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Colonial Fences Make Contentious Neighbors: Policy, Law, and Climate Refugees in India

by Abigail Blue*

Background

Climate change poses a significant threat to the socioeconomic stability and population health of India and the countries that border it. Pakistan, Bangladesh, Bhutan, southern Nepal, Myanmar (Burma), and northern territories in the Himalayan mountain range are experiencing increasingly frequent and severe climate events.¹ Glacial floods have become a regular occurrence in the Himalayan region with varying degrees of socioeconomic impact, ranging from the moderate effects of lowered water quality and increased vector-borne disease to extreme impacts, such as the destruction of villages, agricultural lands, roads, bridges, hydropower, human lives, and property. With 15,000 glaciers and 9,000 glacial lakes, the Himalayan mountain range—which stretches 2,500 km across Bhutan, Nepal, Pakistan, India, and China—feeds nine perennial river systems in the region and constitutes a lifeline for nearly 1.5 billion people downstream.² In the absence of adequate national response systems and resources to mitigate the impacts of climate events in the Himalayan region, environmental disasters and slow-onset climate impacts on agriculture and livability create push factors that prompt large-scale migration, both within countries of origin as well as cross-boundary migration.³ The Indian Law Commission is struggling to enforce the admittedly

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1. P. Gupta, J. Sundaresan, R. Boojh & K.M Santosh, *CLIMATE CHANGE AND HIMALAYA: NATURAL HAZARDS AND MOUNTAIN RESOURCES*, 70–71 (Scientific Publisher 2014).

2. *COMM. ON HIMALAYAN GLACIERS, HYDROLOGY, CLIMATE CHANGE, & IMPLICATIONS FOR WATER SEC., NAT'L RES. COUNCIL, HIMALAYAN GLACIERS: CLIMATE CHANGE, WATER RESOURCES, AND WATER SECURITY* (Nat'l. Acads. Press ed., 2012).

3. *Human mobility in the Context of Climate Change Adaptation, Disaster Risk Reduction, and Sustainable Development Goals in the Hindu Kush Himalayas*, PLATFORM ON DISASTER DISPLACEMENT (Sept. 6, 2017), <https://disasterdisplacement.org/human->

deficient laws that govern in-migration; India's border control policies and practices ineffectively curb, let alone adequately manage, current immigration.⁴ In the absence of international, national, or regional-level legal and policy frameworks to manage migration, India is likely to experience a substantial increase in the unplanned immigration of climate migrants. This will perpetuate the preexisting high levels of environmental risk, as well as the concomitant burden of social exclusion and limited access to basic resources and governmental aid.

Substantial deficiencies remain in the interdisciplinary study of climate change, development and adaptation planning, climate-induced migration, and population health. National and international governmental bodies, NGOs, and researchers alike tend to collect, analyze, and model data in disciplinary silos and focus on development, economics, the environment, and social or humanitarian services separately.⁵ These spheres of study encompass interdependent factors that influence the need to migrate, both internally within a country and across borders, in response to climate change and high-intensity weather events. Climate migrants are not currently recognized by international policy frameworks as "refugees" and thus do not qualify for legal protections or humanitarian aid.⁶ This lack of legal designation further marginalizes climate migrants and results in substantial vacuity of data on these populations. Nation-states worldwide have neglected to integrate internal and cross-boundary migration as an important element in disaster risk reduction, climate change adaptation plans, and socioeconomic development.

A lack of both qualitative and quantitative "causality" between climate events and migration is commonly cited as a fundamental reason for excluding climate-induced migration from policy frameworks and legal protection.⁷ Humanitarian aid organizations and NGOs that provide short-term disaster relief lack the capacity to adequately document immediate and long-term data on migrating populations. Moreover, recording accurate data on these populations is difficult at best. Climate migrants may cross international borders illegally, and they are generally marginalized and impoverished populations in host countries. Consequently, migrant populations are at a heightened risk for vulnerability, social exclusion, criminalization, poverty, and health risks. An increased frequency in

mobility-in-the-context-of-climate-change-adaptation-disaster-risk-reduction-and-sustainable-development-goals-in-the-hindu-kush-himalayas [https://perma.cc/FG9P-ZT6K].

4. Rep. on the Foreigners (Amendment) Bill, 2000, No. 175, LAW COMM'N OF INDIA at 8, <http://lawcommissionofindia.nic.in/reports/175thReport.pdf> [https://perma.cc/ZQZ4-PQ9W].

5. Karen Jacobsen & Loren B. Landau, *The Dual Imperative in Refugee Research: Some Methodological and Ethical Considerations in Social Science Research on Forced Migration, 1-19* (Fletcher Sch. of Law and Dipl. & Univ. of the Witwatersrand, Johannesburg, Working Paper No. 19, 2003), https://dspace.mit.edu/bitstream/handle/1721.1/97610/19_dual.pdf?sequence=1 [https://perma.cc/JX6R-L8X6].

6. U.N. High Comm'r for Refugees, *UNHCR Global Report 2013: South-East Asia*, at 3 (2013), <http://www.unhcr.org/539809fc16.pdf> [https://perma.cc/K855-6Y5E].

7. Int'l Org. on Migration, *Migration, Environmental and Climate Change: Assessing the Evidence*, at 17 (2009), https://publications.iom.int/system/files/pdf/migration_and_environment.pdf [https://perma.cc/C3F2-ZYZ7].

climate events is likely to compound issues in receiving “host” countries that suffer from already high rates of poverty, vector-borne disease, socioeconomic stratification, inadequate infrastructure, and low governance. Climate migrants, or “climate refugees,” are among the most vulnerable populations in these scenarios.

II. International Migration Policies and Legal Framework Analysis

The international legal status of people forced to leave their homes due to the direct or indirect impacts of climate change—and are then internally displaced or have to cross international boundaries—is a matter of great debate. Currently, competing definitions of this phenomenon preclude designation of climate migrants as “refugees” in international law, excluding them from the protection of international human rights regulations under the Geneva Convention of 1951.⁸ This lack of agreement on refugee qualification in international government remains the primary obstacle to collateral policy strategies. The distinction between forced and voluntary migration is relatively straightforward in the case of extreme environmental events, such as storm and flood disasters. Yet, there remains a substantial lack of empirical data that illustrates the complex causal relationship between climate change and migration. As a result, this distinction is hard to establish in cases where gradual environmental degradation and climate related, slow-onset events are assumed to drive people to abandon their homes. Examination of some of the prevalent definitions proposed by leading experts in the field is provided below.

The United Nations Environmental Programme sought to define “environmental refugees” as: “[P]eople who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life.”⁹ This definition has been repeatedly rejected, inter alia, by the United Nations High Commissioner on Refugees and the International Organization for Migration. These organizations have since adopted the less controversial category of “environmentally displaced persons,” defined as: “[P]ersons who are displaced within their own country of habitual residence or who have crossed an international border and for whom environmental degradation, deterioration or destruction is a major cause of their displacement, although not necessarily the sole one.”¹⁰

8. U.N. High Comm’r for Refugees, Convention and Protocol Relating to the Status of Refugees, 189 U.N.T.S. 137 (July 1951), <http://www.unhcr.org/en-us/3b66c2aa10> [<https://perma.cc/WTZ4-77QJ>].

9. W. Franklin & G. Cardy, United Nations Env’t Program, Environment and Forced Migration: A Review, 2, (Jan. 1998) (on file with author).

10. Steffen Bauer, “Climate Refugees” Beyond Copenhagen: *Legal Concept, Political Implications, Normative Considerations*, GERMAN DEV. INST. at 3, (Mar. 2010), https://www.brot-fuer-die-welt.de/fileadmin/mediapool/2_Downloads/Fachinformationen/Analyse/analyse_12_englisch_climate_refugees.pdf [<https://perma.cc/7MKN-KQYG>].

Legal scholars and human rights activists argue against using the term “refugee” for three reasons: 1) the requirement to establish a robust and exclusive causal link between specific environmental change and a person’s decision to migrate in order to qualify as a refugee; 2) the specific guarantees granted to refugees proper by the Geneva Convention, specifically those relating to the Status of Refugees of 1951 (and its Protocol of 1967); and 3) the lack of basis in considering empirical phenomena, such as climate change or environmental degradation, as agents of persecution.¹¹

There are a number of legally binding international laws that may be amended or expanded to encompass climate migrants. One approach is the *International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families*, which the UN General Assembly ratified in 1990.¹² While it explicitly addresses labor migration, its legal provision might apply in a wider context. However, the convention enjoys limited international support and has hardly been a success story so far. To go into effect, the convention required ratification by twenty member states, a process that took more than thirteen years, and today it only has thirty-nine signatories out of fifty-one member States.¹³ Moreover, its regulations are rarely observed.¹⁴

The United Nations developed the “Responsibility to Protect” to prevent failures of inaction, which it employs as an innovative approach to address an apparent operational protection gap in international law. It was developed to reaffirm the UN’s high moral authority for the universal protection of human rights, in response to the tragedies in the 1990s Rwanda and the Balkans.¹⁵ Ultimately, this principle aspires to make it incumbent on states to take appropriate protective measures during events that imperil human rights.¹⁶ This stopgap

11. International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families 30 I.L.M. 1517 (Dec. 1990), <http://www.ohchr.org/Documents/ProfessionalInterest/cmwf.pdf> [https://perma.cc/D2SV-LV98].

12. *Id.*

13. International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, *Status of Ratification and Signatories*, (last visited Apr. 6, 2018), https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-13&chapter=4&lang=en [https://perma.cc/3DUK-LPK6].

14. Steffen Bauer, “Climate Refugees” *Beyond Copenhagen: Legal Concept, Political Implications, Normative Considerations*, GERMAN DEV. INST. at 3, (Mar. 2010), https://www.brot-fuer-die-welt.de/fileadmin/mediapool/2_Downloads/Fachinformationen/Analyse/analyse_12_englisch_climate_refugees.pdf [https://perma.cc/7MKN-KQYG].

15. INTERNATIONAL COMMISSION ON INTERVENTION AND STATE SOVEREIGNTY, THE RESPONSIBILITY TO PROTECT (Dec. 2001), <http://responsibilitytoprotect.org/ICISS%20Report.pdf> [https://perma.cc/E3W5-RG7U], see also OUTREACH PROGRAMME ON THE RWANDA GENOCIDE AND THE UNITED NATIONS, THE RESPONSIBILITY TO PROTECT: BACKGROUND NOTE (Mar. 2002), <http://www.un.org/en/preventgenocide/rwanda/pdf/Bgre sponsibility.pdf> [https://perma.cc/DF7X-STJ8].

16. Steffen Bauer, “Climate Refugees” *Beyond Copenhagen: Legal Concept, Political Implications, Normative Considerations*, GERMAN DEV. INST. at 3, (Mar. 2010), https://www.brot-fuer-die-welt.de/fileadmin/mediapool/2_Downloads/Fachinformationen/Analyse/analyse_12_englisch_climate_refugees.pdf [https://perma.cc/7MKN-KQYG].

measure may be utilized as a temporary means of addressing the human rights of climate migrants.

The United Nations' Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, established particularly to address climate challenges in Africa, explicitly acknowledges the link between environmental degradation and migration.¹⁷ Article 17.1(e) specifically requests governments to account for "the relationship between poverty, migration caused by environmental factors, and desertification."¹⁸ It has been proposed that climate induced migration may be aptly addressed under this convention.

While climate migrants have remained a fringe issue in international climate negotiations, legal frameworks for ensuring the protection of climate migrants' human rights are receiving increasing attention. In 2009, the UNHCR published recommendations to the UNFCCC Conference of Parties suggesting that, "while there is no mono-causal relationship between climate change and displacement" States Parties should "acknowledge that there is a clear link between the effects of climate change and displacement," and further, that "States Parties should build on existing international response mechanisms to ensure policy coherence between mitigation, adaptation, humanitarian responses and development".¹⁹ Though this indicated acknowledgement of the issue, it did nothing to address it through legal means.

More recently, with the United Nations resolution to appoint the International Organization for Migration (IOM) as an official "related organization" of the U.N. in 2016,²⁰ new recommendations for legal frameworks are emerging. In a recent draft article on the protection of persons in the event of disasters, published by the U.N., the IOM, along with the Norwegian Refugee Council, seem to recommend a scatter shot approach to legal reforms; wherein they reframe current definitions and revise established agreements to more broadly encompass environmentally displaced migrants as a protected class within existing

17. U.N. Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, Paris, (Oct. 14, 1994), 1954 U.N.T.S. 3 [hereinafter U.N. Convention on Desertification], <https://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XXVII/XXVII-10.en.pdf> [<https://perma.cc/JJ66-KSD9>].

18. Michelle Leighton, Thomas R. Loster, & Koko Warner, *Global Trends: The Challenges of Climigration*, D+C DEV. & COOPERATION (Aug. 28, 2009), <https://www.dandc.eu/en/article/climate-change-will-trigger-mass-migration> [<https://perma.cc/6CSB-6BYD>].

19. U.N. HIGH COMM'R FOR REFUGEES, FORCED DISPLACEMENT IN THE CONTEXT OF CLIMATE CHANGE: CHALLENGES FOR STATES UNDER INTERNATIONAL LAW, 2, (May 20, 2009), <http://www.unhcr.org/en-us/protection/environment/4a1e4d8c2/forced-displacement-context-climate-change-challenges-states-under-international.html> [<https://perma.cc/DLF4-KSKZ>].

20. International Organization for Migration, Press Release, *IOM Becomes a Related Organization to the UN* (July 25, 2016), <https://www.iom.int/news/iom-becomes-related-organization-un> [<https://perma.cc/J5YS-3NVG>].

legal agreements.²¹ Through the lens of disaster risk reduction and the use of foreign military and civil defense assets in disaster relief, also referred to as the “Oslo Guidelines,” IOM is redefining the terms of the legal agreements by which nation states take actionable measures in disaster relief, to more acutely address climate refugees’ rights to “essential needs.”²² How these revisions translate in implementation on the ground is yet to be seen. Moreover, climate migrants still lack a comprehensive framework for legal protection. And, especially in protracted resettlement without enforceable rights, climate migrants remain marginalized and vulnerable.

II. India’s Migration Laws and Policies

Historical Context

India has contended with colonial occupation and empirical influence since the early 1400s. The Portuguese (1434-1961), Dutch (1605-1825), Danes (1620-1869), French (1769-1854), and British (1612-1947) all impacted India’s present day national boundaries, demographics, cultural milieu, and legal systems.²³ Under English occupation, the nation-states of Pakistan, Bangladesh, Bhutan, Southern Nepal, Myanmar (Burma), and northern territories surrounding Jammu and Kashmir in the Himalayan Mountain Range were considered part of India. In its *Report on the Proposed Foreigners Amendment Bill of 2000*, the Law Commission recounts the historical relationships between India, Pakistan (while under formation), and East Pakistan (later to become Bangladesh), beginning with the British occupation of India.

The British needed cheap labour for their plantations and industrial establishments not only in India but in other parts of the world under their political authority. This they ensured through inter-country and intra-country migration of labour. It is on record that since 1920, they moved people to serve as labourers from the eastern region of Bengal to Assam for developing their tea industries. Later, the political divide of the people on the basis of religion which ultimately led to the Partition of the country resulted in the largest ever migratory movement in the world’s history. India had to absorb the bulk of the migrants.²⁴

In the months preceding Indian Independence, the British began implementing the “Mountbatten Plan” of Partition to divide India along religious lines. Pakistan was formed as a Muslim state and recognized as independent on August 14, 1947; at a time when Bangladesh was considered part of East Pakistan. India was recognized as independent on August 15, 1947, subsequently displacing

21. International Law Commission, Draft articles on the protection of persons in the event of disasters, art. 2 (2016), http://legal.un.org/docs/?path=../ilc/texts/instruments/english/commentaries/6_3_2016.pdf&lang=EF [<https://perma.cc/TPX3-YFUF>].

22. *Id.*

23. BARBARA D. METCALF & THOMAS R. METCALF, A CONCISE HISTORY OF MODERN INDIA 221-22 (Cambridge Univ. Press ed., 2nd ed. 2006).

24. Rep. on the Proposed Foreigners (Amendment) Bill, 2000, *supra* note 4, at 3.

nearly 12.5 million people and leading to an estimated death toll “varying from several hundred thousand to a million.”²⁵

The violent nature of the partition created an atmosphere of mutual hostility and suspicion between India and neighboring Pakistan and Bangladesh that afflicts their relationships to this day.

An estimated 25 million Hindus, Muslims and Sikhs (1947–present) crossed the newly drawn borders to reach their new homelands. These estimates are based on comparisons of censuses from 1941 and 1951 with adjustments for normal population growth in the areas of migration. In northern India—undivided Punjab and North Western Frontier Province (NWFP)—nearly 12 million were forced to move from as early as March 1947 following the Rawalpindi violence.^{26, 27}

The historical context of forced migration and colonial division of nation-states significantly impacts present day migrants’ reception, integration, and social inclusion or exclusion in receiving communities. While Nepalese and Tibetan Chinese are generally regarded as benevolent neighbors, Pakistani and Bangladeshi immigrants are met with ardent discrimination in receiving communities, both socially and via the policies governing immigration.

The Ministry of Home Land Affairs and the Law Commission of the Ministry of Law and Justice for the Central Government of India recognized these historical relationships and the long-term trends of migration caused by political events within and between neighboring countries in the years following Independence.

Partition was not the only event that resulted in large scale migration of populations. Even after the formation of Bangladesh in 1971, the migration of people from the new State continued to the bordering states of India. Infiltration also took place in 1948 from across the border into Jammu and Kashmir following the armed attack by Pakistan in the guise of “raiders.” The developments in Tibet; insurgency in Sri Lanka resulting in migration of large numbers of Sri Lankan Tamils to Tamil Nadu; the coming of many Afghans to India after takeover of Afghanistan by Taliban, and recently the infiltration into Kargil . . . in varying degrees, have been responsible for entry into India of foreigners as refugees and illegal migrants.²⁸

India’s International Migration Profile

Policy and Law Review

The current law governing migration, citizenship, national identity determination, deportation, and internment of foreigners in India is the Foreigners

25. METCALF & METCALF, *supra* note 23.

26. RAVINDER KAUR, *SINCE 1947: PARTITION NARRATIVES AMONG PUNJABI MIGRANTS OF DELHI* (Oxford Univ. Press, ed., 2007).

27. Census of India, 1941, CENSUS COMMISSIONER, DELHI, MANAGER GOVT. OF INDIA PRESS SIMLA.

28. Rep. on the Foreigners (Amendment) Bill, 2000, *supra* note 4, at 4.

Amendment Bill of 2000. This law was preceded by the Passport Act of 1920, the Registration of Foreigners Act of 1939, the Foreigners Act of 1946, the Immigrants (expulsion from Assam) Act of 1950, and the Illegal Migrants (Determination by Tribunals) Act of 1983—all enacted specifically to control the unabated influx of illegal migrants to the North-Eastern region.²⁹ The current law, proposed in 1998 and passed by the Sixteenth Law Commission in 2000, was established under the Law Commission of India, Ministry of Law and Justice. Prior to the law's passage, the Indian Central Government's Committee on Home Affairs "felt that the Government should undertake an in-depth study regarding the efficacy of the proposed amendments in checking infiltration of foreigners from across the borders."³⁰ The report revealed the most accurate migration statistics available from 2000 to present on migrant populations; reflected the cultural perception of migrants from various neighboring countries (specifically Pakistan and Bangladesh); and codified into law the policies, practices and procedures now in-force regarding foreign immigration, detainment, internment, and deportation.

The Central Government of India has attempted to curb illegal immigration (primarily from Bangladesh) through laws such as the Assam Accord, which intended to drive Bangladeshis out of the border-states of Assam, Nagaland, Mizoram, Tripura, Meghalaya, and West Bengal. The current law, the Foreigners Amendment Bill, recommended the use of "border fencing, modernized electronic surveillance systems as well as an effective legislation to deal with the menace."³¹ However, these administrative measures were found to be ineffective and cost prohibitive. The Central Government has provided millions of rupees to the state governments (specifically Assam) to support the identification and deportation of Bangladeshis and have taken measures to strengthen Border Security Force through the construction of border roads, fencing and mechanized riverine patrolling. However, migration levels remain unchanged and deportation efforts are largely unsuccessful.³²

Statistical Information on Migration

In the Report on the Proposed Foreigners Amendment Bill of 2000, the Law Commission identifies the challenges facing the Central Government of India in managing or lowering incidents of in-migration to India from neighboring nation-states (specifically Bangladesh).³³ The Report cites the scale, regional distribution, identity, causes, border corruption and economic inefficiency of current migration

29. *Id.* at 20.

30. *Id.* at 1.

31. *Id.* at 8.

32. *Id.* at 4.

33. Rep. on the Foreigners (Amendment) Bill, 2000, No. 175, LAW COMM'N OF INDIA at 8, <http://lawcommissionofindia.nic.in/reports/175thReport.pdf> [<https://perma.cc/ZQZ4-PQ9W>].

management in several sections.³⁴ To illustrate the Central Government's statistical analysis of migration, an excerpt from this report is included herein:

[3.2] Since the liberation of erstwhile East Pakistan, the influx of migrants from Bangladesh has remained unabated and has acquired frightening proportions. There is no realistic estimate of these migrants in India. In fact, no census has been carried out to determine their number. According to the Ministry of Home Affairs, the total number of Bangladeshis illegally residing in India is estimated at 15 to 18 million and every year at least 3.5 lac (300,500) or more people are infiltrating into the country.³⁵

III. India's Climate Change Risk Exposure and Internal Migration Trends

In 2007, South Asia experienced a series of floods in India, Nepal, Bhutan, Pakistan and Bangladesh. Several news agencies, citing the Indian and Bangladeshi governments, estimated that the floods displaced more than 14 million people.³⁶ By August 3rd, approximately 20 million were displaced, and by August 10th, some 30 million people in India, Bangladesh and Nepal were affected by the flooding.³⁷ As climatic stresses force resettlement and migration within India, neighboring countries that suffer similar weather events but with less infrastructure, governance and adaptation, are showing trends of migration similar to India. Moreover, extreme flooding and increasingly frequent climatic events in this region further impede recovery efforts and the rebuilding of critical infrastructure necessary for economic stability and human health. In 2010, devastating floods caused the largest displacement in Pakistan's history, with as many as 11 million people forced to relocate.³⁸ In 2012, it was estimated that at least 6 million people were displaced by the effects of climate hazards in Bangladesh.³⁹ In 2017, United Nations humanitarian agencies were working with the Nepalese government and partners to bring in clean water, food, shelter and medical aid for some of the 41 million people affected by flooding and landslides

34. *Id.*

35. *Id.* at 5–6.

36. Hong Kong Red Cross, *South Asia Flood 2007: Work Report*, RELIEFWEB (Oct. 20, 2008), <https://reliefweb.int/report/bangladesh/south-asia-flood-2007-work-report> [<https://perma.cc/44RX-5JR6>].

37. United Nations Children's Fund [UNICEF], *Millions of People Across South Asia Affected by Monsoonal Flooding* (Aug. 3, 2007), http://www.unicef.org/media/media_40495.html [<https://perma.cc/9JW3-KWH9>].

38. Norwegian Refugee Counsel, *Briefing paper on flood-displaced women in Sindh Province, Pakistan*, RELIEFWEB (June 2011), 3, https://reliefweb.int/sites/reliefweb.int/files/resources/F_R_88.pdf [<https://perma.cc/J49S-3YDY>].

39. UN Framework Convention on Climate Change, *Displacement Solutions, Climate Displacement in Bangladesh The Need for Urgent Housing, Land and Property (HLP) Rights Solutions* (May 2012), https://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/ds_bangladesh_report.pdf [<https://perma.cc/2N2L-GZKY>].

in South Asia.⁴⁰ These figures underscore the need for a legal framework for persons displaced by climate disasters. India continues to grant asylum and provide direct assistance to some 200,000 refugees from neighboring countries. In the absence of a national legal framework for asylum, UNHCR undertakes refugee status determination and assists nearly 22,000 urban refugees and asylum-seekers.⁴¹ This is clearly an inadequate response given the magnitude of persons displaced by frequent climate events. Further, little is known about the longer-term capacity of receiving countries to accommodate larger numbers of (environmentally forced or motivated) migrants.⁴²

Over the next forty years, India will experience one of the most dramatic settlement transitions in history as its urban population grows from about 300 million to more than 700 million.⁴³ By 2025, an estimated seventy cities in India are expected to reach populations exceeding one million.⁴⁴ Three mega-urban regions, Mumbai (50 million), the national capital region of Delhi (more than 30 million), and Kolkata (20 million) will be among the largest concentrated urban areas in the world.⁴⁵ By mid-century, India could have both the largest urban and rural population of all time.⁴⁶ This will have a substantial impact on global climate vulnerability and the potential for mitigation and adaptation.⁴⁷ Although India's agricultural sector contributes only eighteen percent to the country's GDP, it provides livelihoods to almost sixty percent of the population, and the biomass and ecosystem services that enable the "metabolism" of most Indian cities to function.⁴⁸ The relative importance of environmental factors (and impacts on the agricultural sector) in livelihoods helps determine how important the environment

40. *UN agencies aid millions affected by flooding, landslides in South Asia*, UN NEWS (Aug. 24, 2017), <https://news.un.org/en/story/2017/08/563762-un-agencies-aid-millions-affected-flooding-landslides-south-asia> [<https://perma.cc/J75J-MS7B>].

41. *Id.*

42. Koko Warner, *Assessing Institutional and Governance Needs Related to Environmental Change and Human Migration*, THE GERMAN MARSHALL FUND OF THE UNITED STATES at 4, 8 (June 2010), http://archive.unu.edu/africa/activities/files/Warner_K_2010_Assessing_Institutional_and_Governance_Needs_Related_to_Environmental_Change.pdf [<https://perma.cc/9T6Y-U269>].

43. Aromar Revi, *Long-range Macro-dynamics of Indian Urbanization in a Globalizing World*, Proceedings of the Conference on Indian and China in a Global Perspective, New School, New York (April 2006).

44. BARRY B. HUGHES & EVAN E. HILLEBRAND, *EXPLORING AND SHAPING INTERNATIONAL FUTURES* 209 (Taylor & Francis, 2006).

45. TIM DYSON & PRAVIN VISARIA, *Migration and Urbanization: Retrospect & Prospect*, in *TWENTY FIRST CENTURY INDIA: POPULATION, ECONOMY, HUMAN DEVELOPMENT AND THE ENVIRONMENT* 108–57 (Oxford U. Press, 1st ed. 2004).

46. Aromar Revi, *Climate Change Risk: adaptation and mitigation agenda for Indian Cities*, 20(1) SAGE PUBLICATIONS, 207–229 (April 2008), <http://journals.sagepub.com/doi/pdf/10.1177/0956247808089157> [<https://perma.cc/263F-APGF>].

47. *Id.*

48. *Id.*

is when migration decisions are made.⁴⁹ Increased climate-related stress on the agricultural sector due to both drought and flooding may prompt increased rural-urban migration while also contributing to food and water scarcity in urban centers.

India is one of the most vulnerable and risk-prone countries in the world.⁵⁰ Climate change is expected to increase the frequency and intensity of current hazards and the probability of extreme weather events, as well as spur the emergence of new hazards (e.g., sea-level rise), and create new vulnerabilities with differential spatial and socioeconomic impacts.⁵¹ This will further degrade the resilience of poor and vulnerable communities that make up about one quarter to one half of the population of most Indian cities.⁵² Severe stresses induced in urban areas due to a mix of water scarcity, the breakdown of environmental services, flooding, and consequent water-borne diseases, and malaria-type epidemics combined with a rapid rise in health expenditure could maintain the low current level of rural-urban migration. The potential for climate change (along with other driving factors) to induce internal migration and urbanization within India is high. There is little comprehensive research on the associative relationships between slow-onset climactic change, agricultural degradation, and rural-urban migration in India. However, data on the declining systemic health of the agricultural sector and increased water scarcity (inevitably exacerbated by declining snow melt from the Himalayas) in both rural and urban areas of India suggests an overall increase in the vulnerability to human systems. The likelihood of increased floods, food shortages, water scarcity and increased vector-borne diseases in low elevation urban centers—will adversely affect both rural and urban “metabolism,” and may even prompt urban-rural migration within India. However, populations in neighboring countries that suffer from less structural resilience may migrate to India in search of more advanced infrastructure and support.

A multitude of socioeconomic and environmental indicators suggest significant correlations between climate change and both rural-urban migration and cross-boundary migration to urban coastal zones in India. High-intensity climate disasters, and long-term slow onset climate degradation in India—and in neighboring countries such as Pakistan, Bangladesh, Sri Lanka, and the Maldives—are likely to increase migration to urban cities in low-elevation coastal zones.⁵³ Migrant populations and internally displaced people will face increased vulnerability to the socioeconomic and health impacts of climate-induced migration, and suffer from reduced access to basic needs and services. International governments and India’s domestic laws neglect to account for the role climate change plays in migration to urban centers, and lack the comprehensive

49. Warner, *supra* note 35, at 4, 8.

50. Revi, *supra* note 46, at 207.

51. *Id.*

52. David Satterwite et al., *Adapting to Climate Change in Urban Areas: The possibilities and constraints in low and middle-income nations*, INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT at 18 (2007), <http://pubs.iied.org/pdfs/10549IIED.pdf> [<https://perma.cc/NHX5-RFEK>].

53. *Id.*

frameworks needed for climate change adaptation measures in high-density urban coastal zones.

IV. Climate Change, Vulnerable Populations and International Conflict

While much of the research conducted in the fields of human migration, environmental climate change, development, economics, and human health has been done through a narrow disciplinary lens, a common vulnerability unites the impoverished and displaced in countries of South Asia. This excerpt from Revi's *Climate Change Risk* aptly summarizes the commonality:

Having limited skills, education, capital and access to the social networks that underpin much of economic and social mobility, in urban India, more of the landless and small and marginal farmers are forced to migrate, often forming the most vulnerable groups in cities. They often live in illegal, unserved settlements exposed to a wide range of environmental risks from flooding to fire, and continual cycles of demotion and eviction by civil authorities. They are, therefore, dual victims of existing natural hazards and emerging climate change—displaced from their original places of residence and occupations, and challenged by urban risks in their new urban places of residence.⁵⁴

Trans-boundary climate migrants share a similar fate of dual exposure and continually diminished resilience.

Changes in river hydrology, snow melt, and the subsequent decline of the agricultural sector (upon which the majority of subsistence farmers rely) will affect multiple countries whose urban and rural ecology is dependent on shared water resources. The most serious regional impact of climate change will be the changes in river hydrology in the Indo-Gangetic plain and the Brahmaputra valley, due to glacial melt and regression of the Himalayan glaciers.⁵⁵ Ongoing trans-boundary conflicts between India and Pakistan, and Nepal, India and Bangladesh, could also be compounded by a possible China-India conflict over the use of Yarlung Tsangpo/Brahmaputra water.⁵⁶ Trans-boundary conflicts over scarce water resources are also likely to sharpen cultural divisions. A case study by the Inventory of Conflict and Environment entitled "Climate Change and Conflict in Migration from Bangladesh to Assam (India)" articulates the historical trend of climate-induced migration and subsequent ethnic violence:

Violent conflict in Assam between indigenous groups and Bangladeshi migrants began in 1979 when the presence of 70,000 immigrants was discovered in one constituency. When the government did nothing to mitigate this influx of outsiders, the groups polarized and organized. The result was at least 4,700 deaths

54. Revi, *supra* note 46, at 214.

55. *Id.*

56. *Id.*

that year. From that point on, an unstable government has endured constant civil disobedience campaigns and excessive ethnic violence. Support for radicalism increases with added strain on jobs and resources. Government officials in India are wary of unrest and are actively trying to stem the influx of migrants and negotiate an end to overt violence. Bangladeshi environmental refugees are searching for sustainable livelihoods in Assam, but the government fights migration, lacking effective mechanisms for integration with local communities.⁵⁷

The next most important climate change risk is increased riverine and inland flooding, particularly in northern and eastern India bordering Nepal and Bangladesh.⁵⁸ There are tens of millions of people that are currently affected by floods for three to six months out of the year in eastern India.⁵⁹ Climate change is expected to increase the severity of flooding in many Indian river basins, especially those in the Godavari and Mahanadi along the eastern coast.⁶⁰ Floods are expected to increase in northwestern India, adjoining Pakistan, and in most coastal plains, in spite of existing upstream dams and “multi-purpose” projects.⁶¹ From climate science forecasting in the neighboring regions of Pakistan, Bangladesh, Nepal, Myanmar, Sri Lanka, and the Maldives, and the likelihood of increased climate induced out-migration, historical precedents imply that cultural conflict and ethnic violence between Indian nationals and trans-boundary migrants would likely follow suit.

Conclusion

Policy, law and governance play a crucial role in the social and economic outcomes for both migrant and receiving communities. The cost of unplanned, unregulated migration to India from countries contending with frequent climate disaster is two-fold. There is the financial cost as millions of Indian crore are being spent ineffectively to abate in-migration from Bangladesh and Pakistan, as well as the social cost from the lack of integration and increased likelihood of cultural tension and conflict. Development, urban infrastructure and population health are also hindered by the lack of intergovernmental coordination in regard to migration. This creates added environmental stresses on urban centers (i.e., sanitation, pollution and access to potable water) and compromises population health as a whole.

Increased governance and preemptive policies that address migration across borders strengthens formal trade relations, increases resilience among migrant

57. Casey Gugoff, *Climate Change and Conflict in Migration from Bangladesh to Assam (India)*, THE INVENTORY OF CONFLICT AND ENVIRONMENT, 9 (Dec. 2011), <http://mandalaprojects.com/ice/ice-cases/assam.htm> [<https://perma.cc/UTL2-WJ4J>].

58. Revi, *supra* note 46, at 215.

59. Dinesh Kumar Mishra, *Flood Protection That Never Was: Case of Mahananda Basin of North Bihar*, ECONOMIC & POLITICAL WEEKLY (July 17–23, 1999), <http://www.jstor.org/stable/4408210> [<https://perma.cc/5YHF-776D>].

60. *Id.*

61. Revi, *supra* note 46, at 215.

communities in regions of resettlement, reduces the likelihood of cultural conflict, and expands access to basic resources that increase over-all health outcomes. Increased coordination between the Indian Central Government, Bangladeshi, and Pakistani governments also has ancillary social and financial benefits for India and neighboring countries, and is a preferred policy strategy for addressing migration as an adaptation strategy to environmental change.

State-level interventions that can reduce the impact of climate events and migration could include planned relocation, legal protection for displaced people, and structural measures in development to reduce the impacts of environmental change (such as flood defenses). These policy interventions increase resilience in migrant and receiving communities, reduce the likelihood of endemic disease and vulnerability, and increase mitigation bio-regionally and in urban centers. Development, environment and cross-boundary migration policies—previously created in mutual exclusion—can be increasingly effective if objectives for climate adaptation were considered as a shared objective in future policy.

Climate change and climate migration is one of the most significant threats to India's socioeconomic stability and stability in the region. India is the main recipient of population flow in South Asia, including both climate refugees and economic migrants, and new bilateral policies and de-colonized legal frameworks must take into consideration the historical context of national division to effectively create policy solutions in migration. While India has preferred to tackle such issues internally, it may consider involving international actors in arriving at meaningful solutions because the reach and complexity of the international population movements are beyond the capacities of a single country.⁶² Organizations that provide international aid, such as the United Nations High Commission on Refugees, and organizations like the International Organization on Migration that deals with complex multi-lateral migration policy issues and on-the-ground implementation, could play a significant role in assisting India and neighboring countries to reach accord on both internal policies and bio-regional cooperation.

62. Sanjeev Tripathi, *Illegal Immigration From Bangladesh to India: Toward a Comprehensive Solution*, CARNEGIE INDIA (June 29, 2016), <http://carnegieindia.org/2016/06/29/illegal-immigration-from-bangladesh-to-india-toward-comprehensive-solution-pub-63931> [<https://perma.cc/2UCD-7UYL>].
