Intensifying Insecurities: The impact of climate change on vulnerability to human trafficking in the Indian Sundarbans

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Abstract

Despite an enormous amount of attention paid to the factors that shape vulnerability to human trafficking, such as poverty and a lack of economic opportunity, the debate of evidence for what enables these factors to exist in the first place is relatively less explored. Presently, discussions of the relationship between climate change and human insecurity have been marginal to broader debates about vulnerability to trafficking. This paper argues that this signifies a gap in our understanding of the underlying drivers that push individuals and communities into situations where vulnerability to trafficking amplifies, but also that increase the pull of risky migration pathways and exploitative work situations. This paper proceeds by examining and problematising dominant conceptualisations of vulnerability in human trafficking and climate change discourses. Next, it presents a case study of the Sundarbans region of India to highlight how climate change impacts compound and exacerbate the same factors that shape vulnerability to human trafficking—including environmental degradation, loss of livelihood, destitution, and forced migration. Lastly, it argues for enhanced attention to climate change-related insecurity as evidence of vulnerability to trafficking and outlines what such insights can bring to anti-trafficking efforts.

Keywords: human trafficking, climate change, vulnerability, human security, gender, livelihoods

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Introduction

Debates of evidence in anti-trafficking work have contested the accuracy of the statistical data on the numbers of trafficked persons, the typical representations of the nature and experience of human trafficking, the viability of criminal justice systems to deal with human trafficking, and the perpetuation of ineffective anti-trafficking interventions. While there has been an enormous amount of attention paid to the factors that shape vulnerability to human trafficking, such as poverty and uneven development, conflict and gender inequality, the debate of what enables these factors to exist in the first place is relatively less explored. As it stands, the relationship between climate change and human insecurity has been largely left unanalysed as evidence of vulnerability to trafficking. This paper argues that this signifies a gap in knowledge of the underlying drivers of vulnerability to trafficking.

This paper illustrates, using the example of the Sundarbans region of India, that to better understand the rooted drivers of vulnerability to human trafficking, key areas to account for in the evidence of vulnerability factors relate particularly to climate change and its linkages to environmental degradation, livelihood stress, impoverishment, and forced migration. The remainder of the paper is divided into three sections. The first outlines the ways in which vulnerability is conceptualised in mainstream human trafficking and climate change discourse, highlighting what remains unacknowledged and unaddressed as evidence of vulnerability to trafficking. The second introduces a case study of the Sundarbans to show how localised climate change impacts exacerbate the same factors that shape vulnerability to human trafficking. The concluding section argues for increased attention to modes of climate change-related insecurity as evidence of vulnerability in anti-trafficking work.

For more on how a lack of standard definitions and inaccurate data on human trafficking influence understandings of and responses to it, see: B Loff and J Sanghera, 'Distortions and Difficulties in Data for Trafficking', *The Lancet*, vol. 363, no. 9408, 2004, p. 566. For more on the prioritisation of a criminal law approach and marginalisation of a labour approach to anti-trafficking, see: H Shamir, 'A Labor Paradigm for Human Trafficking', *UCLA Law Review*, vol. 60, no. 1, 2012, pp. 76—137. For more on how a limited focus on sexual exploitation in anti-trafficking efforts leaves out those people trafficked into other sectors and misses the root causes of vulnerability, see: C van den Anker, 'Trafficking and Women's Rights: Beyond the sex industry to "other industries", *Journal of Global Ethics*, vol. 2, no. 2, 2006, pp. 163—182.

This paper undertakes a review of the academic and grey literatures on vulnerability to human trafficking in the Sundarbans as well as in India, climate change and vulnerability/human insecurity; and climate change and human trafficking. In particular, research based on primary data, including qualitative interviews, focus groups, and surveys with trafficked and migrant persons and affected households themselves, was conducted by local NGOs,² scholars,³ and supranational organisations⁴ to better understand the multifaceted conditions, processes, and outcomes of migration and trafficking. Methodologically comprehensive and robust, these studies highlight the experiences and perspectives of affected persons and are further informed by primary data that included participant observation, qualitative interviews and meetings with civil society, government, and policy-maker stakeholders, quantitative socioeconomic and demographic survey data, and secondary data sources. A few of these articles⁵ hone in on the gendered processes at play and feature the voices of trafficked and migrant women.

This paper examines and weds the disjointed literatures on climate change and human insecurity, and vulnerability to human trafficking in order to gain a deeper understanding of the complex and myriad forces that underpin vulnerability to trafficking in a case study of the Sundarbans. A gendered perspective is employed to focus attention on the myriad forces that shape vulnerability, and the ways in which vulnerability is gendered and intersects with other social locations of difference such as caste and class.⁶

Conceptual Frameworks of Vulnerability to Human Trafficking and Climate Change

How vulnerability is conceptualised has implications for how it is taken up and addressed in research, policy, and programming. Vulnerability is a key element of the dynamics of human trafficking and the effects of climate change, and there are parallels in the ways in which vulnerability to climate change impacts and human trafficking are understood. In both contexts, conceptualisations of the drivers and features of vulnerability are informed by a variety of distinct approaches, interpretations, and ideologies, but which tend to de-emphasise the dynamic, contextual, and socio-structural dimensions of vulnerability.

In regards to climate change discourse, two distinct conceptualisations of vulnerability have emerged: outcome vulnerability and contextual vulnerability. Outcome vulnerability, which is mediated by adaptation capacities, is informed by a scientific framework that sees vulnerability as a linear process and direct product of climate change effects on exposed biophysical or social entities. This approach views the biophysical and social as separate spheres and places emphasis on the former. In contrast, contextual vulnerability is influenced by a human security framework that accounts for the ways in which multiscalar social, political, and economic conditions and processes and uneven relations of power mediate the opportunities, resources, and capacities necessary to cope with and adapt to climate pressures. This approach acknowledges differentiated forms and outcomes of vulnerability across and between groups and regions.⁷

Local NGOs include: A Ghosh, Living with Changing Climate: Impact, vulnerability and adaptation challenges in Indian Sundarbans, Centre for Science and Environment, New Delhi, 2012, p. 4, retrieved 23 September 2015, http://cseindia.org/userfiles/Living%20with%20changing%20climate%20report%20low%20res.pdf; Jagori, 'Migration, Trafficking, and Sites of Work: Rights and vulnerabilities' in K Kempadoo, J Sanghera and B Pattanaik (eds.), Trafficking and Prostitution Reconsidered: New perspectives on migration, sex work, and human rights, Paradigm Publishers, Boulder, Colorado, 2012, pp. 159—74; and Sanlaap, Real Lives...Real Options: A study exploring the livelihood options for trafficked survivors in rural and urban areas, 2008, retrieved 28 October 2015, http://www.childtrafficking.com/Docs/real_lives_0509.pdf

Scholars include: A Poncelet et al., 'A Country Made for Disasters: Environmental vulnerability and forced migration in Bangladesh' in T Afifi and J Jäger (eds.), Environment, Forced Migration and Social Vulnerability, Springer-Verlag, Berlin Heidelberg, 2010, pp. 211—222; N Ray, Vulnerability to Human Trafficking: A qualitative study, Dissertation at Brown School of Social Work, Washington University, Saint Louis, Missouri, 2008; and U Vindhya and V Swathi Dev, 'Survivors of Sex Trafficking in Andhra Pradesh: Evidence and testimony', Indian Journal of Gender Studies, vol. 18, no. 2, 2011, pp. 129—165.

Supranational organisations include: International Labour Organization (ILO), Child Migration, Child Trafficking and Child Labour in India, International Labour Office, International Programme on the Elimination of Child Labour, Geneva, 2013, retrieved 27 October 2015, http://www.ilo.org/ipec/Informationresources/WCMS_IPEC_PUB_23898/lang--en/index.htm; and World Bank, Building Resilience for Sustainable Development of the Sundarbans: Strategy report, Washington DC, World Bank Group, 2014, retrieved 20 September 2015, http://documents.worldbank.org/curated/en/2014/01/20162806/building-resilience-sustainable-development-sundarbans-strategy-report

In particular, these include Jagori, 2012; Ray, 2008; Vindhya and Swathi Dev, 2011, the former of which saw the transformation of research into an action-research project.

⁶ This perspective is further explored in the following section.

K O'Brien et al., 'Why Different Interpretations of Vulnerability Matter in Climate Change Discourses', Climate Policy, vol. 7, issue 1, 2007, pp. 73—88.

DOI: 10.14197/atr.20121784

Although there is an increasing recognition that the consequences of climate change are socio-structurally mediated and unevenly distributed, with the world's most impoverished and marginalised peoples, regions, and countries bearing the disproportionate burden of climate change-related hazards, vulnerabilities, and costs, conceptualisations of outcome vulnerability and their concomitant technoscientific fixes, continue to dominant climate change research and international policy forums.

In the dominant trafficking discourse, an account of the contextual factors that underlie vulnerability is also largely missing. Human trafficking is contingent on the interaction of push factors that motivate or compel people to leave their homes in a search of better prospects and pull factors that generate demand for exploitation. ¹⁰ In India, the principal factors that contribute to vulnerability to trafficking are acknowledged as poverty, uneven development, social discrimination, gender-based violence, family or marital separation or dysfunction, lack of educational or economic opportunity, poor social infrastructure, a lack of awareness of trafficking, and cultural practices that sanction or tolerate trafficking. ¹¹ However, these factors tend to be applied to trafficking-prone regions and vulnerable peoples in a general manner. In the case of both climate change and trafficking, dominant conceptualisations of vulnerability tend to be generalised, individualised, and naturalised, with limited ability to inform robust knowledge and responsive policy and practice. There is little examination of the rooted, contingent, and context-specific forces that underlie, exacerbate, and perpetuate these vulnerability factors, thus limiting what is counted as evidence of vulnerability to trafficking.

Human trafficking in India is narrowly construed as a problem of sexual exploitation, with women and children deemed inherently vulnerable and helpless victims in need of protection and rescue. 12 Likewise, in the case of climate change, in efforts to bring greater attention to gender in debates, some scholars and activists have employed narrow analyses of gender and vulnerability that have discursively positioned women, particularly poor women from the Global South, as essentially and universally vulnerable to the forces of climate change. 13 In another similar vein, essentialised notions of vulnerability have fed into discourses of mobility, migration, and movement associated with trafficking as well as climate-induced migration and displacement, with implications for what kinds of responses are envisioned and carried out. Paradoxically, while both view vulnerability as inherent in particular groups, anti-trafficking and climate adaptation responses emphasise national security over human security concerns and focus on reactive interventions over prevention strategies. 14 Just as typical anti-trafficking efforts continue to prioritise border security and criminal law responses, there are increasing calls for climate adaptation plans to account for migration and displacement outcomes and manage flows of people, even while existing frameworks are deemed inadequate to deal with the complexity of such issues. 15

Intergovernmental Panel on Climate Change (IPCC), Climate Change 2014: Impacts, adaptation, and vulnerability. Part A: Global and Sectoral Aspects, Working Group II Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, New York, 2014, p. 803, 816, retrieved 5 October 2015, http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-PartA_FINAL.pdf; United Nations Development Fund, Human Development Report 2007/2008. Fighting Climate Change: Human solidarity in a divided world, 2007, pp. 58—9, retrieved 20 September 2015, http://hdr.undp.org/sites/default/files/reports/268/hdr_20072008_en_complete.pdf; Intergovernmental Panel on Climate Change, pp. vii—1101.

10 C Jasparro and J Taylor, 'Climate Change and Regional Vulnerability to Transnational Security Threats in Southeast Asia', Geopolitics, vol. 13, no. 2, 2008, p. 240.

⁹ O'Brien et al., p. 76, 85.

B Ghosh, 'Trafficking in Women and Children in India: Nature, dimensions and strategies for prevention', The International Journal of Human Rights, vol. 13, no. 5, 2009, pp. 716–738; International Development Law Organization (IDLO), Preventing and Combating the Trafficking of Girls in India Using Legal Empowerment Strategies, 2011, p. 4, retrieved 20 September 2015, http://www.idlo.org/Publications/FinalReportGirlsProject.pdf; ILO, pp. 2—13, 25.

R Kapur, 'India' in Collateral Damage: The impact of anti-trafficking measures on human rights around the world, Global Alliance Against Traffic in Women, Bangkok, 2007, p. 114, 137, retrieved 15 November 2015, http://www.gaatw.org/Collateral%20Damage_Final/CollateralDamage_%20INDIA.pdf; P Kotiswaran, 'Vulnerability in Domestic Discourses on Trafficking: Lessons from the Indian Experience', Feminist Legal Studies, vol. 20, 2012, pp. 245—6.

S Arora-Jonsson, 'Virtue and Vulnerability: Discourses on women, gender and climate change', Global Environmental Change— Human and Policy Dimensions, vol. 21, no. 2, 2011, p. 744; S MacGregor, "Gender and Climate Change": From impacts to discourses', Journal of the Indian Ocean Region, vol. 6, no. 2, 2010, p. 223.

In the context of climate change, see: N Detraz and L Windsor, 'Evaluating Climate Migration', International Feminist Journal of Politics, vol. 16, no.1, 2014, p. 127.

To see how this links to projected heightened and uncertain consequences, non-binding and voluntary action, poor institutional cooperation, non-standardised responses, barriers to access for the most vulnerable, and reinforcement of social inequities, see the Cancun Adaptation Framework in K Warner, 'Human Migration and Displacement in the Context of Adaptation to Climate Change: The Cancun Adaptation Framework and potential for future action', *Environment and Planning C: Government and Policy*, vol. 30, 2012, pp. 1061, 1072—3. For more on what the emphasis of a criminal law approach to trafficking misses, see Shamir, particularly footnotes 64 and 65 on pp. 126—7.

Attending to the ways in which vulnerability is both conceptualised and responded to shows what is obscured. A gendered perspective challenges problematic notions of vulnerability by highlighting how powerful interests, ideologies, and assumptions of gender, race, and class mask the social, structural, and discursive articulations of vulnerability and reinforce social inequities and uneven relations of power. It reframes vulnerability as arising out of embeddedness in the world yet accounting for the ways in which the severity of vulnerability is unevenly distributed between different groups and regions. From this standpoint, vulnerability is understood as entangled and negotiated within uneven and multi-scalar relations of power, political economic structures, social processes, and material conditions.¹⁶

Critical commentators have expanded evidence of vulnerability to trafficking by revealing the ways in which vulnerability to trafficking articulates with macro processes of globalisation and neoliberalisation that entrench social disparities, intensify dispossessions, and compel a rising number of people to migrate for survival.¹⁷ In India, economic liberalisation since the 1990s in particular has contributed to the widespread urbanisation, informalisation, and deregulation of employment and the flexibilisation and feminisation of labour markets. During this time, the power of capital was secured while the interests of labour were undermined. Global competitive pressures and profit imperatives generate demand for cheap, controllable, exploitable, and expendable workers. Discrimination based on gender, age, caste, class, religion, ethnicity, and migrant status constructs certain groups as more suitable for highly exploitative, low-skill, lowwage informal work. The erosion of rural and traditional livelihoods as well as depressed wages and poor working conditions for the majority of workers contributes to rising household insecurity. At the same time, the feminisation of informal work combines with changing gender norms, desires, and opportunities for work and mobility to catalyse the large-scale labour migration of Indian women and children, largely from poor households. 18 While women's participation in wage work has increased over time, the majority still remain at the bottom of the labour market hierarchy, entrenching their disadvantage. In this context, girls and women face structural forms of vulnerability to 'different kinds of abuse, exploitation and violation of rights almost routinely' in their migration and work trajectories and outcomes, shaping risk for trafficking.¹⁹ According to the US Trafficking in Persons Report, trafficking is a major problem in India. In contrast to the over-emphasis on trafficking for sexual exploitation in anti-trafficking discourse and policy, the majority of trafficked persons in India are exploited for forced labour and debt-bondage in various sites and sectors.²⁰ Additionally, there has been an expansion of sectors that use forced labour,²¹ and the number of persons facing extreme forms of labour exploitation appears to be rising.²²

In sum, critical work has reconceptualised and vitally enhanced evidence of vulnerability to trafficking by accounting for intersecting axes of social difference and political economic forces that mediate and intensify conditions and processes of impoverishment, dispossession, and displacement. Yet, given that poverty, loss of livelihood, and forced migration are key determinants of vulnerability to trafficking, and despite growing evidence of their links to climate and environmental change, particularly in the Global South,²³ it is surprising that climate change-related insecurity has been largely left unexamined as evidence of vulnerability to trafficking.

For climate change, see: Arora-Jonsson, p. 223. For trafficking, see: K Kempadoo, 'Abolitionism, Criminal Justice, and Transnational Feminism: Twenty-first-century perspectives on human trafficking' in K Kempadoo *et al.*, 2012, pp. vii-xlii; A Szörényi, 'Rethinking the Boundaries: Towards a Butlerian ethics of vulnerability in sex trafficking debates', *Feminist Review*, vol. 107, 2014, pp. 20—36.

¹⁷ C van den Anker, 'Contemporary Slavery, Global Justice and Globalization' in C van den Anker (ed.), The Political Economy of New Slavery, Palgrave Macmillan, New York, 2004, pp. 15—36; K Kempadoo, pp. xxvi-xxvii.

Asian Development Bank, Combating Trafficking of Women and Children in South Asia. Regional Synthesis Paper for Bangladesh, India, and Nepal, 2002, p. 31, retrieved 18 November 2015, http://www.adb.org/sites/default/files/publication/30364/combating-trafficking-south-asia-paper.pdf; Jagori, pp. 169, 171—2; Vindhya and Swathi Dev, pp. 130—1.

Jagori, p. 172; Kempadoo, p. x, xix.

Although caution is warranted in utilising statistics of human trafficking (see Kapur, p. 115), the US Trafficking in Persons report recognises the immense scale of labour exploitation in the estimation that 20—65 million people are subject to forced labour conditions and that ninety per cent of trafficking is believed to occur within India's borders (p. 203). For more, see United States Department of State (USDS), *Trafficking in Persons Report – India,* 2014, retrieved 2 December 2015, http://www.state.gov/j/tip/rls/tiprpt/countries/2014/226740.htm

²¹ USDS, p. 203.

United Nations Office on Drugs and Crime (UNODC), Current Status of Victim Service Providers and Criminal Justice Actors in India on Anti-Human Trafficking, 2013, p. 9, retrieved 2 December 2015, http://www.unodc.org/documents/southasia/reports/Human_Trafficking-10-05-13.pdf

²³ IPCC, pp. vii-1101.

While the reasons for the lack of account of climate change effects in anti-trafficking discourse and policy can only be speculated, it likely stems, at least partially, from limited conceptualisations and evidence of vulnerability and the privileging of a criminal justice approach to deal with trafficking. For example, the UN Trafficking Protocol, which situates trafficking as a criminal act and focuses on transnational crime,²⁴ has shaped subsequent national and regional anti-trafficking law, policy, and intervention across the globe. The criminal justice framework of anti-trafficking has displaced crucial alternative perspectives and approaches, shaping and bolstering particular responses to trafficking.

The UN Trafficking Protocol is structured around three key dimensions—the prosecution of traffickers, protection of trafficked persons, and prevention of trafficking. Yet, there are widespread criticisms that prosecution has been prioritised at the expense of protection and prevention. Furthermore, the emphasis on criminalisation deals with the problem of trafficking after the fact rather than beforehand through prevention. A meaningful account and address of the underlying social, economic, political, and environmental drivers of vulnerability to trafficking remains marginal. And reactive criminal justice measures give the appearance that something is being done to tackle trafficking while the structural and material conditions and power relations that contribute to vulnerability remain intact and instances of trafficking persist. Despite the political rhetoric, in reality, long-term, comprehensive, and systematic prevention efforts have yet to be undertaken. ²⁷

Climate change-related vulnerability, which entails uneven, uncertain, and complex processes contingent on myriad factors, does not fit neatly into dominant criminal justice-oriented anti-trafficking initiatives that are informed by limited evidence and understandings of vulnerability, target individual perpetrators, and produce immediately visible results. Although anti-trafficking, as well as climate change, has been highly contested terrain, both arenas are dominated by powerful interests that are profoundly reluctant to account for and address particular forms and dynamics of capitalism and capital and state relations that structure conditions of insecurity and exploitation. Instead, powerful state and capitalist interests and agendas, including migration and labour control, underpin mainstream anti-trafficking efforts. Yet, this is obscured and enabled through sensationalised trafficking narratives. In the case of climate change, its slow onset impacts do not align with such narratives based on inherently vulnerable women being sold or abducted and forced into sexual slavery. Furthermore, blame and responsibility for the conditions and outcomes of trafficking cannot be easily pinned to deviant and malevolent perpetrators, organised crime rings, or patriarchal, backward communities.²⁸

Climate Change-Related Insecurity and Vulnerability to Human Trafficking in the Sundarbans

In the vast literature on climate change and human security there are some, although not widespread, connections made between climate change, intensifying vulnerabilities, and human trafficking.²⁹ For instance, research in Bangladesh and Vietnam, which assessed the relationship between environmental change and forced migration, found that recurrent climate change-related disasters and environmental degradation led to a loss of livelihoods, heightened poverty and indebtedness, and created opportunities where exploitation and trafficking thrived.³⁰ In contrast, in literature on human trafficking, climate change remains unanalysed and under-conceptualised as evidence of the rooted drivers of vulnerability. Examining specific examples of regions and communities understood to be prone to trafficking, as in the following case study, can reveal how dominant conceptualisations of vulnerability, especially those that ignore the materiality of livelihoods and community practices, limit what is counted as evidence in trafficking research and policy.

²⁴ This is evident given that the international human trafficking legal framework is the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children, located within the United Nations Convention Against Transnational Organized Crime.

For a good critique of this, see: J Chuang, 'Beyond a Snapshot: Preventing human trafficking in the global economy', *Indiana Journal of Global Legal Studies*, vol. 13, no. 1, 2006, pp. 137—163; and J Todres, 'Widening Our Lens: Incorporating essential perspectives in the fight against human trafficking', *Michigan Journal of International Law*, vol. 33, no. 1, 2011, pp. 53—75.

²⁶ Chuang, p. 137, 148, 155—6 and Todres, pp. 57, 61—3, 74.

²⁷ Chuang, p. 154.

²⁸ Chuang, pp. 153—4; Todres, p. 55, 61.

F Laczko and C Aghazarm, Migration, Environment and Climate Change: Assessing the evidence, International Organization for Migration, Geneva, 2009, retrieved 9 October 2015, http://publications.iom.int/system/files/pdf/migration_and_environment.pdf; C Nellemann, R Verma and L Hislop (eds.), Women at the Frontline of Climate Change: Gender risks and hopes. A rapid response assessment, United Nations Environment Programme, GRID, Arendal, 2011, retrieved 20 September 2015, http://www.grida.no/publications/rr/women-and-climate-change/

³⁰ Laczko and Aghazarm, pp. 199—200, 218; Poncelet et al., pp. 215—219.

In India, the Sundarbans region of West Bengal has been identified as both highly vulnerable to climate change³¹ and prone to trafficking.³² In contrast to the uniform application of push and pull factors that renders a simplified account of vulnerability to trafficking, an examination of localised conditions in the trafficking prone Sundarbans region produces grounded and more comprehensive understandings of the drivers of vulnerability. What emerged as key contributors to peoples' vulnerability to trafficking was a lack of social or educational infrastructure, inequities based on gender, caste, class, religion and indigeneity, high rates of gender-based violence, major disruptions within households, landlessness and lack or loss of livelihoods, food insecurity and hunger, severe poverty and indebtedness, natural disasters and environmental degradation, and displacement or forced out-migration.³³ Although these contexts are amplified by climate change, the impact of climate change was unaccounted for in evidence of vulnerability to trafficking. Instead, evidence of the relationship between climate change impacts and vulnerability to human trafficking emerged as a side note of climate change research in the region.³⁴

The Indian Sundarbans is situated in a coastal delta at the confluence of major river systems on the Bay of Bengal, and is prone to natural disasters such as cyclones and floods.³⁵ The region is comprised of isolated, low-lying islands densely populated by 4.4 million people, the majority of whom face severe impoverishment and insecurity.³⁶ Low human development characterises the region, with wide gender inequities in multiple arenas including educational attainment, work participation, and gender-based violence.³⁷ The Sundarbans has a high representation of Muslim, Scheduled Caste, and Scheduled Tribal groups, as well as undocumented Bangladeshi migrants and landless households that have historically and contemporaneously faced discrimination, marginalisation, and poverty.³⁸ These social and biophysical dimensions intersect and cumulate to render the region and its people highly vulnerable to climate and environmental change³⁹ and human trafficking.⁴⁰

In the Sundarbans, climate change has brought about far-reaching and devastating impacts, exacerbating socio-ecological and economic pressures, which in turn mediate climate change-related insecurity.⁴¹ The local people are interdependent on the natural environment for income generation, sustenance, and survival. The majority of the population engages in agriculture, fisheries, aquaculture, and the collection of prawn seeds and non-timber forest produce for their livelihood. Because these livelihoods, and the peoples and communities dependent on them, are highly reliant on stable weather, healthy soil and water, and abundant mangrove ecosystems, they face high exposure and sensitivity to climate change impacts.⁴²

Although the Sundarbans is home to one of the largest and most biodiverse mangrove ecosystems on earth, life-sustaining soil, water, and mangrove biodiversity have been depleted due to climate change effects in addition to deforestation, over-exploitation, and industrial pollution. Stronger and more recurrent floods and cyclones, erratic rainfall, increased temperatures, and encroaching sea-level rise have contributed to soil and water salinisation, crop losses, soil infertility, and significant long-term reductions in agricultural yields, adversely impacting local livelihoods.⁴³

Ghosh, Living with Changing Climate, p. 4; Development and Planning Department (DPD), District Human Development Report South 24 Parganas, HDRCC, Government of West Bengal, 2009, pp. 202, 217, retrieved 3 October 2015, http://www.undp.org/content/dam/india/docs/hdr_south24_parganas_2009_full_report.pdf; World Bank, p. 85, 126.

The Sundarbans is comprised of two districts, North and South Parganas, both with particular areas known for high incidence of trafficking. See: DPD, 'District Human Development Report', p. 203, 318; Ghosh, 'Trafficking in women and children in India', p. 728; IDLO, p. 7; Sanlaap, Real Lives, p. 38; UNODC, p. 154.

³³ DPD, West Bengal Human Development Report, Government of West Bengal, 2004, pp. 202—3, retrieved 9 November 2015, http://planningcommission.nic.in/plans/stateplan/sdr_pdf/shdr_wb04.pdf; Ray, p. 155.

³⁴ Ghosh, Living with Changing Climate, p. 4, 78; World Bank, p. 15, 38.

³⁵ Ghosh, Living with Changing Climate, p. 4.

³⁶ World Bank, pp. 13—14, 88.

³⁷ DPD, District Human Development Report, pp. 286—9.

³⁸ Ibid., p. 85; S Bose, 'Illegal Migration in the Indian Sunderbans', Forced Migration Review, vol. 45, 2014, retrieved 3 March 2016, http://www.fmreview.org/sites/fmr/files/FMRdownloads/en/crisis/bose.pdf

³⁹ Laczko and Aghazarm, 2009, p. 47, 323; Nellemann, Verma and Hislop, p. 21.

⁴⁰ Ghosh, 'Trafficking in Women and Children in India', p. 731.

⁴¹ For the local context, see: Ghosh, *Living with Changing Climate*, pp. 21—53.

⁴² *Ibid.*, p. 43; World Bank, pp. 6, 13, 79—87, 110.

⁴³ Ghosh, Living with Changing Climate, pp. 21—28; 44—53, 96; DPD, District Human Development Report, p. 217, 299; Ray, 2008, p. 133, 157; Bose, 2014, p. 22; World Bank, pp. 4, 14—15, 86-8, 126, 158, 202, 241.

Yet, climate change impacts are not neutral but have gendered dimensions and differentiated outcomes. Because social arrangements of 'production, reproduction, and distribution' shape relationships to the environment, ⁴⁴ poor, rural, low-caste, and indigenous women are most affected by and vulnerable to climate change and environmental degradation. This is due to discrimination in access to income, resources, opportunities, decision-making, and entitlements necessary to cope with and adapt to socio-ecological shifts as well as particular social roles and responsibilities for household subsistence needs and agricultural production. ⁴⁵

In the context of increasingly degraded environments and natural resources, women have to travel farther and spend more time on the collection of water, fuel, fodder, and forest produce, in addition to livestock and agricultural production. As access to productive and reproductive resources become more scarce and women's work burdens intensify, there is less time available for education and alternative income generation activities. Additionally, when men migrate out due to resource pressures and loss of livelihood, women's work burdens deepen further. In such contexts, children may be removed from school to help the family with domestic or wage work.⁴⁶

Compounding these climate change impacts, local agrarian communities have also been faced with socio-economic pressures such as reduced state agricultural subsidies, the rising cost of agricultural inputs and decreasing returns, and a highly inequitable distribution and marginalisation of landholdings.⁴⁷ Almost half of households in the Sundarbans are landless and reliant on wage labour,⁴⁸ yet work has been increasingly hard to find. Agriculture, comprising a large proportion of local production and reproduction, has been rendered fruitless and unprofitable. This has entrenched widespread food and livelihood insecurity and poverty for agriculture-dependent labourers—predominately women—and their households, compelling a search for alternative livelihoods. While the ability to obtain alternative livelihoods is essential to the wellbeing of households facing such threats, marginal and less secure forms of work have expanded while standard and more secure forms of work have contracted, contributing to high unemployment and underemployment.⁴⁹ At the same time, local rural employment and social welfare schemes, aiming to mitigate everyday forms of insecurity, are difficult to access and are largely ineffective.⁵⁰

In addition to food and livelihood insecurity, sea-level rise and intensified cyclones, storm surges, and floods have inundated and further eroded land. If current climate change projections and conditions hold, in as little as fifty years, half of productive land in the Indian and Bangladeshi Sundarbans will likely be submerged.⁵¹ The loss of coastal lands and entire low-lying islands in the Sundarbans has displaced countless people and increased the number of those landless.⁵² When cyclone Aila hit the Sundarbans in 2009, over a million people were displaced or severely impacted.⁵³ Although the Bay of Bengal experiences less than six per cent of the world's cyclones, this region accounts for over ninety per cent of the consequent devastation and death.⁵⁴ It is reported that, post-disaster, higher rates of gender-based violence, exploitation, and trafficking, particularly of girls and women, occur as a result of family fragmentation and stress, a loss of livelihoods and support networks, a disruption of social norms and controls, displacement into insecure disaster relief camps, and heightened physical and socio-economic precarity.⁵⁵

Climate change-related floods, cyclones, and sea-level rise destroy lives and livelihoods, land and crops, homes and infrastructure, assets and livestock. ⁵⁶ Poor or non-existent disaster infrastructure and institutional support have exacerbated adverse outcomes. ⁵⁷ Although the people of the Sundarbans have adapted to environmental stressors for centuries, more frequent and severe climate change hazards have created unceasing pressures and losses, impeding the ability to recover and adapt. ⁵⁸ In order to cope with the often continual need to rebuild homes and livelihoods,

⁴⁴ B Agarwal, 'The Gender and Environment Debate: Lessons from India', Feminist Studies, vol. 18, no. 1, 1992, p. 127.

⁴⁵ Nellemann, Verma and Hislop, pp. 19—21, 24, 29.

⁴⁶ Ibid., pp. 19—20, 38.

⁴⁷ DPD, District Human Development Report, pp. 32—6.

⁴⁸ DPD, West Bengal Human Development Report, p. 202.

⁴⁹ DPD, District Human Development Report, pp. 36, 50—1; World Bank, p. 90, 83, 199, 202.

⁵⁰ World Bank, p. 161.

The India Meteorological Department in: Ghosh, Living with Changing Climate, pp. 24—6.

Bose, p. 22; Ghosh, Living with Changing Climate, pp. 23—24; World Bank, p. 14, 131.

⁵³ World Bank, p. 88.

⁵⁴ *Ibid.*, p. 103.

Nellemann, Verma and Hislop, pp. 6—8, 46.

⁵⁶ Ray, p. 25; World Bank, p. 86, 108.

⁵⁷ DPD, District Human Development Report, pp. 218-219; S Bose, p. 22; World Bank, p. 86, 134.

⁵⁸ World Bank, pp. 83, 86, 125—6.

households are compelled to sell off their land and assets, take on debt, decrease consumption, take children from school to help with work, and send family members away in search of work.⁵⁹ While these strategies may alleviate insecurities in the short-term, they tend to compromise resilience in the long-term, resulting in destitution, heightened deprivation, and chronic hardship over time.⁶⁰ And given that the ability to recover and adapt to climate stressors is gendered, marginalised women and their children face disproportionate adverse outcomes, exacerbating gender disparities.⁶¹

Climate and environmental pressures profoundly impact migration flows.⁶² Mass human displacement and migration may be one of the greatest outcomes of climate change.⁶³ In the Sundarbans, more recurrent and intensified sudden onset disasters coupled with slow onset ecological degradation render local environments uninhabitable and livelihoods unviable, creating a crisis of survival and threatening not only population displacement but also gradual and more permanent forms of out-migration.⁶⁴ From affected households, able men, women, and children may migrate in search of greater security.⁶⁵ Post cyclone Aila, in many areas of the Sundarbans surveyed, three-quarters of households reported the labour migration of at least one family member, with children comprising a fifth of those out-migrating.⁶⁶

Although labour migration brought in remittances that enhanced household living conditions, much of the work was reported to be low-skilled, highly precarious, and dangerous. ⁶⁷ Labour migration processes and outcomes are contingent on social networks, resources, and skills ⁶⁸ as well as broader political and economic conditions. Low levels of education, limited economic skills, and severe poverty—disadvantages predominately faced by low-caste or indigenous women—hamper the ability to undertake secure migration and negotiate the type and conditions of work. ⁶⁹ Insecure labour migration—in this case undertaken in the context of degraded environments, unviable livelihoods, destitution, and survival need—amplify vulnerability to forced labour and trafficking. ⁷⁰ At the same time, it is these unsustainable conditions that restrict the ability of people who have fallen into exploitation to return home. In another scenario, households with extremely limited resources may not be able to migrate at all. ⁷¹ As these households remain in inhospitable environments associated with intensifying deprivation, its members are also made vulnerable to trafficking.

The rise in unscrupulous recruitment agents that facilitate labour migration out of rural communities to places with high demand for cheap labour have been linked to outcomes such as forced labour. ⁷² In the Sundarbans, in the aftermath of climate change-intensified disasters, large-scale out-migration and a surge in trafficking ensued. It was reported that labour recruiters and contractors exploited the precarious circumstances in communities to recruit people, particularly women and children, with deceptive promises of work or marriage. Reflecting the gendered division of labour, many of these women and girls were subsequently trafficked into high demand sectors such as domestic work, the sex industry, and forced marriage while boys were trafficked for forced labour into various sectors. ⁷³ While rigorous evidence of the relationship between climate change impacts and vulnerability to trafficking remains scarce in anti-trafficking research, these anecdotal reports are supported by both local and broader climate change studies which found that climate change-related disasters, loss of livelihood, and heightened poverty link to gendered vulnerability to trafficking. ⁷⁴

⁵⁹ Ghosh, Living with Changing Climate, p. 77; Ray, p. 124; Nellemann, Verma and Hislop, p. 20, 40; World Bank, p. 38, 86.

⁶⁰ IPCC, p. 802; UNDP, pp. 74, 83, 88—9.

⁶¹ IPCC, p. 796, 804.

⁶² Poncelet et al., p. 212.

⁶³ Laczko and Aghazarm, 2009, p. 43, 271.

⁶⁴ Ibid., pp. 214, 271—2; R McLeman and O Brown, 'Climate Change and Human Migration' in K Koser and S Martin (eds.), The Migration-Displacement Nexus: Patterns, processes, and policies, Berghahn Books, New York, 2011, p. 172; Ray, p. 155.

⁶⁵ World Bank, p. 16, 214.

⁶⁶ Ghosh, Living with Changing Climate, p. 77.

⁶⁷ *Ibid.*, pp. 80—1.

⁶⁸ Laczko and Aghazarm, p. 281; McLeman and Brown, pp. 181—3.

⁶⁹ Ghosh, Living with Changing Climate, p. 81.

⁷⁰ ILO, p. 26.

⁷¹ Laczko and Aghazarm, p. 218.

⁷² USDS, p. 184.

See news reports: A Ghosh, 'Lured by marriage promises, climate victims fall into trafficking trap', Reuters, 8 March 2015, retrieved 3 March 2016, http://in.reuters.com/article/trafficking-sundarbans-scam-idINKBN0M406720150308; and S Eaton, 'After the floods come the human traffickers, but these girls are fighting back', PRI's The World, 15 September 2015, retrieved 3 March 2016, http://www.pri.org/stories/2015-09-15/after-floods-come-human-traffickers-these-girls-are-fighting-back

⁷⁴ See: Ghosh, 2012, or the World Bank, 2014, for a localised study, or Laczko and Aghazarm, 2009 or Nellemann, Verma and Hislop, 2011 for a broader study.

As highlighted, climate change impacts compound and exacerbate the same factors that shape vulnerability to human trafficking. Climate change degrades the environment, diminishes income, assets, and land, dislocates rural livelihoods, entrenches food insecurity, worsens impoverishment, fragments households, and displaces populations. All these contexts have gendered impacts and implications that are differentially experienced across axes of social difference such as caste, class, age, and indigeneity. Although migration itself can be an adaptation strategy under such threats, 75 the high incidence of compelled out-migration, displacement, and human trafficking from the Sundarbans signifies limited alternatives and resources for survival, severe vulnerability, and poor resilience in the face of climate change. 76

Conclusion: Implications for anti-trafficking research and action

The examination of dominant conceptualisations of vulnerability alongside the case study of climate change effects in the Indian Sundarbans highlights how limited our understandings and evidence of the push and pull factors of trafficking are. To redress this, it is pertinent to deepen and expand knowledge of the complex and context-specific ways in which vulnerability arises. In order to garner more robust and comprehensive evidence of the forces that underlie and amplify vulnerability to trafficking, future research must examine how climate change shapes existing and acknowledged socio-ecological pressures—including a loss of livelihoods, destitution, and forced migration—and how this links to trafficking dynamics in specific contexts. Given that climate change consequences are mediated by political, economic, and social contexts, future research is apt to assess the interconnections and interactions between wider political and economic processes, localised ecological and socio-economic conditions, and contingent modes of insecurity. Such work can be used to compare similarities and specificities that will manifest for peoples in other regions hard hit by climate change, with implications for anti-trafficking efforts. Place-based qualitative and documentary case studies and collaborative action-oriented research that prioritises the experiences, perspectives, and needs of affected peoples can contribute to more specific knowledge and grounded evidence of vulnerability factors to inform the development of responsive, just, effective, and community-engaged anti-trafficking efforts.

At present anti-trafficking efforts do not systematically consider climate change effects and environmental protection as measures to reduce vulnerability. And climate change mitigation and adaptation strategies neither explicitly consider trafficking dynamics nor systematically incorporate poverty reduction or livelihood diversification schemes. Relation and adaptation goals. Yet, similar to anti-trafficking initiatives that on paper read as positive steps towards reducing vulnerability, given the non-binding nature and loose focus of such agreements, tis uncertain as to how such schemes are being implemented and accessed in communities and if they are responsive to grounded realities and particular needs. For instance, while disaster risk reduction and response and rural employment schemes are included in such agreements, in both cases they have been non-existent, incapacitated, or difficult to access in the Sundarbans.

Anti-trafficking work in the Sundarbans has predominantly focused on rescue, repatriation and rehabilitation initiatives. However, such interventions are primarily targeted to girls and women in the sex industry and are documented to have potentially harmful consequences 82 including re-victimisation and re-trafficking due to a scarcity of locally viable livelihoods and poor ability to reintegrate into communities. 83 Less innocuous anti-trafficking interventions include sensitisation programmes and awareness campaigns targeted to the community, local government, and police, stakeholder networking and capacity building, and the creation of community vigilance committees and missing child

⁷⁵ Poncelet *et al.*, p. 221.

⁷⁶ Laczko and Aghazarm, p. 233, 269, 295.

⁷⁷ O'Brien et al., p. 80.

⁷⁸ IPCC, p. 816; Laczko and Aghazarm, p. 362.

See: India's Intended Nationally Determined Contribution: Working towards climate justice, n.d. pp. 4, 19—25, retrieved 15 November 2016, http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf

⁸⁰ H Pandave, 'India's National Action Plan on Climate Change', Indian Journal of Occupational Environmental Medicine, vol. 13, no. 1, pp. 17—19.

These issues are outlined in the case study in section 3.

⁸² K Kempadoo, p. xxv-xxvi.

⁸⁸³ See local experiences in Sanlaap, Crossing the Hurdles: Strengthening the legal protection framework for girls in developing countries, n.d., p. 19, retrieved 12 November 2016, http://www.idlo.org/Documents/FinalProjectStrengthening.pdf; VK Tikoo et al., Child Rights Violation in West Bengal. Focus on Trafficking Part-I. Follow up on Visit to MALDA Hospital & Gangetic Chars – Part-II, National Commission for Protection of Child Rights, New Delhi, n.d., pp. 10, 16-7, retrieved 8 March 2015, http://ncpcr.gov.in/view_file.php?fid=28

alerts.⁸⁴ While these are necessary steps, they are insufficient to deal with the complex forces that underpin vulnerability. Local anti-trafficking units are incapacitated and lack adequate training on trafficking dynamics.⁸⁵ Laws, policies, and programmes to substantially reduce social, economic, and gender inequities and insecurities have been either ineffective or unimplemented. A lack of government will to combat trafficking in the region has shifted the responsibility for implementing interventions to under-resourced local groups and community organisations.⁸⁶ In addition, the delivery of programmes and resources are primarily retroactive, underfunded, fragmented, and unable to reach remote areas. Lastly, the emphasis on information and awareness to prevent trafficking is disengaged from local socio-economic and environmental realities.⁸⁷ As it stands, anti-trafficking efforts target individual or community level rather than structural change. While there is massive need to mitigate insecurities in communities in the Sundarbans, anti-trafficking efforts seem to remain separate from climate adaptation and disaster risk reduction strategies.

This case study of the Sundarbans highlights specific location-based climate change outcomes and differentiated insecurities and draws attention to the necessity of deeper, more expansive evidence of the rooted drivers of vulnerability to trafficking. It showed how the linkages between climate change-related insecurity and vulnerability to trafficking must be systematically analysed to garner rich insights into the complex conditions and processes that contribute to vulnerability for communities impacted by climate and environmental change. It also shows how these insights are pertinent to inform strategies that integrate climate change adaptation, environmental protection, and anti-trafficking goals. Such integrated and mutually reinforcing strategies are better able to strengthen local capacities to respond to different and interacting ecological and socio-economic pressures. As an example, local projects to implement sustainable, flood tolerant agriculture and restore mangrove forests⁸⁸ simultaneously support the training and capacitation of women's self-help collectives, food security, and rural livelihoods.

Current and predicted climate change outcomes are far-reaching, cumulative, unevenly distributed, highly complex and uncertain, and potentially catastrophic. Disaster, degradation, and displacement are not the outcome of only natural phenomena; their causes and consequences are located within uneven processes of colonialism, imperialism, and capitalism. The actors and systems disproportionately culpable for historical and ongoing ecological and social injustices must commit the will and resources to meaningfully address climate change-related insecurity and vulnerability to trafficking. While massive amounts of financial and human resources are dedicated to anti-trafficking efforts, the dominant approach, informed by limited evidence and understandings of vulnerability to trafficking, has been inadequate to reduce it. Addressing both climate and environmental change and trafficking requires a diversity of approaches, long-term commitment, and comprehensive and socially transformative strategies.

Anti-trafficking efforts must give more attention to the underlying socio-political, economic, and ecological contexts that contribute to vulnerability. In this regard, anti-trafficking efforts must seek to transform the unjust processes, structures, and relations within the global political-economic system that allows uneven development, human insecurity and exploitation to flourish. This can be achieved by protecting local economies and ecologies, strengthening social supports and entitlements, guaranteeing labour and migration rights and protections, supporting and diversifying local livelihoods, and ensuring meaningful climate action. Until then, as climate change continues to render environments unviable and dismantle ways of living and livelihood that are inseparable from the land, the number of people facing desperate vulnerability will rise, and in their search for survival and security they will continue falling into the hands of exploiters.

Sanlaap, Crossing the Hurdles, p. 1—31; Shakti Vahini, Annual Report Shakti Vahini 2014—2015, n.d., retrieved 12 November 2016, https://www.scribd.com/document/283247003/ANNUAL-REPORT-SHAKTI-VAHINI-2014-2015-pdf#download&from_embed

⁸⁵ Tikoo et al., p. 14, 21.

⁸⁶ World Bank, p. 5, 38.

⁸⁷ Ibid., p. 5, 38; see rehabilitation outcomes in Sanlaap, Real Lives, p. 40; Sanlaap, Crossing the Hurdles, p. 29

Sundarban Social Development Centre, Annual Report 2013-2014, n.d., retrieved 12 Nov 2016, http://www.ssdcindia.org.in/gallery/1440753069SSDC%20Annual%20report%202013-2014.pdf

⁸⁹ UNDP, p. 74-5.

⁹⁰ S Dalby, Security and Environmental Change, Polity Press, Malden, MA, 2009, p. 65.

⁹¹ Criminal justice responses remain the overwhelming emphasis of anti-trafficking initiatives even though there has been a consistently low number of prosecutions, see: Todres, pp. 65—6.

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