 (2017), http://www.alliance87.org/global-estimates_of_modern_slavery-forced_labour_and_forced_marriage.pdf.

³ INT’L LABOUR OFFICE, *supra* note 2, at 7.

⁴ See Namrata Chindarkar, *Gender and Climate Change-induced Migration: Proposing a Framework for Analysis*, 7 ENVTL. RES. LETTERS 1, 1 (2012), <http://iopscience.iop.org/article/10.1088/1748-9326/7/2/025601/pdf>.; KOKO WARNER ET AL., *IN SEARCH OF SHELTER: MAPPING THE EFFECTS OF CLIMATE CHANGE ON HUMAN MIGRATION AND DISPLACEMENT* 17–18 (2009), http://www.careclimatechange.org/files/reports/CARE_In_Search_of_Shelter.pdf.

⁵ See INT’L LABOUR OFFICE, *supra* note 2, at 18.

neither legal ownership nor the business of selling people; the essence of slavery is controlling people through violence and using them to make money.”⁶ That persists today on a massive scale.

Wars and other conflicts, and natural disasters cause millions of people each year to flee their homes.⁷ Many of these people become so vulnerable that they are prime targets for traffickers.⁸ In the coming decades, it is likely that the number of people fleeing their homes will escalate dramatically as a result of climate change, and the number of people subject to trafficking may expand correspondingly.⁹ The international climate agreement reached in Paris in December 2015 aimed to prevent more dangerous climate change, but we now know that it is falling far short.¹⁰

This Article explores how climate change will most likely cause a tremendous increase in the number of displaced people later in the century, and how this will increase the number of victims of human trafficking. This Article then discusses the legal tools available to break this link, and what more must be done.

II. CLIMATE CHANGE WILL WORSEN MIGRATION

According to the United Nations High Commissioner for Refugees, as of the end of 2016, approximately 65.6 million people were forcibly displaced from their homes as a result of natural disasters, conflict, and other factors—the largest number since the Second

⁶ KEVIN BALES, *ENDING SLAVERY: HOW WE FREE TODAY’S SLAVES* 10–11 (2007).

⁷ *See, e.g.*, UNITED NATIONS HIGH COMM’R FOR REFUGEES, *THE STATE OF THE WORLD’S REFUGEES 2000: FIFTY YEARS OF HUMANITARIAN ACTION* 59–60 (Mark Cutts et al. eds., 2000) [hereinafter *THE STATE OF THE WORLD’S REFUGEES*].

⁸ *See, e.g.*, UNITED NATIONS ENV’T PROGRAMME, *WOMEN AT THE FRONTLINE OF CLIMATE CHANGE: GENDER RISKS AND HOPES* 6–7 (Christian Nellemann et al. eds., 2011).

⁹ *See infra* Part II.

¹⁰ *See* Ellie Johnston, *Deeper, Earlier Emissions Cuts Needed to Reach Paris Goals: Paris Agreement Pledges Must be Strengthened in Next Few Years to Limit Warming to 2°C*, CLIMATE INTERACTIVE: BLOG (Apr. 19, 2016), <https://www.climateinteractive.org/analysis/deeper-earlier-emissions-cuts-needed-to-reach-paris-goals/>.

World War.¹¹ Of these 65.6 million people, 22.5 million are legally classified as “refugees.”¹² More than half of these refugees fled from just three countries—Syria, Afghanistan, and South Sudan.¹³ Another 40.3 million are classified as “internally displaced persons”¹⁴ (i.e., they were displaced from their homes but had not crossed borders).¹⁵ The countries with the greatest internal displacement were, in order: Colombia, Syria, Iraq, and (nearly tied) Congo, Sudan, and Nigeria.¹⁶ Using different methodologies, another report found that at the end of 2015, there were 40.8 million people displaced internally as a result of conflict and violence, and in that year around 19.2 million had been displaced by natural disasters (though most of those were able to return home).¹⁷

In 2009, Antonio Guterres, the then-U.N. High Commissioner for Refugees, now the Secretary General of the U.N., predicted that climate change would become the largest driver of population displacement, both inside and across national borders.¹⁸ Climate change is already a major contributor to migration and displacement, but the chain of causation is complex.¹⁹ It is generally agreed that

¹¹ UNITED NATIONS HIGH COMM’R FOR REFUGEES, GLOBAL TRENDS: FORCED DISPLACEMENT IN 2016, at 2 (2017), <http://www.unhcr.org/5943e8a34> [hereinafter GLOBAL TRENDS]; see also THE STATE OF THE WORLD’S REFUGEES, *supra* note 7, at 59–60.

¹² GLOBAL TRENDS, *supra* note 11, at 2.

¹³ *Id.* at 3.

¹⁴ *Id.* at 2.

¹⁵ *Internally Displaced People*, UNHCR, <http://www.unhcr.org/en-us/internally-displaced-people.html>. (last visited Jan. 9, 2018).

¹⁶ GLOBAL TRENDS, *supra* note 11, at 37 fig.15.

¹⁷ INTERNAL DISPLACEMENT MONITORING CTR. & NORWEGIAN REFUGEE COUNCIL, GLOBAL REPORT ON INTERNAL DISPLACEMENT 5 (2016); GLOBAL TRENDS, *supra* note 11, at 5.

¹⁸ Melissa Fleming, *Climate Change Could Become the Biggest Driver of Displacement: UNHCR Chief*, UNHCR (Dec. 16, 2009), <http://www.unhcr.org/4b2910239.html>.

¹⁹ See Stephen Castles, *Environmental Change and Forced Migration: Making Sense of the Debate* 1–3 (Refugees Studies Ctr., Univ. of Oxford, Working Paper No. 70, 2002), <http://www.unhcr.org/en-us/research/working/3de344fd9/environmental-change-forced-migration-making-sense-debate-stephen-castles.html>; OFFICE OF CONFLICT MGMT. AND MITIGATION, NAVIGATING COMPLEXITY: CLIMATE, MIGRATION, AND CONFLICT IN A CHANGING WORLD 8

climate change is seldom the sole cause of migration and displacement, but that it worsens existing economic, political, and religious or ethnic tensions, and hits especially hard at populations that are already vulnerable.²⁰ As one report stated,

[h]azard events such as floods and earthquakes create direct physical threats and immediate impacts that trigger displacement. Drought contributes more indirectly to displacement risk, largely through the erosion of food and livelihood security among vulnerable populations to the point where fleeing their homes becomes a survival strategy, often of last resort.²¹

Some scholars have attributed particular refugee crises in part to changes in regional climates (though not necessarily of anthropogenic origin). One well-known study concluded that persistent drought forced as many as 1.5 million Syrian farmers to move to overcrowded cities, contributing to social turmoil and ultimately a civil war that drove hundreds of thousands of people to attempt to cross the Mediterranean into Europe.²² Drought, combined with ethnic tensions, government policies, and other factors, led to the crisis in the Darfur of Sudan in the mid-2000s, though the importance of drought is contested.²³ Even the United States has experienced massive internal migration as a result of climate disruption—the “dust bowl” of the 1930s caused millions of people to flee the Great Plains

(2016), https://www.wilsoncenter.org/sites/default/files/ecsp_navigating_complexity_web_0.pdf; see also Lori M. Hunter et al., *Environmental Dimensions of Migration*, 41 ANN. REV. SOC. 377, 381, 382 fig.1 (2015).

²⁰ See OFFICE OF CONFLICT MGMT. AND MITIGATION, *supra* note 19, at 8; WARNER ET AL., *supra* note 4, at 17–18.

²¹ INTERNAL DISPLACEMENT MONITORING CTR. & NORWEGIAN REFUGEE COUNCIL, *supra* note 17, at 50; see also Hunter et al., *supra* note 19, at 381, 382 fig.1; see, e.g., OFFICE OF CONFLICT MGMT. AND MITIGATION, *supra* note 19, at 20–24.

²² Colin P. Kelley et al., *Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought*, 112 PROC. NAT’L ACAD. SCI. 3241, 3241–42 (2015); Ian Sample, *Global Warming Contributed to Syria’s 2011 Uprising, Scientists Claim*, GUARDIAN (Mar. 2, 2015, 3:00 PM), <https://www.theguardian.com/world/2015/mar/02/global-warming-worsened-syria-drought-study>.

²³ OFFICE OF CONFLICT MGMT. AND MITIGATION, *supra* note 19, at 20–24.

(as unforgettably depicted in John Steinbeck's 1939 novel *The Grapes of Wrath*).²⁴

Climate change can cause displacement in multiple ways. The most prominent are extreme flooding, and water shortages and desertification that threaten food supplies and livelihoods.²⁵ Often, these conditions combine with existing poverty and political instability, leading to worsened situations.²⁶

The direct causal connection between climate change and displacement is less difficult to establish for one particular impact: sea level rise.²⁷ If the seas have risen above a location's land surface, its population has no choice but to move, except in those rare places (such as the Netherlands) that can afford to build sea walls and other protections.²⁸

Due to uncertainties concerning the rate of climate change, the ability of different societies to cope with this change, the availability of new homelands, and other factors, no reliable estimates exist of the number of people who will be displaced partly or wholly by climate change.²⁹ However, several estimates put the number of people in the hundreds of millions by the middle of this century.³⁰ One 2009 article presented these estimates from various sources, using differing—and sometimes not fully disclosed—methodologies:

²⁴ Alex de Sherbinin, Associate Director for Science Applications, Center for International Earth Science Information Network (CIESN), The Earth Institute at Columbia University, Presentation of Climate Change Migration: Perspectives from Current Research at the UNU-Sabin Center CIESN Workshop on Migration and Climate Change (Sept. 18, 2016), http://web.law.columbia.edu/sites/default/files/microsites/climate-change/alex_de_sherbinin_slides.pdf. See generally JOHN STEINBECK, *THE GRAPES OF WRATH* (1939).

²⁵ WARNER ET AL., *supra* note 4, at 3–7, 13–17.

²⁶ *Id.* at 1, 21.

²⁷ SUSANA B. ADAMO, ENVIRONMENTALLY INDUCED POPULATION DISPLACEMENTS 17 (2009), <http://www.ciesin.org/documents/envirnoninduced-s-adamo-IHDPupdate-2009.pdf>.

²⁸ See Robert Glennon, *The Unfolding Tragedy of Climate Change in Bangladesh*, SCI. AM.: GUEST BLOG (Apr. 21, 2017), <https://blogs.scientificamerican.com/guest-blog/the-unfolding-tragedy-of-climate-change-in-bangladesh/>.

²⁹ See generally WARNER ET AL., *supra* note 4; François Gemenne, *Why the Numbers Don't Add Up: A Review of Estimates and Predictions of People Displaced by Environmental Changes*, 21S GLOBAL ENVTL. CHANGE S41 (2011).

³⁰ E.g., WARNER ET AL., *supra* note 4, at 21.

- People at risk of sea-level rise by 2050: 162 million
- People at risk of droughts and other climate change events by 2050: 50 million
- People potentially at-risk of being displaced because of desertification: 135 million
- . . .
- Refugees due to by climate change by 2050: 250 million[]
- People estimated to become permanently displaced ‘climate refugees’ by 2050: 200 million[].³¹

A 2010 article, after reviewing numerous available estimates, concluded, “[t]he total number of people at risk of becoming climate refugees by 2050 could well be around or over 200 million, even though this number is a rough estimate with a large margin of error.”³²

These, and all other estimates, involve considerable degrees of speculation; the number of uncertainties and variables is daunting.³³ However, even the orders of magnitude involved are frightening.³⁴ One 2016 study examined how many people would have to move and how far they would have to move if global mean temperatures rise by 2°C, and if they would need to go to a place that has the approximate temperatures of today in order to maintain similar agricultural patterns.³⁵ The study calculated that by the end of the century, about 12.5% of the world’s population (mostly in the tropical areas of Latin America, Africa, and South Asia) would have to migrate more than 1000 km, and 33.9% would have to migrate more

³¹ ADAMO, *supra* note 27, at 18; *see also* de Sherbinin, *supra* note 24.

³² Frank Biermann & Ingrid Boas, *Preparing for a Warmer World: Towards a Global Governance System to Protect Climate Refugees*, 10 GLOBAL ENVTL. POL. 60, 72 (2010).

³³ *See* Gemenne, *supra* note 29, at S41; Alex de Sherbinin, *Climate Change Hotspots Mapping: What Have We Learned?*, 123 CLIMATE CHANGE 23, 24–25, 32 (2014).

³⁴ *See, e.g.*, Gemenne, *supra* note 29, at S44 (describing the potentially large number of people who may be displaced by climate change).

³⁵ Solomon M. Hsiang & Adam H. Sobel, *Potentially Extreme Population Displacement and Concentration in the Tropics Under Non-Extreme Warming*, SCI. REP., June 9, 2016, at 1, 2, 5.

than 500 km.³⁶ If, as the United Nations estimates, world population in 2100 is about 11.2 billion,³⁷ the resulting numbers are jaw-dropping. Of course, these numbers may be too high because many people could find ways to adapt to the changing climate. On the other hand, the numbers may be too low because (as discussed below) global temperatures in 2100 may well considerably exceed a 2°C rise.³⁸

The country with the largest number of people endangered by climate change is probably Bangladesh.³⁹ “A three-foot rise in sea levels[, which seems likely by the end of the century,] would submerge almost 20[%] of the entire country and displace more than 30 million people”; and if the rise is five to six feet, perhaps 50 million people would be displaced.⁴⁰ Sea level rise is not the only climate-related threat facing Bangladesh; the country also faces risks from extreme heat, river flooding, riverbank erosion, salinization of groundwater resources, loss of water from the Himalayas and Hindu Kush glaciers, and decreased agricultural productivity.⁴¹

All this means that by the end of the century, climate change could displace several times the number of people who are currently displaced. Unless there are advance planning and preparations, we can expect to see further international crises over where people fleeing uninhabitable areas will go, as well as degrading and dangerous conditions in the inevitable refugee camps and informal settlements.

³⁶ *Id.* at 1, 5.

³⁷ U.N. Dep’t of Econ. and Social Affairs, Population Div., *World Population Prospects: The 2017 Revision, Key Findings and Advance Tables*, 2, U.N. Doc. ESA/P/WP/248 (2017).

³⁸ See Adrian E. Raftery et al., *Less than 2°C Warming by 2100 Unlikely*, 7 NATURE CLIMATE CHANGE 637, 637, 639–40 (2017), <http://www.nature.com/nclimate/journal/v7/n9/pdf/nclimate3352.pdf>.

³⁹ DISPLACEMENT SOLUTIONS, CLIMATE DISPLACEMENT IN BANGLADESH: THE NEED FOR URGENT HOUSING, LAND AND PROPERTY (HLP) RIGHTS SOLUTIONS 1–2 (May 2012), https://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/ds_bangladesh_report.pdf.

⁴⁰ Glennon, *supra* note 28; accord DISPLACEMENT SOLUTIONS, *supra* note 39, at 10.

⁴¹ POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH & CLIMATE ANALYTICS, 4° TURN DOWN THE HEAT: CLIMATE EXTREMES, REGIONAL IMPACTS, AND THE CASE FOR RESILIENCE 105–39 (2013); see also DISPLACEMENT SOLUTIONS, *supra* note 39, at 1, 11–12.

III. U.N. CLIMATE AGREEMENTS NOT NEARLY ENOUGH TO REDUCE EMISSIONS

The United Nations Framework Convention on Climate Change (UNFCCC) has a Conference of the Parties (COP) every year. At the COP held in Copenhagen in 2009 (COP 15), an agreement was reached that the maximum tolerable increase in global average temperatures is 2°C (3.6°F) above pre-industrial levels.⁴² However, the small island nations protested that this is too high, for at 2°C they would be under water, and they pressed for an objective of 1.5°C (2.7°F).⁴³ These small island nations achieved some success at the UNFCCC conference held in December 2015 in Paris. There, an agreement was reached with the objective to “[h]old[] the increase in global average temperature to well below 2°C . . . and [to] pursu[e] efforts to limit the temperature increase to 1.5°C.”⁴⁴

Regrettably, the Paris conference did not lead to commitments that will in fact achieve that objective. The Paris conference adopted what has been called a “bottom up” approach, in which each country put forward its own pledge for reducing its greenhouse gas emissions, called Intended Nationally Determined Contributions. Almost every country submitted such a pledge.⁴⁵ The pledges are not binding and not enforceable;⁴⁶ however, when they are all added up, these pledges, if fully carried out, would lead to a global average

⁴² U.N. Framework Convention on Climate Change, *Rep. of the Conference of the Parties on Its Fifteenth Session, Held in Copenhagen from 7 to 19 Dec. 2009*, at 5, U.N. Doc FCCC/CP/2009/11/Add.1 (Mar. 30, 2010).

⁴³ Bryan Walsh, *Crunch Time in Copenhagen: Will Week 2 Make a Difference?*, TIME (Dec. 12, 2009), http://content.time.com/time/specials/packages/article/0,28804,1929071_1929070_1947355,00.html.

⁴⁴ United Nations Framework Convention on Climate Change, *Adoption of the Paris Agreement*, art. 2, U.N. Doc FCCC/CP/2015/L.9/Rev.1, annex (Dec. 12, 2015).

⁴⁵ See *Paris Agreement - Status of Ratification*, UNITED NATIONS CLIMATE CHANGE, http://unfccc.int/paris_agreement/items/9444.php (last visited Jan. 8, 2018); *Welcome to the Interim NDC Registry*, NDC REGISTRY (INTERIM), <http://www4.unfccc.int/ndcregistry/Pages/Home.aspx> (last visited Jan. 8, 2017).

⁴⁶ See Anders Corr, *Expect Climate Catastrophe: Paris Agreement Lacks Enforcement*, FORBES: OPINION (Dec. 1, 2016, 10:34 PM), <https://www.forbes.com/sites/anderscorr/2016/12/01/expect-climate-catastrophe-paris-agreement-lacks-enforcement/#24a540233130>.

temperature in 2100 that is considerably higher than 2°C.⁴⁷ The estimates of the potential global average temperature vary; one projects a level of 3.5°C above pre-industrial conditions,⁴⁸ while another has a range of 2.6–3.1°C.⁴⁹ Despite this, all of the quantitative analyses that I have found conclude that it is still theoretically possible to stay within 2°C, but achieving that would require a peaking of global greenhouse gas (GHG) emissions quite soon (perhaps within the next three years), followed by a very steep drop in global greenhouse gas emissions and net negative emissions by the latter half of this century.⁵⁰ None of the studies predict this will actually happen; one study concluded that there is a 5% chance of staying within 2°C and a 1% chance of staying within 1.5°C, with a median estimate of 3.2°C.⁵¹

A world with around 3°C warming would be utterly catastrophic. According to the Intergovernmental Panel on Climate Change and virtually all other examinations of the subject, an increase of roughly that would not only drown the small island nations,⁵² it would also submerge significant portions of Bangladesh, the Nile Delta, the Mekong Delta, and other low-lying areas of the

⁴⁷ Johnston, *supra* note 10. This was even before President Donald Trump announced in 2017 that he would pull the United States out of the Paris Climate Agreement and cancel most of the programs that President Barack Obama had instituted to meet the U.S. pledge. Michael D. Shear, *Trump Will Withdraw U.S. from Paris Climate Agreement*, N.Y. TIMES (June 1, 2017), <https://www.nytimes.com/2017/06/01/climate/trump-paris-climate-agreement.html>.

⁴⁸ *Id.*

⁴⁹ Joeri Rogelj et al., *Paris Agreement Climate Proposals Need a Boost to Keep Warming Well Below 2°C*, 534 NATURE 631, 631, 634 (2016).

⁵⁰ Carl-Friedrich Schleussner et al., *Science and Policy Characteristics of the Paris Agreement Temperature Goal*, 6 NATURE CLIMATE CHANGE 827, 832 (2016); Hans Joachim Schellnhuber et al., *Why the Right Climate Target Was Agreed in Paris*, 6 NATURE CLIMATE CHANGE 649, 649, 651 (2016); Benjamin M. Sanderson et al., *What Would It Take to Achieve the Paris Temperature Targets?*, 43 GEOPHYSICAL RES. LETTERS 7133, 7133, 7140 (2016); Christiana Figueres, *Commentary, Three Years to Safeguard Our Climate*, 546 NATURE 593, 594 (2017); Stefan Rahmstorf & Anders Levermann, *Preface to CHLOE REVILL ET AL., 2020: THE CLIMATE TURNING POINT* 3, 3 (2017).

⁵¹ Raftery et al., *supra* note 38, at 637, 639–40.

⁵² See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT 6, 48, 51, 67 (2014) [hereinafter IPCC].

world.⁵³ Additionally, a 3°C warming would lead to melting of the Antarctic and Greenland ice sheets that would endanger many of the world's coastal cities, from New York to Mumbai to Shanghai; and would cause widespread food and water shortages.⁵⁴

The negotiators in Paris fully understood that the pledges made there would not be sufficient, and thus they created what has been called a “ratchet” mechanism.⁵⁵ Every five years, the state parties to the Paris Agreement will make new pledges that are stronger than those made in Paris, in the hopes that they will meet the temperature objective.⁵⁶ However, we are running out of time to do this. Greenhouse gases like carbon dioxide stay in the atmosphere for a century or longer, and every year their level in the atmosphere is higher.⁵⁷ We already know that meeting the temperature objectives will require “negative emissions” by the latter part of this century, meaning more greenhouse gases would have to be removed from the air than are emitted into it,⁵⁸ but no one knows just how this will be achieved, although several technologies are being developed.⁵⁹ So far there are no serious global efforts to develop a scheme to lead to large-scale negative emissions, and there are serious questions about whether they can actually be achieved.⁶⁰

⁵³ See, e.g., Glennon, *supra* note 28; accord DISPLACEMENT SOLUTIONS, *supra* note 39, at 10.

⁵⁴ See e.g., IPCC, *supra* note 52, at 6, 48, 51, 67.

⁵⁵ Johnston, *supra* note 10.

⁵⁶ See *id.*

⁵⁷ *Overview of Greenhouse Gases*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/ghgemissions/overview-greenhouse-gases> (last visited Jan. 8, 2017).

⁵⁸ See Todd Sanford et al., *The Climate Policy Narrative for a Dangerously Warming World*, 4 NATURE CLIMATE CHANGE 164, 164–65 (2014).

⁵⁹ Kevin Anderson & Glen Peters, *The Trouble with Negative Emissions*, 354 SCI. 182, 182–83 (2016). Among the technologies under discussion are bio-energy with carbon capture and sequestration; enhanced weathering of certain minerals; afforestation and reforestation; altered agricultural practices; and direct air capture devices. *Id.*

⁶⁰ See Glen P. Peters & Oliver Geden, Commentary, *Catalysing a Political Shift from Low to Negative Carbon*, 7 NATURE CLIMATE CHANGE 619, 619–20 (2017), <https://www.nature.com/nclimate/journal/v7/n9/pdf/nclimate3369.pdf>; Pete Smith et al., *Biophysical and Economic Limits to Negative CO₂ Emissions*, 6 NATURE CLIMATE CHANGE 42, 43 (2016), <https://www.nature.com/nclimate/journal/v6/n1/pdf/nclimate2870.pdf>.

All of this means that the most likely climate conditions toward the end of this century—and possibly much earlier—will lead to migration (or attempted migration) far greater than the world has seen, at least since World War II⁶¹—much larger than the 1947 partition of India and Pakistan, which displaced on the order of 14 million people and was marked by extreme violence, and the creation of Bangladesh as a separate state in 1971, which displaced about 10 million people.⁶²

IV. MIGRATION INDUCED BY CLIMATE CHANGE WILL INCREASE TRAFFICKING

People who are displaced from their homes endure extraordinary hardships in seeking a new place to live. A total of 187,970 migrants crossed the Mediterranean into Europe in 2016, and 1,381 died in the crossing, often on overcrowded vessels run by traffickers.⁶³ By “one estimate, at least 50,000 persons, including thousands of children, have died in the past two decades while seeking to cross international borders.”⁶⁴ Many of those who survive the journey find themselves in refugee camps, which often have horrible conditions.⁶⁵ The world’s largest refugee camp is in Dadaab, Kenya; the government tried to close the camp and repatriate about 260,000 Somali refugees, but in 2017, a court in Kenya blocked the closure—

⁶¹ See THE STATE OF THE WORLD’S REFUGEES, *supra* note 7, at 59–60.

⁶² *Id.*

⁶³ Richard Hall, *Fewer Migrants Are Crossing the Mediterranean Than Last Year. But Almost as Many Are Dying.*, PUB. RADIO INT’L (May 16, 2017, 1:45 PM), <https://www.pri.org/stories/2017-05-16/fewer-migrants-are-crossing-mediterranean-similar-numbers-are-dying>; see also Jim Yardley, *Rising Toll on Migrants Leaves Europe in Crisis; 900 May Be Dead at Sea*, N.Y. TIMES (Apr. 20, 2015), <https://www.nytimes.com/2015/04/21/world/europe/european-union-immigration-migrant-ship-capsizes.html>.

⁶⁴ U.N. Secretary-General, *In Safety and Dignity: Addressing Large Movements of Refugees and Migrants*, ¶ 29, U.N. Doc. A/70/59 (Apr. 21, 2016).

⁶⁵ E.g., Maria Margaritis, *A Prison for Refugees: The Grief, Frustration, and Need That Have Washed Up on Greek Shores Is Overwhelming*, NATION, June 20/27 2016, at 24, 24–28; Liz Alderman, *Wintry Blast in Greece Imperils Refugees in Crowded Camps*, N.Y. TIMES (Jan. 11, 2017), <https://www.nytimes.com/2017/01/11/world/europe/greece-refugees-crisis-winter-storms.html>.

for now.⁶⁶ Women are especially vulnerable to the impacts of climate change and to the migration it can cause.⁶⁷ In some of these camps, women frequently face sexual assault.⁶⁸

The International Organization of Migration conducts interviews of large numbers of people who have crossed the Mediterranean into Europe.⁶⁹ From mid-February through May 2017, they held 2,769 interviews in Sicily and Apulia in the South of Italy, and Lombardy, Liguria and Guilia, in the North of Italy.⁷⁰ Of these interviews, 79% of the interviewees answered “yes” to at least one of the four indicators of human trafficking and other exploitative practices.⁷¹ In particular, 67% said they had been “held . . . against their will during the[ir] journey[] by armed individuals or groups other than . . . government authorities”; 47% had worked without getting the expected payment; 36% were forced to work; 75% suffered physical violence of some kind; and 0.3% were approached by someone with offers of an arranged marriage.⁷²

Human trafficking is a large phenomenon. The International Labour Office estimated that in 2012, “20.9 million people [were] in forced labor globally”⁷³—this is almost twice the number of Africans who were forcibly taken to the Americas and Europe during the entire 350 years of the trans-Atlantic slave trade.⁷⁴ The vast majority

⁶⁶ *Kenyan Closure of Dadaab Refugee Camp Blocked by High Court*, BBC NEWS (Feb. 9, 2017), <http://www.bbc.com/news/world-africa-38917681>.

⁶⁷ Chindarkar, *supra* note 4, at 1. See generally UNITED NATIONS ENV’T PROGRAMME, *supra* note 8.

⁶⁸ Jacey Fortin, *Wrenching Choice in South Sudan: Starve or Risk Rape*, N.Y. TIMES (Aug. 4, 2016), <https://www.nytimes.com/2016/08/05/world/africa/south-sudan-juba-kiir-machar.html>.

⁶⁹ See INT’L ORG. FOR MIGRATION, ANALYSIS: FLOW MONITORING SURVEYS: THE HUMAN TRAFFICKING AND OTHER EXPLOITATIVE PRACTICES PREVALENCE INDICATION SURVEY 2 (2017), http://migration.iom.int/docs/Analysis_Flow_Monitoring_and_Human_Trafficking_Surveys_in_the_Mediterranean_and_Beyond_14_June_2017.pdf.

⁷⁰ *Id.* at 3.

⁷¹ *Id.*

⁷² *Id.*

⁷³ INT’L LABOUR OFFICE, *supra* note 2, at 7.

⁷⁴ *Assessing the Slave Trade: Estimates*, VOYAGES: THE TRANS-ATLANTIC SLAVE TRADE DATABASE, <http://www.slavevoyages.org/assessment/estimates> (last visited Jan. 10, 2018) (showing total of transported Africans estimated at 12,521,337).

were “exploited in the private economy[] by individuals or enterprises.”⁷⁵ “Of these, 4.5 million . . . [were] victims of forced sexual exploitation, and 14.2 million . . . [were] victims of forced labor exploitation, primarily in agriculture, construction, domestic work, manufacturing, mining and utilities.”⁷⁶ The same report estimated that profits from this forced labor were \$150.2 billion per year.⁷⁷

The economics of modern slavery are much different than two centuries ago. “An enslaved fieldworker [] cost the equivalent of [about \$40,000] in 1850,” but costs only about \$100 today.⁷⁸ To the unscrupulous “employer,” this makes them as disposable as a ballpoint pen. In the words of Kevin Bales,

[i]f slaves get ill, are injured, outlive their usefulness, or become troublesome to the slaveholder, they are dumped—or worse. The young woman enslaved as a prostitute in Thailand is thrown out on the street when she tests positive for HIV. The Brazilian man tricked and trapped into slavery making charcoal is tossed out when the forest is razed and no trees are left to cut.⁷⁹

It is well-documented that displacement leads to a considerable increase in human trafficking. The U.N. Environment Programme has indicated that trafficking may increase by 20–30% during disasters, and “INTERPOL has warned that disasters or conflicts may increase the exposure of women to trafficking as families are disrupted and livelihoods are lost.”⁸⁰ There are multiple instances in which trafficking has been shown to increase in the aftermath of cyclones,

⁷⁵ INT’L LABOUR OFFICE, *supra* note 2, at 7.

⁷⁶ *Id.*

⁷⁷ *Id.* at 13.

⁷⁸ BALES, *supra* note 6, at 12.

⁷⁹ *Id.* at 13.

⁸⁰ UNITED NATIONS ENV’T PROGRAMME, *supra* note 8, at 7; *see also* AMARJYOTI BORAH ET AL., THE CTR. FOR ENV’T, SOC. AND POLICY RESEARCH ET AL., IMPACT OF CLIMATE CHANGE ON MARGINALIZED WOMEN: AN EXPLORATORY STUDY ACROSS 6 DISTRICTS IN ASSAM 3, 6, 29 (2012); Priyali Sur, *Climate Change and Human Trafficking: A Deadly Combination*, DIPLOMAT (Feb. 25, 2015), <http://thediplomat.com/2015/02/climate-change-and-human-trafficking-a-deadly-combination/>.

flooding, earthquakes, and tsunamis,⁸¹ as well as after civil and military conflict.⁸²

Climate change and other forms of environmental degradation have also been shown to lead to considerable increases in child labor⁸³ and domestic abuse,⁸⁴ and contribute to armed conflict between ethnic groups⁸⁵ and violence over the exploitation of natural resources.⁸⁶ Corruption by officials handling international funds for refugee camps, by border crossing officials, and others, makes matters all the worse and contributes to trafficking.⁸⁷

Not only does environmental degradation lead to more human exploitation—the causation has been shown to operate in the reverse direction as well. Extremely cheap slave labor has been shown to contribute to deforestation and to highly-polluting methods of shrimp farming, brick-making, and gold mining.⁸⁸

⁸¹ Andrea Truger, *In the Eye of the Storm: The Connection Between Extreme Weather Events and Human Trafficking in the Case of Typhoon Haiyan in the Philippines* (Fall 2015) (master's thesis, Lund University).

⁸² See generally SUSAN BARTELS & KATHLEEN HAMILL, FXB CTR. FOR HEALTH & HUMAN RIGHTS, *RUNNING OUT OF TIME: SURVIVAL OF SYRIAN REFUGEE CHILDREN IN LEBANON* (2014), https://cdn2.sph.harvard.edu/wp-content/uploads/sites/5/2014/01/FXB-Center-Syrian-Refugees-in-Lebanon_Released-01-13-13.pdf; CLAIRE HEALY, INT'L CTR. FOR MIGRATION POLICY DEV., *TARGETING VULNERABILITIES: THE IMPACT OF THE SYRIAN CIVIL WAR AND REFUGEE SITUATION ON TRAFFICKING IN PERSONS, A STUDY OF SYRIA, TURKEY, LEBANON, JORDAN AND IRAQ* (2015).

⁸³ TERRES DE HOMMES INT'L FED'N, *CHILD LABOUR REPORT 2017: THE NEGLECTED LINK: EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION ON CHILD LABOUR 4* (2017).

⁸⁴ Lorena O'Neil, *The Link Between Natural Disasters and Domestic Abuse*, ATLANTIC (Sept. 28, 2016), <https://www.theatlantic.com/health/archive/2016/09/disaster-domestic-abuse/501299/>.

⁸⁵ Carl-Friedrich Schleussner et al., *Armed-Conflict Risks Enhanced by Climate-Related Disasters in Ethnically Fractionalized Communities*, 113 PROC. NAT'L ACAD. SCI. 9216, 9216, 9218–19 (2016).

⁸⁶ Wachira Kigotho, *Environmental Crimes Change Face of Sub-Saharan Africa*, BLOOMBERG: BNA (Oct. 7, 2015), <https://www.bna.com/environmental-crimes-change-africa-n57982059202/>.

⁸⁷ See Ingrid Boas & Rebecca Dobson, *Disrupting Lives: Climate Migration and Corruption*, in *GLOBAL CORRUPTION REPORT: CLIMATE CHANGE 270*, 270, 274–75 (2011).

⁸⁸ KEVIN BALES, *BLOOD AND EARTH: MODERN SLAVERY, ECOCIDE, AND THE SECRET TO SAVING THE WORLD 71–149* (2016).

Pope Francis' 2015 Encyclical Letter on the environment, *Laudato Si'*, eloquently discussed the plight of those displaced from their homes:

There has been a tragic rise in the number of migrants seeking to flee from the growing poverty caused by environmental degradation. They are not recognized by international conventions as refugees; they bear the loss of the lives they have left behind, without enjoying any legal protection whatsoever. Sadly, there is widespread indifference to such suffering, which is even now taking place throughout our world. Our lack of response to these tragedies involving our brothers and sisters points to the loss of that sense of responsibility for our fellow men and women upon which all civil society is founded.⁸⁹

V. CLIMATE MIGRATION, TRAFFICKING, AND THE LAW

The UNFCCC is the principal international mechanism for dealing with climate change, but it has focused on reducing greenhouse gas emissions and has done relatively little with respect to climate-induced migration.⁹⁰ At the Conference of the Parties held in Cancun, Mexico in 2010 (COP 16), the UNFCCC acknowledged the problem of human displacement.⁹¹ It called on the parties to undertake “[m]easures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at the national, regional and international levels.”⁹² COP 19 in Warsaw, Poland, es-

⁸⁹ POPE FRANCIS, ENCYCLICAL LETTER LAUDATO SI': ON CARE FOR OUR COMMON HOME ¶ 25 (2015), http://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si_en.pdf.

⁹⁰ See Yvo de Boer, *Forward to UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, UNITING ON CLIMATE CHANGE: A GUIDE TO THE CLIMATE CHANGE CONVENTION AND THE KYOTO PROTOCOL* 3, 3 (2007), http://unfccc.int/resource/docs/publications/unitingonclimate_eng.pdf.

⁹¹ U.N. Framework Convention on Climate Change, *Rep. of the Conference of the Parties on Its Sixteenth Session, Held in Cancun from 29 Nov. to 10 Dec. 2010*, § 14(f), U.N. Doc. FCCC/CP/2010/7/Add.1 (Mar. 15, 2011).

⁹² *Id.*

tablished the Warsaw International Mechanism for Loss and Damage to consider the issue of compensation for damages from climate change.⁹³ At COP 21, held in December 2015 in Paris, the Executive Committee of the Warsaw International Mechanism was requested “to develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change.”⁹⁴ This body continues its work, has had numerous meetings, and has issued various recommendations, but so far has not had much tangible impact on international or national laws, and none on the lives of migrants.⁹⁵ Some scholars have advocated the creation of a “climate change displacement facility” within the UNFCCC to protect the rights of displaced persons.⁹⁶

The International Organization for Migration has created a Migration, Environment, and Climate Change Division to address the nexus of migration, environment, and climate.⁹⁷ In 1998, the United Nations Commission on Human Rights published the nonbinding “Guiding Principles on Internal Displacement,” founded upon numerous international instruments.⁹⁸ The Guiding Principles do not

⁹³ U.N. Framework Convention on Climate change, *Rep. of the Conference of the Parties on Its Nineteenth Session, Held in Warsaw from 11 to 23 Nov. 2013*, at 6, U.N. Doc. FCCC/CP/2013/10/Add.1 (Jan. 31, 2014).

⁹⁴ U.N. Framework Convention on Climate Change, *Rep. of the Conference of the Parties on Its Twenty-first Session, Held in Paris from 30 Nov. to 13 Dec. 2015*, ¶ 49, U.N. Doc. FCCC/CP/2015/10/Add.1 (Jan. 29, 2016).

⁹⁵ See generally Executive Committee of the Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts, U.N. Framework Convention on Climate Change, Technical Meeting: Action Area (6): Migration, Displacement and Human Mobility: Recommendations: Draft 1 (Sept. 2016), http://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/technical_meeting_recommendations.pdf.

⁹⁶ Philip Dane Warren, *Forced Migration After Paris COP21: Evaluating the “Climate Change Displacement Coordination Facility”*, 116 COLUM. L. REV. 2103, 2128 (2016); JESSICA WENTZ & MICHAEL BURGER, DESIGNING A CLIMATE CHANGE DISPLACEMENT COORDINATION FACILITY: KEY ISSUES FOR COP21, at 1–2, 8–18 (2015), <http://columbiaclimatelaw.com/files/2016/06/Wentz-and-Burger-2015-09-Displacement-Coordination-Facility.pdf>.

⁹⁷ Dina Ionesco, *COP21 Paris Agreement: A Stepping Stone for Climate Migrants*, IOM: UN MIGRATION AGENCY (Dec. 23, 2015), <http://web-log.iom.int/cop21-paris-agreement-stepping-stone-climate-migrants>.

⁹⁸ Francis M. Deng (Representative of the Secretary General), *Guiding Principles on Internal Displacement*, 2–4, U.N. Doc. E/CN.4/1998/53/Add.2 (Feb. 11, 1998).

specifically reference climate change, but do refer to natural disasters.⁹⁹ The African Union Convention for the Protection and Assistance of Internally Displaced Persons, known as the Kampala Convention, also articulates standards to protect displaced persons.¹⁰⁰

The U.N. World Conference on Disaster Reduction was held in Sendai, Japan in 2015 and produced a non-binding agreement (later endorsed by the United Nations General Assembly) called the Sendai Framework for Disaster Risk Reduction, in which countries agreed to cooperate on reducing the risk of disasters, including those related to climate change and the resulting displacement.¹⁰¹

Several unofficial bodies have been proposing procedures for the protection of people displaced by climate change. The Nansen Initiative, launched in 2011 by Norway and Switzerland, endorsed in October 2015 the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change.¹⁰² With that, it dissolved and was succeeded by the Platform on Disaster Displacement.¹⁰³ Another unofficial group formulated the Pen-

⁹⁹ *Id.* at 5, annex.

¹⁰⁰ See generally African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala Convention), Oct. 23, 2009, Afr. Union, Brookings-Bern Project on Internal Displacement 2011/ED/EFA/MRT/PI/38. For a detailed discussion of pertinent international agreements and instruments, see JANE MCADAM ET AL., INTERNATIONAL LAW AND SEA-LEVEL RISE: FORCED MIGRATION AND HUMAN RIGHTS 30–36 (2016). See generally Siobhán McInerney-Lankford, *Human Rights and Climate Change: Reflections on International Legal Issues and Potential Policy Relevance*, in THREATENED ISLAND NATIONS: LEGAL IMPLICATIONS OF RISING SEAS AND A CHANGING CLIMATE 195 (Michael B. Gerrard & Gregory E. Wannier eds., 2013); Michele Klein Solomon & Koko Warner, *Protection of Persons Displaced as a Result of Climate Change: Existing Tools and Emerging Frameworks*, in THREATENED ISLAND NATIONS: LEGAL IMPLICATIONS OF RISING SEAS AND A CHANGING CLIMATE, *supra* note 100, at 243.

¹⁰¹ G.A. Res. 69/283, at 2 (June 3, 2015).

¹⁰² 1 THE NANSEN INITIATIVE, AGENDA FOR THE PROTECTION OF CROSS-BORDER DISPLACED PERSONS IN THE CONTEXT OF DISASTERS AND CLIMATE CHANGE 6, 15–18 (2015), <https://nanseninitiative.org/wp-content/uploads/2015/02/PROTECTION-AGENDA-VOLUME-1.pdf>.

¹⁰³ Jane McAdam, *From the Nansen Initiative to the Platform on Disaster Displacement: Shaping International Approaches to Climate Change, Disasters and Displacement*, 39 U.N.S.W.L.J. 1518, 1520 (2016).

insula Principles on Climate Displacement Within States, addressing the issue of internal migration.¹⁰⁴ Neither of these explicitly addresses trafficking. Moreover, the crucial question of what countries will take in the very large number of people who will be displaced by climate change is not being tackled by either of these, or by any official body, though it is the subject of some academic discussion.¹⁰⁵ However, the general principle of “responsibility-sharing for refugees” was enunciated by then-U.N. Secretary General Ban Ki-Moon in a report he issued in April 2016 in preparation for the U.N. Summit for Refugees and Migrants in September 2016,¹⁰⁶ and is embodied in several United Nations General Assembly resolutions,¹⁰⁷ and by several scholars.¹⁰⁸ The High Commissioner for Refugees has been given the task of proposing a Global Compact on Refugees in 2018,¹⁰⁹ and the Special Representative for International Migration is developing a global compact for safe, orderly, and regular migration, also to be considered as a global compact in 2018.¹¹⁰

Though the term “climate refugee” is often used, there is no such legal status. People displaced solely by changes in the environment

¹⁰⁴ DISPLACEMENT SOLUTIONS, THE PENINSULA PRINCIPLES ON CLIMATE DISPLACEMENT WITHIN STATES 9, 12–17 (2013), <http://displacementsolutions.org/wp-content/uploads/2014/12/Peninsula-Principles.pdf>.

¹⁰⁵ See generally Robyn Eckersley, *The Common but Differentiated Responsibilities of States to Assist and Receive ‘Climate Refugees’*, 14 EUROPEAN J. POL. THEORY 481 (2015); Peter H. Schuck, *Refugee Burden-Sharing: A Modest Proposal, Fifteen Years Later* (Yale Law Sch., John M. Olin Ctr. for Studies in Law, Econ., and Pub. Policy, Research Paper No. 480, 2013), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2330380; Michael B. Gerrard, *America Is the Worst Polluter in the History of the World. We Should Let Climate Change Refugees Resettle Here*, WASH. POST (June 25, 2015), https://www.washingtonpost.com/opinions/america-is-the-worst-polluter-in-the-history-of-the-world-we-should-let-climate-change-refugees-resettle-here/2015/06/25/28a55238-1a9c-11e5-ab92-c75ae6ab94b5_story.html?utm_term=.b061e3c0b884.

¹⁰⁶ See generally U.N. Secretary-General, *supra* note 64.

¹⁰⁷ *Id.* at ¶ 70.

¹⁰⁸ E.g., Biermann & Boas, *supra* note 32, at 76.

¹⁰⁹ *Global Impact on Refugees*, UNITED NATIONS: REFUGEES AND MIGRANTS, <http://refugeesmigrants.un.org/refugees-compact> (last visited Jan. 9, 2018).

¹¹⁰ *Compact for Migration*, UNITED NATIONS: REFUGEES AND MIGRANTS, <http://refugeesmigrants.un.org/migration-compact> (last visited Jan. 9, 2018).

are not considered refugees under the U.N. Refugee Convention.¹¹¹ Unsuccessful efforts have been made in courts in Australia and New Zealand to obtain refugee status for people displaced by climate change.¹¹²

The principal international agreement specifically on human trafficking is the United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, adopted by the U.N. General Assembly in 2000.¹¹³ It is also known as the Palermo Protocol, or the U.N. Trafficking Protocol. This agreement defines “trafficking in persons” as:

the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a per-

¹¹¹ Convention Relating to the Status of Refugees, art. I, July 28, 1951, 189 U.N.T.S. 150; *see also* MICHELLE LEIGHTON, THE GERMAN MARSHALL FUND OF THE U.S., CLIMATE CHANGE AND MIGRATION: KEY ISSUES FOR LEGAL PROTECTION OF MIGRANTS AND DISPLACED PERSONS 1, 3 (2010), <http://gmfus.wpengine.netdna-cdn.com/wp-content/uploads/2013/05/Climate-Change-and-Migration-Key-Issues-for-Legal-Protection-of-Migrants-and-Displaced-Persons-by-Michelle-Leighton.pdf>; Jane McAdam & Ben Saul, *An Insecure Climate for Human Security? Climate-induced Displacement and International Law*, in HUMAN SECURITY AND NON-CITIZENS: LAW, POLICY AND INTERNATIONAL AFFAIRS, 357, 357–58 (Alice Edwards & Carla Ferstman eds., 2010); Christine Gibb & James Ford, *Should the United Nations Framework Convention on Climate Change Recognize Climate Migrants?*, 7 ENVTL. RES. LETTERS 1, 2 (2012), <http://iopscience.iop.org/article/10.1088/1748-9326/7/4/045601/pdf>.

¹¹² *See, e.g., Ioane Teitiota v. The Chief Executive of the Ministry of Business, Innovation and Employment* [2015] NZSC 107 at [¶ 6, 12–14] (N.Z.) (noting relevance of climate change to decision to immigrate but granting application for visa on other grounds); *In re AD (Tuvalu)* [2014] NZIPT 501370-371 at [¶ 6] (N.Z.) (rejecting application for refugee status); RRT Case Number 0907346 [2009] RRTA 1168, ¶ 48 (Austl.); Refugee Appeal No. 72189/2000 [2000] RSSA, at [¶ 13] (N.Z.), *cited in* UNITED NATIONS ENV'T PROGRAMME, THE STATUS OF CLIMATE CHANGE LITIGATION: A GLOBAL REVIEW 25 n.80 (2017) <http://columnbiaclimatelaw.com/files/2017/05/Burger-Gundlach-2017-05-UN-Env't-CC-Litigation.pdf>.

¹¹³ G.A. Res. 55/25, annex II (Nov. 15, 2000).

son having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs¹¹⁴

The same year that the UN adopted the Palermo Protocol, to carry it out the U.S. Congress passed, and President Clinton signed, the Trafficking Victims Protection Act (TVPA).¹¹⁵ TVPA provides for increased criminal penalties for certain acts involving forced labor and sex trafficking, and gives trafficking victims the opportunity to remain in the United States and receive public benefits.¹¹⁶ In 2015, President Obama signed into law the Justice for Victims of Trafficking Act, which strengthens the TVPA in several ways.¹¹⁷ This statutory scheme would be further strengthened by the Frederick Douglass Trafficking Victims Prevention and Protection Reauthorization Act,¹¹⁸ which passed the House of Representatives on July 12, 2017, with the support of President Trump, and is now pending in the Senate.¹¹⁹

“Human trafficking” is not the same as “human smuggling.” The U.S. State Department defines the latter as “the facilitation, transportation, attempted transportation or illegal entry of a person(s) across an international border, in violation of one or more countr[y]’s laws, either clandestinely or through deception, such as the use of fraudulent documents.”¹²⁰ A person being smuggled is generally cooperating, is not subject to coercion, and is free to leave,

¹¹⁴ *Id.* at annex II, art. 3(a).

¹¹⁵ *See generally* Victims of Trafficking and Violence Protection Act of 2000, Pub. L. No. 106-386, 114 Stat. 1464 (2000).

¹¹⁶ *Id.* at §§ 112, 1503.

¹¹⁷ For more information on ways the TVPA is strengthened, see generally Justice for Victims of Trafficking Act of 2015, Pub. L. No. 114-22, 129 Stat. 227 (2015).

¹¹⁸ H.R. Res. 2200, 115th Cong. § 101, § 103 (2017).

¹¹⁹ *H.R. 2200 – Frederick Douglass Trafficking Victims Prevention and Protection Reauthorization Act of 2017: Actions Overview*, CONGRESS.GOV, <https://www.congress.gov/bill/115th-congress/house-bill/2200/actions> (last visited Jan 9, 2018).

¹²⁰ HUMAN SMUGGLING AND TRAFFICKING CTR., FACT SHEET: DISTINCTIONS BETWEEN HUMAN SMUGGLING AND HUMAN TRAFFICKING 2 (2006).

whereas trafficking amounts to modern day slavery.¹²¹ Sometimes smuggling turns into trafficking if, for example, the person is forced to engage in labor or commercial sex acts, or is not allowed to leave.¹²² Smuggling always involves the illegal crossing of an international border; trafficking does not necessarily involve any movement at all.¹²³

The United States regulates smuggling chiefly through the Immigration and Nationality Act of 1952, as amended.¹²⁴ Internationally, in 2000 the U.N. General Assembly adopted the Protocol Against the Smuggling of Migrants by Land, Sea and Air, Supplementing the United Nations Convention Against Transnational Organized Crime (the “Smuggling Protocol”).¹²⁵ State parties agree “to prevent and combat the smuggling of migrants[,] . . . to promote cooperation among State Parties” to combat smuggling, and to “protect[] the rights of smuggled migrants.”¹²⁶ While people who have been trafficked are (or should be) treated as victims, people who have been smuggled are regarded as criminals.¹²⁷

VI. CONCLUSION: TRAFFICKING CAUSED BY CLIMATE CHANGE

Climate change represents one of the most profound injustices in today’s society, for those who will suffer the most, those displaced from their homes, are the poorest among us—those who contributed the least to the excess energy use that is at the root of much of the climate problem.¹²⁸ There is an urgent need for people, regardless of their faith, to heed the call of *Laudato Si’* to protect the environment and reduce the suffering of the least fortunate. Lawyers have a particular responsibility to act on this sentence in Paragraph

¹²¹ *See id.*

¹²² *Id.*

¹²³ *Id.* at 2–3.

¹²⁴ *See generally* Immigration and Nationality Act, Pub. L. No. 82-414, 66 Stat. 163 (1952) (codified as amended at 8 U.S.C.A. § 1101 et seq.).

¹²⁵ G.A. Res. 55/25, *supra* note 113, at annex III.

¹²⁶ *Id.* at annex III, art. 2.

¹²⁷ Britta S. Loftus, *Coordinating U.S. Law on Immigration and Human Trafficking: Lifting the Lamp to Victims*, 43 COLUM. HUM. RTS. L. REV. 143, 166 (2011); *see also* Taina Bien-Aimé, *A Right NOT to Be Trafficked*, N.Y. ST. B. ASS’N. J., May 2017, at 22, 23–24.

¹²⁸ *See generally* Gerrard, *supra* note 105; Chindarkar, *supra* note 4, at 1.

53 of the Encyclical: “[t]he establishment of a legal framework which can set clear boundaries and ensure the protection of ecosystems has become indispensable, otherwise the new power structures based on the techno-economic paradigm may overwhelm not only our politics but also freedom and justice.”¹²⁹

Not all discussions are couched in terms of religion and morality. Elizabeth M. Wheaton and colleagues wrote a paper, “Economics of Human Trafficking,” in which they “envision human trafficking as a monopolistically competitive industry in which traffickers act as intermediaries between vulnerable individuals and employers by supplying differentiated products to employers. In the human trafficking market, the consumers are employers of trafficked labour and the products are human beings.”¹³⁰ They propose to reduce trafficking both by lowering the supply (making people less vulnerable) and lowering the demand (by taking legal action against both the traffickers and the employers, and also by publicizing to the downstream supply chain what goods are produced using trafficked labor).¹³¹

Multiple actions must be taken to reduce the number of people subject to trafficking as a result of climate change, including:¹³²

1. Reduce greenhouse gas emissions to reduce climate change.
2. Help communities adapt to climate change so they will not have to move.
3. Improve preparedness for disasters.
4. Provide adequate support services for vulnerable groups, such as women and children.

¹²⁹ POPE FRANCIS, *supra* note 89, at ¶ 53.

¹³⁰ Elizabeth M. Wheaton et al., *Economics of Human Trafficking*, 48 INT’L MIGRATION 114, 114 (2010).

¹³¹ *See id.* at 132–33.

¹³² This list draws from, and is elaborated upon in, see generally THE NANSEN INITIATIVE, *supra* note 102; U.N. Secretary-General, *supra* note 64; Wheaton et al., *supra* note 130; MD SHAMSUDDOHA, CLIMATE-INDUCED DISPLACEMENT AND MIGRATION: POLICY GAPS AND POLICY ALTERNATIVE (Sabine Minninger & Sophia Wirsching eds., 2015).

5. Plan in advance for orderly relocation when necessary, including advance agreements on which countries will accept migrants.
6. Arrange for safe passage of people who have been displaced.¹³³
7. Protect people who have migrated and allow them to develop livelihoods.¹³⁴
8. Take strong enforcement actions against traffickers.¹³⁵
9. Publicize goods that have been made using the products of trafficked labor.

If the world community undertakes these actions, the amount of displacement from climate change will decline, and the suffering of those who are displaced—including human trafficking, one of its worst impacts—will be reduced. This should be viewed positively by everyone, whether they view the world through a religious or secular lens.

¹³³ Note that the U.N. Convention on the Law of the Sea requires nearby ships “to render assistance to any person found at sea in danger of being lost.” U.N. Convention on the Law of the Sea, art. 98(1)(a), Dec. 10, 1982, 1833 U.N.T.S. 3.

¹³⁴ See generally INT’L LABOUR ORG., MULTILATERAL FRAMEWORK ON LABOUR MIGRATION: NON-BINDING PRINCIPLES AND GUIDELINES FOR A RIGHTS-BASED APPROACH TO LABOUR MIGRATION (2006).

¹³⁵ In much of the world—not generally including the U.S., Canada and Western Europe—corruption by police and other local officials who allow people to be held in exchange for bribes is an essential part of slavery. BALES, *supra* note 6, at 17.