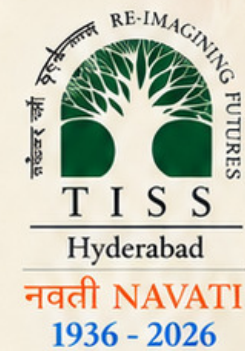


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BEYOND 'IRRATIONAL' CHOICES

*Emotions, Waste and Peri-urban Conflict
in Vilappilsala, Kerala*

Ashish Prabhakar

School of Public Policy and Governance, TISS Hyderabad

Working Paper No. 04
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Working Paper No. 04 | 2026

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Suggested citation

Prabhakar, Ashish. 2026. *Beyond ‘Irrational’ Choices: Emotions, Waste and Peri-urban Conflict in Vilappilsala, Kerala*. TISS Hyderabad Working Paper No. 04. Hyderabad: Tata Institute of Social Sciences.

Published by

Tata Institute of Social Sciences, Hyderabad Campus
Mansa Hills, Rajendranagar, Hyderabad 500 030, Telangana, India

Beyond ‘Irrational’ Choices

Emotions, Waste and Peri-urban Conflict in Vilappilsala, Kerala

Ashish Prabhakar *

Abstract

Local opposition to waste facilities is often dismissed as an instance of NIMBYism, attributing irrational and parochial motives to such resistance. This paper contests such narrow framings by drawing on the conflict between Vilappilsala (a peri-urban locality) and Thiruvananthapuram over the city’s Municipal Solid Waste (MSW) management practices. Situating the case within scholarship on peri-urban spaces and ecological conflicts in the global south, the paper advances two connected arguments. First, following the critical turn in NIMBY scholarship, it argues that such conflicts are better understood not as irrational responses but as instances of dissonance between differing approaches to and frames of risk, and the consequent erosion of trust. Second, through the framework of Emotional Political Ecology, it shows that emotions were not only central to the conflict but were the primary vehicles through which different stakeholders made their claims. The paper contends that articulations of shame, humiliation and suffering were not irrational responses but expressions of the harm that the MSW practices had inflicted on the residents of Vilappilsala, thereby recasting the conflict not as NIMBY but as the enactment of a politics of dignity.

Keywords: NIMBY; Peri-Urban; Municipal Solid Waste; Environmental Conflicts; Emotional Political Ecology; Kerala

I. Introduction

NIMBYs (Not In My Back Yard) have often been used to explain “local opposition to new land-use projects due to their proximity to the local community”.¹ These projects have been termed Locally Unwanted Land Uses (LULUs). Some of the earliest research on LULUs and NIMBYs arose out

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¹ L. Sebastien, “From NIMBY to Enlightened Resistance: A Framework Proposal to Decrypt Land-Use Disputes Based on a Landfill Opposition Case in France”, *Local Environment* 22, no. 4 (2017): 461–77, <https://doi.org/10.1080/13549839.2016.1223620>.

of the American South, where movements emerged against the siting of toxic facilities. Such ‘environmental infrastructure’, including waste facilities, power plants, highways and airports, gave rise to the terms LULU and NIMBY to characterise the opposition to these projects.² Initial usage of the terms LULU and NIMBY portrayed these phenomena as either irrational or ‘selfish’, essentially imputing a pejorative connotation to the terms³ and consequently leading to their dismissal from popular imagination and policy circles. However, there has been a significant pushback in the literature, which has sought to stay the summary dismissal to which the terms are subjected.⁴ This is especially significant in the case of peri-urban spaces, where traditional and social media have portrayed such conflicts as instances of the Not In My Back Yard (NIMBY) phenomenon.⁵ Drawing on the case of Vilappilsala, the paper critically examines the conflict⁶ around MSW⁷ between Vilappilsala (a peri-urban area) and the city of Thiruvananthapuram⁸ beyond traditional NIMBY approaches. In doing so, the paper argues that environmental conflicts in the peri-urban paint a more complex picture, rejecting the traditional casting of such cases as instances of irrationality and parochialism. Instead, analysing the case of Vilappilsala through the theoretical framework of Emotional Political Ecology,⁹ the paper argues that the pushback against the factory (as the facility was popularly called) responded to a clear and present danger to day-to-day lives (as articulated by the inhabitants of the peri-urban space), articulated primarily along emotional registers. Finally, the paper argues that the irrationality attributed in NIMBY accounts is often itself an articulation of rationality, and can therefore provide insights into siting conflicts in the peri-urban as well as broader environmental conflicts, especially in the global south.

This paper is structured into four sections. The first situates the Vilappilsala conflict within the literature on NIMBYs and LULUs, highlighting the shift away from treating local opposition to

² A. Blowers and P. Leroy, “Power, Politics and Environmental Inequality: A Theoretical and Empirical Analysis of the Process of ‘Peripheralisation’”, *Environmental Politics* 3, no. 2 (1994): 197–228, <https://doi.org/10.1080/09644019408414139>.

³ Glaberson (1988), cited in H. Hermansson, “The Ethics of NIMBY Conflicts”, *Ethical Theory and Moral Practice* 10, no. 1 (2007): 23–34, <https://doi.org/10.1007/s10677-006-9038-2>.

⁴ Hermansson, “Ethics of NIMBY Conflicts”.

⁵ S. S. Sambyal and S. Narain, *Not in My Backyard: Solid Waste Management in Indian Cities* (New Delhi: Centre for Science and Environment, 2016).

⁶ The conflict in Vilappilsala revolved around the functioning of a centralised MSW facility.

⁷ Municipal solid waste.

⁸ Thiruvananthapuram, the capital city and administrative centre of the Indian state of Kerala (Keralam), is also known as Trivandrum.

⁹ F. Sultana, “Suffering for Water, Suffering from Water: Emotional Geographies of Resource Access, Control and Conflict”, *Geoforum* 42, no. 2 (2011): 163–72, <https://doi.org/10.1016/j.geoforum.2010.12.002>; F. Sultana, “Emotional Political Ecology”, in *The International Handbook of Political Ecology*, ed. R. L. Bryant (Cheltenham: Edward Elgar, 2015), 633–45.

land-use changes as irrational and/or selfish towards approaches that challenge such conceptions from the perspective of peri-urbanisation and environmental struggles. The case of Vilappilsala's conflict with Thiruvananthapuram over the city's MSW management is introduced here. The subsequent section analyses the Vilappilsala conflict through the lens of waste, risk and trust, noting the different framings of each as well as the dissonance between them. The third section develops the Vilappilsala case through the framework of Emotional Political Ecology, showing how emotions such as fear, shame and humiliation operated as articulations of harm rather than being merely 'irrational'. The paper concludes by arguing that conflicts such as that of Vilappilsala provide fresh insights into an emerging politics of dignity, beyond the narrow reading of rationality versus irrationality.

II. Locally Unwanted: Land Use, Peri-urbanisation and Conflict

Much literature suggests that NIMBY has been used as a "mocking nickname"¹⁰ and "has been the first insult that big developers throw at their opponents".¹¹

Freudenburg and Pastor¹² categorise responses to NIMBYs and environmental contention into three perspectives:

(1) Public ignorance/irrationality

The first perspective assumed the relative ignorance of the community, as opposed to the 'experts', vis-à-vis the project in question, and emphasised the 'irrationality' of the community as the primary reason for opposition to the projects.

Freudenburg and Pastor note that the second and third perspectives moved from "blaming the inhabitants toward understanding them".¹³

(2) Public selfishness

The second perspective held that NIMBY phenomena are fundamentally 'selfish' in nature. Opposition to the siting of infrastructure, especially environmental infrastructure, was explained away in terms of the opposing communities' narrow focus and aversion to the per-

¹⁰ Glaberson (1988), cited in Hermansson, "Ethics of NIMBY Conflicts".

¹¹ Kingsnorth (2004), cited in Hermansson, "Ethics of NIMBY Conflicts".

¹² Freudenburg and Pastor (1992), cited in T. Litmanen, "Environmental Conflict as a Social Construction: Nuclear Waste Conflicts in Finland", *Society and Natural Resources* 9, no. 5 (1996): 523–35, <https://doi.org/10.1080/08941929609380991>.

¹³ Freudenburg and Pastor (1992), cited in Litmanen, "Environmental Conflict as a Social Construction".

ceived economic disadvantages attributed to these projects. In other words, communities opposing infrastructure projects were seen to do so out of vested and conservative interests. Much academic writing has focused on this aspect, with several works in the United States focusing on opposition to such projects and the attempt to safeguard particularistic and parochial interests.¹⁴

(3) Public prudence

The third perspective that Freudenburg and Pastor explain is one in which the erstwhile dominant assumptions about the NIMBY phenomenon are questioned and critically analysed. Several scholars have called into question the so-called selfishness motive of the communities that engaged in NIMBY.¹⁵

However, there has been a marked shift towards viewing NIMBYs and LULUs in different lights. Hager and Haddad (2015),¹⁶ drawing broadly on the literature on environmental justice and racism, have stressed the need to examine NIMBYs from socio-political vantage points and to move beyond the obstructionist connotations of the phenomenon, which, they point out, not only erroneously attribute LULU opposition to vested interests but also portray it as a ‘knee-jerk’ or irrational reaction to otherwise ‘rational’ siting decisions.

Moreover, Lea Sebastien (2017),¹⁷ while noting such a shift in the academic literature, categorises LULU/NIMBY responses into three postures, linking each to a specific period in the North American context:

- (1) “Nimbies are ‘villains’ ” (1980s)
- (2) “Nimbies are ‘heroes’ ” (1990s)
- (3) “The notion of NIMBY should be abandoned” (2000s)

The latest iteration of NIMBY scholarship calls for the abandonment of the term entirely, calling

¹⁴ Dear (1992), Mazmanian and Morell (1994) and Inhaber (1998), cited in C. Hager, “Introduction: A New Look at NIMBY”, in *NIMBY Is Beautiful: Cases of Local Activism and Environmental Innovation around the World*, ed. C. Hager and M. A. Haddad (New York: Berghahn Books, 2015), 1–14.

¹⁵ Bell et al. (2013), Burningham et al. (2006), Hager and Haddad (2015), Gibson (2005), Trom (1999), Lolive (1997), Thévenot, Moody and Lafaye (2000) and Neveu (2002), cited in V. Eranti, “Re-visiting NIMBY: From Conflicting Interests to Conflicting Valuations”, *Sociological Review* 65, no. 2 (2017): 285–301, <https://doi.org/10.1177/0038026116675554>.

¹⁶ Hager, “Introduction”.

¹⁷ Sebastien, “From NIMBY to Enlightened Resistance”.

into question its conceptual and explanatory power, especially in terms of siting conflicts.¹⁸

Accordingly, many NIMBY-based environmental conflicts have been re-examined, shifting away from considering NIMBY in its pejorative connotation and pushing back against the perception of parochialism. These approaches consider responses to LULUs as “a realistic local response to an immediate problem: national and subnational policies that were poorly designed and ham-handedly implemented”,¹⁹ in which local residents express fear and apprehension not only of physical damage but also of stigmatisation.²⁰ There has also been an increased effort to understand NIMBY phenomena and environmental conflicts through the lens of participation and democracy, suggesting that such considerations can eventually influence environmental policy and governance.²¹ These approaches view NIMBY/LULU conflicts as alternative pathways to present schemes or regimes of planning, and have therefore found strong support among scholars.²² Indeed, scholars such as Judith Petts (2000)²³ and Mannarini and Roccato (2011),²⁴ with specific reference to MSW and siting processes, argue for increased involvement of the public in the processes and decisions, noting that concerns raised by groups hitherto labelled NIMBY are integral components of the larger democratic process.

Globally, there is a consensus that much of the world is going through an urban transition.²⁵ Many countries, such as India, have been experiencing an urban explosion of sorts, with the United Nations estimating that over 50 per cent of India's total population would be living in urban areas

¹⁸ P. Devine-Wright, “Rethinking NIMBYism: The Role of Place Attachment and Place Identity in Explaining Place-Protective Action”, *Journal of Community and Applied Social Psychology* 19, no. 6 (2009): 426–41, <https://doi.org/10.1002/casp.1004>; M. Wolsink, “Learning in Environmental Policy: The Obstinacy of Policy Beliefs and Other Structural Impediments,” paper presented at Social Theory and the Environment-International Sociological Association and Research Committee 24, Woudschoten Conference Centre, *Sociological Theory and the Environment: Cultural and Social Constructivism*, 1997:1–18

¹⁹ Rabe (1994), cited in Hager, “Introduction”.

²⁰ Hermansson, “Ethics of NIMBY Conflicts”.

²¹ Hager, “Introduction”.

²² T. A. Gibson, “NIMBY and the Civic Good”, *City and Community* 4, no. 4 (2005): 381–401; Hager, “Introduction”.

²³ J. Petts, “Municipal Waste Management: Inequities and the Role of Deliberation”, *Risk Analysis* 20, no. 6 (2000): 821–32.

²⁴ Mannarini and Roccato (2011), cited in Eranti, “Re-visiting NIMBY”.

²⁵ UN-Habitat, *World Cities Report 2020: The Value of Sustainable Urbanization* (Nairobi: UN-Habitat, 2020); UN-Habitat, *World Cities Report 2022: Envisaging the Future of Cities* (Nairobi: UN-Habitat, 2022); D. Haase et al., “Global Urbanization: Perspectives and Trends”, in *Urban Planet: Knowledge towards Sustainable Cities*, ed. T. Elmqvist, X. Bai, N. Frantzeskaki, C. Griffith, D. Maddox, T. McPhearson, S. Parnell, P. Romero-Lankao, D. Simon, and M. Watkins (Cambridge: Cambridge University Press, 2018), <https://doi.org/10.1017/9781316647554>.

by 2050, and would come to host about 15 per cent of the world's megacities.²⁶ There is also a consensus that India has the second-largest urban population in the world today.²⁷

As urbanisation takes hold and cities expand in many countries of the global south, this urban transition unfolds at the fringes of cities, driven by increased consumption and the rapidly changing nature of land use.²⁸ This changing nature of land use, coupled with the pressures of urban expansion, has created interstitial zones of both rural and urban character. These spaces, variously known as peri-urban, urban fringes or 'rurban', often show a mixture of rural and urban land uses, functions and livelihoods, with increasingly complex challenges that require approaches germane to such spaces. Accordingly, peri-urban spaces have received increasing scholarly attention.²⁹ Follmann (2022) points out that much of the literature in the North American and European context has tended to conceive of the peri-urban as mostly rural spaces subjected to low-density development, which are "never expected to become urban".³⁰ In the global south, on the other hand, approaches have generally portrayed these spaces as assuming a more urban character, associated with informality, unplanned urban expansion and resource conflicts,³¹ and often as spaces expected to become urban in the near future.³² Dupont (2005) characterises peri-urban spaces as those that "represent unprecedented socio-spatial dynamics ... these changes are even more spectacular when seen against the backdrop of rapid urban growth, in developing countries, including India".³³

²⁶ UN-Habitat, *Urbanization and Development: Emerging Futures; World Cities Report 2016* (Nairobi: UN-Habitat, 2016).

²⁷ V. Dupont, "Peri-urban Dynamics: Population, Habitat and Environment on the Peripheries of Large Indian Metropolises; An Introduction", in *Peri-urban Dynamics: Population, Habitat and Environment on the Peripheries of Large Indian Metropolises; A Review of Concepts and General Issues*, ed. V. Dupont (New Delhi: Centre de Sciences Humaines, 2005).

²⁸ K. C. Seto et al., "A Meta-analysis of Global Urban Land Expansion", *PLoS ONE* 6, no. 8 (2011): e23777, <https://doi.org/10.1371/journal.pone.0023777>.

²⁹ A. Allen, "Environmental Planning and Management of the Peri-urban Interface: Perspectives on an Emerging Field", *Environment and Urbanization* 15, no. 1 (2003): 135–47; A. Allen, "Beyond Suburbia? Urban Transitions across the Global South", in *Infinite Suburbia*, ed. A. Berger, J. Kotkin, and C. B. Guzmán (New York: Princeton Architectural Press, 2017); V. Narain, "Growing City, Shrinking Hinterland: Land Acquisition, Transition and Conflict in Peri-urban Gurgaon, India", *Environment and Urbanization* 21, no. 2 (2009): 501–12, <https://doi.org/10.1177/0956247809339660>; V. Narain and D. Roth, eds., *Water Security, Conflict and Cooperation in Peri-urban South Asia: Flows across Boundaries* (Cham: Springer, 2021), <https://doi.org/10.1007/978-3-030-79035-6>; A. Follmann, "Geographies of Peri-urbanization in the Global South", *Geography Compass* 16, no. 7 (2022), <https://doi.org/10.1111/gec3.12650>; S. Gururani and L. Kennedy, "The Co-production of Space, Politics and Subjectivities in India's Urban Peripheries", *South Asia Multidisciplinary Academic Journal* no. 26 (2021), <https://doi.org/10.4000/samaj.7365>.

³⁰ Follmann, "Geographies of Peri-urbanization".

³¹ Follmann, "Geographies of Peri-urbanization".

³² AbdouMaliq Simone terms this tendency the "city yet to come". For more, see A. Simone, *For the City Yet to Come: Changing African Life in Four Cities* (Durham, NC: Duke University Press, 2004).

³³ Dupont, "Peri-urban Dynamics".

While peri-urban spaces are understood variously as sites of cooperation³⁴ and as sites of contestation,³⁵ it is in the contestations that this paper locates itself. The rapidly changing nature of land use, especially in the peripheries of the cities of the global south, has brought increasing interest in the conflicting meanings of such land-use changes. As Lombard and Rakodi (2016) point out, “Land is often seen as a key cause of structural conflict, ‘a central element in the varied and complex social relations of production and reproduction within which conflicts between individuals and groups are bred’ ”.³⁶ This is especially true in the peri-urban spaces of the global south, where such conflicts are often “inevitable”.³⁷ Many such conflicts are associated with siting, specifically of various remediation and recovery facilities for phenomena typically associated with the urban (such as MSW).³⁸ Such facilities include (but are not limited to) wastewater treatment³⁹ and waste management facilities.⁴⁰ Consequently, as Priya et al. (2017)⁴¹ and others⁴² note, such facilities have increasingly become flashpoints of contestation, often taking the form of mobilisations that result in protests.

³⁴ E.M.Hoffmann, et al., “Rurbanity: A Concept for the Interdisciplinary Study of Rural–Urban Transformation.” *Sustainability Science* 18, no. 4 (2023): 1739–53, <https://doi.org/10.1007/s11625-023-01331-2>.

³⁵ P. Hutchings et al., “Understanding Rural–Urban Transitions in the Global South through Peri-urban Turbulence”, *Nature Sustainability* 5, no. 11 (2022): 924–30, <https://doi.org/10.1038/s41893-022-00920-w>.

³⁶ USAID (2005), 2–3, quoted in M. Lombard and C. Rakodi, “Urban Land Conflict in the Global South: Towards an Analytical Framework”, *Urban Studies* 53, no. 13 (2016): 2683–99, <https://doi.org/10.1177/0042098016659616>.

³⁷ D. Simon, “Urban Environments: Issues on the Peri-urban Fringe”, *Annual Review of Environment and Resources* 33 (2008): 167–85, <https://doi.org/10.1146/annurev.enviro.33.021407.093240>.

³⁸ A. G. Adam, “Understanding Competing and Conflicting Interests for Peri-urban Land in Ethiopia’s Era of Urbanization”, *Environment and Urbanization* 32, no. 1 (2020): 55–68, <https://doi.org/10.1177/0956247819890215>; İ. Atay Kaya and N. Kaya Erol, “Conflicts over Locally Unwanted Land Uses (LULUs): Reasons and Solutions for Case Studies in Izmir (Turkey)”, *Land Use Policy* 58 (2016): 83–94, <https://doi.org/10.1016/j.landusepol.2016.07.011>.

³⁹ T. Karpouzoglou, F. Marshall, and L. Mehta, “Towards a Peri-urban Political Ecology of Water Quality Decline”, *Land Use Policy* 70 (2018): 485–93, <https://doi.org/10.1016/j.landusepol.2017.11.004>; Narain, “Growing City, Shrinking Hinterland”.

⁴⁰ S. Schindler and F. Demaria, “‘Garbage Is Gold’: Waste-Based Commodity Frontiers, Modes of Valorization and Ecological Distribution Conflicts”, *Capitalism Nature Socialism* 31, no. 4 (2020): 52–59, <https://doi.org/10.1080/10455752.2019.1694553>; A. M. Varkey, E. Johny, and J. Chinnasamy, “Peri-urban Real Estate, Land-Use Changes, and Sustainability Challenges in Bangalore: Lessons from the Global South”, *Real Estate* 3, no. 1 (2026): 2, <https://doi.org/10.3390/realestate3010002>.

⁴¹ R. Priya et al., *Local Environmentalism in Peri-Urban Spaces in India: Emergent Ecological Democracy?*, Working Paper No.96, Peri-Urban Environmentalism (STEPS Centre, 2017).

⁴² F. Marshall and J. Dolley, “Transformative Innovation in Peri-urban Asia”, *Research Policy* 48, no. 4 (2019): 983–92, <https://doi.org/10.1016/j.respol.2018.10.007>; Narain, “Growing City, Shrinking Hinterland”.

Many of these conflicts⁴³ have ostensibly sought to address the export of environmental “bads”⁴⁴ and have primarily been approached through the lens of environmentalism.⁴⁵ However, environmental conflicts in the global south have differed qualitatively in character, in terms of goals, success and organisation, from their counterparts in the global north. For one, many scholars view environmental conflicts in the global south in light of the legacy of colonialism to which much of the global south was subjected. Second, environmental conflicts in the global south are concerned with access to natural resources, as opposed to the distributive concerns, in terms of exposure, of environmental conflicts in the global north. As Demaria (2010) points out, conflicts over resource extraction and waste disposal are a natural consequence of a world-systems perspective in which the core, “through unequal power relations, manages to export entropy to distant sinks in the periphery”.⁴⁶

In many ways, NIMBYs, especially in the global south, can be approached as forms of ecological distribution conflicts (EDCs), which not only result in the loss of livelihoods but also raise questions about the unequal distribution of environmental ‘bads’, alongside conflicts over access to natural resources or environmental goods.⁴⁷ Furthermore, scholarship in environmental justice, political ecology and urban political ecology⁴⁸ has tended to locate these conflicts in terms of urbanisation, consumption, waste management, and water resource access and management, opening up new fronts for examining environmental conflicts in the urban (and peri-urban) context.

It is against this background that the case of Vilappillsala’s conflict with the Thiruvananthapuram

⁴³ For instance, Sambyal and Narain list approximately 70 conflicts around waste management in the Indian context. For more, see Sambyal and Narain, *Not in My Backyard*.

⁴⁴ A. Rademacher and K. Sivaramakrishnan, “Introduction: Ecologies of Urbanism in India”, in *Ecologies of Urbanism in India: Metropolitan Civility and Sustainability*, ed. A. Rademacher and K. Sivaramakrishnan (Hong Kong: Hong Kong University Press, 2013).

⁴⁵ Baviskar (2003) and Guha and Martinez-Alier (1997), cited in Priya et al., *Peri-urban Environmentalism*.

⁴⁶ Scott Frey (1998) and Hornborg et al. (2007), cited in F. Demaria, “Shipbreaking at Alang–Sosiya (India): An Ecological Distribution Conflict”, *Ecological Economics* 70, no. 2 (2010): 250–60, <https://doi.org/10.1016/j.ecolecon.2010.09.006>.

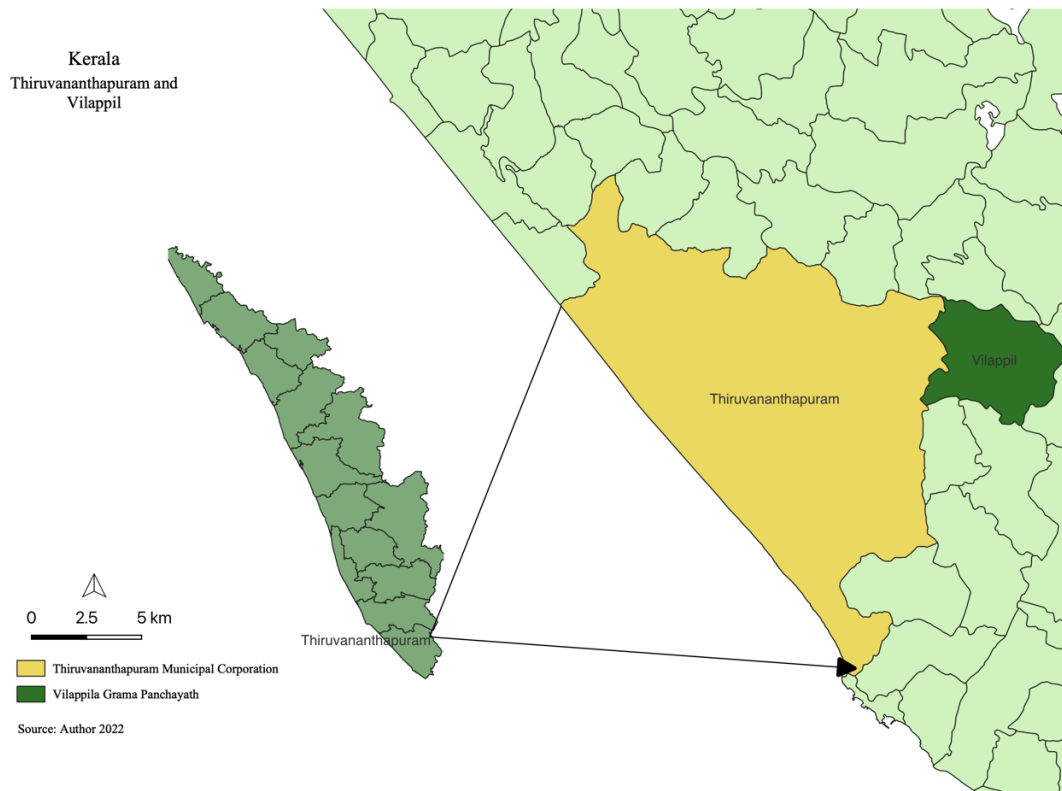
⁴⁷ J. T. Hamilton, “Testing for Environmental Racism: Prejudice, Profits, Political Power?”, *Journal of Policy Analysis and Management* 14, no. 1 (1995): 107–32.

⁴⁸ E. Swyngedouw and N. C. Heynen, “Urban Political Ecology, Justice and the Politics of Scale”, *Antipode* 35, no. 5 (2003): 898–918, <https://doi.org/10.1111/j.1467-8330.2003.00364.x>; J. Silver, “Incremental Infrastructures: Material Improvisation and Social Collaboration across Post-colonial Accra”, *Urban Geography* 35, no. 6 (2014): 788–804, <https://doi.org/10.1080/02723638.2014.933605>; T. Karpouzoglou and A. Zimmer, “Ways of Knowing the Wastewaterscape: Urban Political Ecology and the Politics of Wastewater in Delhi, India”, *Habitat International* 54 (2016): 150–60, <https://doi.org/10.1016/j.habitatint.2015.12.024>; Karpouzoglou, Marshall, and Mehta, “Towards a Peri-urban Political Ecology”; G. Bridge et al., “Towards a Political Ecology of EU Energy Policy”, in *Advancing Energy Policy: Lessons on the Integration of Social Sciences and Humanities*, ed. C. Foulds and R. Robison (Cham: Palgrave Macmillan, 2018), 163–76.

Municipal Corporation (TMC) in 2011–16 is examined.

Vilappilsala lies approximately 14 km north-east of Thiruvananthapuram, within Vilappil Gram Panchayat of Nemom block in Kerala, and until 2011–12 played host to the city's lone biodegradable waste processing plant (Figure 1). Although the land for the factory was acquired by the TMC in 1994–95, the factory became operational following the Municipal Solid Wastes (Management and Handling) Rules, 2000, under a BOOM⁴⁹ arrangement with POABS Envirotech. In this arrangement, the TMC was primarily responsible for the collection, segregation and transportation of MSW collected within its municipal limits, whereas POABS (as concessionaire) was responsible for converting the biodegradable waste into bio-fertiliser.^{50,51}

Figure 1: Thiruvananthapuram and Vilappil, Kerala



However, the factory drew intense scrutiny when residents in its vicinity complained of ill health, which they argued was associated with the factory's presence and its mismanagement. They pointed out that ever since the factory had been set up in their 'backyards', there had been marked

⁴⁹ Build, Own, Operate and Maintain (BOOM) model.

⁵⁰ This bio-fertiliser was then to be sold by FACT (Fertilisers and Chemicals Travancore), a Central Public Sector Undertaking (CPSU) operated by the Government of India. Two per cent of the sale price was then to be paid back to the TMC as royalties.

⁵¹ N. V. Nair, *Malinyathinethire Vilappilsalayude Samarethihasam* (Priyadarshini Publications Society, 2015).

increases in skin-related as well as respiratory ailments. Residents also highlighted the pollution of nearby water sources, such as wells and ponds, by the leachate that flowed from the factory. They further alleged that the leachate was responsible for the pollution of the *Meenampally thodu*, a rivulet originating near the factory site (which eventually joins the *Karamana* river), which contributed to their overall ill health.⁵² In addition to the physical ill effects of the factory, the residents also argued that the location of the plant in their vicinity had affected their social and economic lives, with many marriage alliances falling through and economic activity in Vilappilsala becoming constrained.⁵³

The waste treatment facility was at the centre of widespread protests in 2011–12, when the residents of Vilappil and the nearby villages of *Aruvikkara*, *Poovachal*, *Vellanadu* and *Vilavoorkal* undertook a sustained and organised campaign against the workings of the factory. In 2012,⁵⁴ the residents of Vilappilsala, initially under the aegis of the *Janakeeya Samara Samithi*⁵⁵ (a Joint Action Committee formed by the residents of Vilappilsala and concerned stakeholders to deliberate on the issue and coordinate responses), along with the Village Panchayat, launched a prolonged struggle, establishing over 100 ‘units’⁵⁶ through which they campaigned against the factory. They used a variety of tactics, such as human chains, relay hunger strikes and picketing, to prevent the TMC from transporting MSW to the factory in Vilappilsala and to demand its closure. In 2015, the Chennai bench of the National Green Tribunal (NGT) ruled in favour of the residents of Vilappilsala,⁵⁷ ordering the TMC to cease all operations at the factory and to undertake restorative measures at the site. In 2016, the factory was shut down through a resolution passed by the TMC.

III. Irrational Choices: Waste, Risk and Trust in Vilappilsala

As indicated previously, traditional analyses of land conflict (even in the peri-urban) have often concentrated on understanding such conflicts in terms of competing rationalities, at the expense

⁵² Nair, *Malinyathinethire Vilappilsalayude Samarethihasam*.

⁵³ One of the major economic activities of the area, including the other villages, was agriculture, typically based on smallholdings. The farmers in the vicinity of the factory were directly affected by the leachate mixing with the water sources and were among the hardest hit by the factory.

⁵⁴ There is a case to be made that the 2011–12 protests were only one among other episodes of protests that followed the acquisition of the land in early 1990s. For more, see A.V. Prabhakar, “‘Out of Sight, Out of Mind’: Periurban Narratives of Waste and Resistance in Vilappilsala, Kerala.” *Urban India* (New Delhi) 43, no. 2 (2023): 37–52

⁵⁵ It later split into the *Janakeeya Samara Samithi* and the *Samyukta Samara Samithi*.

⁵⁶ Each unit represented a node in a network that coordinated the forms of protest as well as the general tactics and strategies used in the agitation.

⁵⁷ Represented in this case by the Vilappil Grama Panchayat (VGP), the Janakeeya Samara Samithi (JSS) and other organisations that had participated in the legal action against the factory.

of approaches that may account for “irrationalities”. These approaches have often placed emotions outside the purview of the rationales informing siting conflicts and invariably play into a reductive stance towards NIMBYs and LULUs. This is pertinent in the case of MSW, where increasing consumption (and the subsequent generation of waste), combined with limited land availability, has prompted many Indian cities to consider localities outside their territorial confines.⁵⁸ These sites then become places where “conflicts about waste are playing out”.⁵⁹

In India, as in many countries of the global south, definitions of waste are often predicated on various connotations relating, first and foremost, to its materiality, which then lends itself to more cultural meanings. In India, for example, waste has historically been connected to Dalits and the lower castes, as both material and cultural artefact, and these groups were culturally and spatially segregated owing to their association with ‘polluting’ or ‘unclean’ professions. Caste (and class) as an organising principle often led to the ghettoisation of these groups (termed ‘untouchables’) owing to their association with manual scavenging and other professions traditionally considered ‘unclean’.⁶⁰ In contemporary times, waste has come to be seen as an artefact that needs to be managed and solved. In addition, Reno (2015) argues that “the role that waste management infrastructure plays is typically absential: Waste management makes things disappear by moving them elsewhere, and like most infrastructures of liberal governance, waste management is considered most successful to the extent that its workings and flows remain invisible”.⁶¹

In other words, approaches to waste and its management in India reveal an underlying tension between a Douglasian structural-functionalist approach, in which the symbolic or ritualistic character of waste is emphasised in terms of the sacred/profane binary, and a Thompsonian economic-materialist approach, in which waste is identified primarily by its material nature and discussed in

⁵⁸ S. Schindler and B. Kishore, “Why Delhi Cannot Plan Its ‘New Towns’: The Case of Solid Waste Management in Noida”, *Geoforum* 60 (2015): 33–42, <https://doi.org/10.1016/j.geoforum.2015.01.008>; A. Mussa and K. V. Suryabhagavan, “Solid Waste Dumping Site Selection Using GIS-Based Multi-criteria Spatial Modeling: A Case Study in Logia Town, Afar Region, Ethiopia”, *Geology, Ecology, and Landscapes* 5, no. 3 (2021): 186–98, <https://doi.org/10.1080/24749508.2019.1703311>.

⁵⁹ V. Herrera, “Waste Warriors: The Fight for Waste Justice and Participatory Rights in the City”, *Urban Affairs Review* (2026), <https://doi.org/10.1177/10780874261443450>.

⁶⁰ M. Ranganathan, “Caste, Racialization, and the Making of Environmental Unfreedoms in Urban India”, *Ethnic and Racial Studies* 45, no. 2 (2022): 257–77, <https://doi.org/10.1080/01419870.2021.1933121>; J. Wittmer, “Dirty Work in the Clean City: An Embodied Urban Political Ecology of Women Informal Recyclers’ Work in the ‘Clean City.’” *Environment and Planning E: Nature and Space* 6, no. 2 (2023): 1343–65. <https://doi.org/10.1177/25148486221102374>

⁶¹ J. Reno, “Waste and Waste Management”, *Annual Review of Anthropology* 44 (2015): 557–72, <https://doi.org/10.1146/annurev-anthro-102214-014146>.

terms of its economic value or lack thereof.⁶² At the heart of such considerations is the risk that waste, as both material and social artefact, poses. As discussed earlier, these conflicts, often dismissed as NIMBY reactions, are increasingly being approached through the lens of environmental justice and in terms of risk, where conflicts such as that of Vilappilsala are often undergirded by differing logics of and interests in land use.⁶³ In the case of MSW-related facilities such as the one in Vilappilsala, waste is often defined by how it is perceived in terms of the risk it presents to humans and the environment alike.⁶⁴

Risk and concerns about risk have dominated discussion in the social sciences, emerging, as Blowers points out, from “concerns of environmental risks created by modern society ...”.⁶⁵ Fischhoff and others, however, point out that the meaning of the term is “fraught with confusion and controversy”.⁶⁶ Renn and others (1992)⁶⁷ identify this disconnect as arising from the difference between technical and social understandings of risk. The technical perspective characterises risk as “... a function of probability and consequence ...”.⁶⁸ The social and cultural definitions of risk, by contrast, hinge on more complex perceptions; in other words, who frames risk, and how it is framed and communicated, tends to colour its definition as well as any proposed action.

As Holm et al. (2021)⁶⁹ show, the framing of risk vis-à-vis waste by communities as well as ‘experts’ played a significant role in the struggle against solid and liquid waste treatment plants in the city of Mzuzu, Malawi. This difference between ‘real’ and ‘perceived’ risk, Slovic (2001)⁷⁰ contends, is very much a result of the socially and politically mediated nature of risk as a value-laden and subjective phenomenon. Hermansson (2007) adds that “one can question the idea that there is an ‘objective’ way to measure risks that one cannot deviate from without being irrational ... Hence, measuring

⁶² C. Alexander and P. O’Hare, “Waste and Its Disguises: Technologies of (Un)Knowing,” *Ethnos* 88, no. 3 (2023): 419–43. <https://doi.org/10.1080/00141844.2020.1796734>.

⁶³ M. Lombard, “Land Conflict in Peri-urban Areas: Exploring the Effects of Land Reform on Informal Settlement in Mexico,” *Urban Studies* 53, no. 13 (2016): 2700–2720, <https://doi.org/10.1177/0042098015603569>.

⁶⁴ M. Drackner, “What Is Waste? To Whom? An Anthropological Perspective on Garbage,” *Waste Management and Research* 23 (2005): 175–81.

⁶⁵ A. Blowers, “Environmental Policy: Ecological Modernisation or the Risk Society?,” *Urban Studies* 34, no. 6 (1997): 845–71, <https://doi.org/10.1080/0042098975853>.

⁶⁶ Fischhoff et al. (1984), cited in C. Snary, “Understanding Risk: The Planning Officers’ Perspective,” *Urban Studies* 41, no. 1 (2004): 33–55, <https://doi.org/10.1080/0042098032000155678>.

⁶⁷ O. Renn et al., “The Social Amplification of Risk: Theoretical Foundations and Empirical Applications,” *Journal of Social Issues* 48, no. 4 (1992): 137–60, <https://doi.org/10.1111/j.1540-4560.1992.tb01949.x>.

⁶⁸ Renn et al. (1992), cited in Snary, “Understanding Risk”.

⁶⁹ R. H. Holm et al., “A Qualitative Study of NIMBYism for Waste in Smaller Urban Areas of a Low-Income Country, Mzuzu, Malawi,” *Environmental Health Insights* 15 (2021), <https://doi.org/10.1177/1178630220984147>.

⁷⁰ P. Slovic, *The Perception of Risk* (London: Earthscan, 2001).

the correctness of a subjective risk by comparing it to the objective risk is a procedure that can be questioned”.⁷¹

This is what one sees in the case of the factory’s establishment in the 1990s, which a respondent (personal communication, 2019) puts succinctly:

“For Sivankutty personally, I don’t think it is about money. It was for him the name of having solved the Thiruvananthapuram waste problem. So, this is the classic case of a leader or a corporation head, who was arrogant enough to think that whatever is the way forward, I will do it, and who did not even once turn back and listen to people who were talking about why this will fail. Those are crises. That is why I say, unless any developer, any person in the govt system any other bureaucrat, unless they don’t really have a sense of this, how does it affect, I mean I have solved my waste or water or transport or technical problem, but at the end of the day I have messed up somebody’s life, if you don’t have a sense of it, then you don’t have a place anymore, at least in Kerala you shouldn’t have a place. Because Kerala is not just about lots of people living in small areas, it is also very ecologically and climatically fragile, we really don’t know what the next day is like, so we have to have a very imaginative, ecologically, geologically ...”

Here, the former mayor, Sivankutty, was assessing the risk posed by the waste treatment plant through the lens of probability and ‘objectivity’, and therefore deemed the factory’s presence an ‘acceptable risk’. However, as the Vilappilsala conflict demonstrates, this was hardly how most residents perceived the risk emanating from the factory. Snary (2004)⁷² points out that this dissonance is key to understanding the differing interests of planners and communities. Furthermore, Snary categorises approaches to risk with respect to planning and NIMBY into three broad categories:

- 1) Technological perspective
- 2) Psychological perspective
- 3) Social perspective

The first, the technological approach, stems from the positivist doctrine and emphasises the separation of values from objective ‘scientific’ understandings in decision-making processes. This approach has traditionally been associated with scientific approaches as well as with the creation of ‘expert’ knowledge.

⁷¹ Hermansson, “Ethics of NIMBY Conflicts”.

⁷² Snary, “Understanding Risk”.

The second, the psychological approach to risk, is perhaps one of the better-known approaches. It is often traced to Mary Douglas's *Purity and Danger*⁷³ and Chauncey Starr's 1969 work on differentiating between social and technological risk.⁷⁴ The psychological approach sought to buck the positivist approach by questioning its very emphasis on objectivity. Indeed, as Starr's work shows, the acceptability of risk to communities may differ significantly from its acceptability to experts. Douglas and her associates' work, on the other hand, focused on classifying communities' reactions to risk. In their grid-group formulation, later called the Cultural Theory (of Risk), Douglas and others argue that risk and its perception are based not on scientific assessments but on cultural factors that are shared communally. These cultural factors are themselves predicated on the acceptance of certain values over others. Douglas and others used this acceptance or rejection as a basis for classifying communities into a matrix-like structure.⁷⁵

Finally, the social perspective explores not only the origins of decision-making vis-à-vis risk but also the broader societal factors that influence risk perception and decision-making. By focusing on these broader processes, this approach questions the implicit assumptions of both the positivist/technological perspective and the psychological perspective,⁷⁶ opening up the field to larger debates. Stallings points out that this approach focuses on the "social organization that simultaneously creates, filters, and distributes risks".⁷⁷

In the case of Vilappilsala, the pushback can be traced to dissonances in the framing of risk, between symbolic and material meanings and frames of reference. As shown earlier, the tension in the connotations of waste resulted in a situation in which the values, interests and priorities vis-à-vis waste of the residents and the administrators, of the peri-urban and the urban, diverged. As a consequence of this dissonance, the residents of Vilappilsala began to lose trust in the abilities of the Government of Kerala and the TMC to consider and mitigate the risks that they perceived to emanate from the factory. This mistrust could be said to originate at the very beginning of the factory's

⁷³ M. Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (London: Routledge and Kegan Paul, 1966).

⁷⁴ C. Starr, "Social Benefit versus Technological Risk", *Science* 165, no. 3899 (1969): 1232–38, <https://doi.org/10.1126/science.165.3899.1232>.

⁷⁵ For more on this formulation, see M. Schwarz and M. Thompson, *Divided We Stand: Redefining Politics, Technology and Social Choice* (Hemel Hempstead: Harvester Wheatsheaf, 1990); for earlier iterations, see Douglas, *Purity and Danger*.

⁷⁶ For instance, one of the major criticisms levelled against both the positivist and the psychological approaches is one of essentialism, whereby each makes truth claims based on a singular perspective. For positivism, this would be the 'reality out there'; for the psychological perspective, it would be the intangible values forming the basis of culture.

⁷⁷ Perrow (1984) and Clarke (1988, 1989), cited in R. A. Stallings, "Media Discourse and the Social Construction of Risk", *Social Problems* 37, no. 1 (1990): 80–95.

existence. The residents claim that they were misled into believing that the site being taken over, which eventually became the waste management facility, was to be a herbal/botanical garden, the fruits of which were promised to nearby residents as well as to those who had given up land for the factory. Another respondent points out that “there is an element of deceit here, because the mayor of that time had assured us that none of us would be affected by the installation of this disposal site here”.⁷⁸ Moreover, the residents claim that they were also promised employment in the factory in exchange for parting with their land. As one respondent, Janaki (personal communication, 2022), recollects:

“...The promise was that almost 100 new employment opportunities would be created through this large floriculture and olericulture. Quite naturally people were attracted and when they started acquiring land, people were willing to give their land. Because they thought that they would get jobs. After they acquired almost 45 acres and when the initial work began then only the people realized that they were cheated and that this land was to be utilized for solid waste management.”

The breaking of these promises, combined with the malfunctioning of the factory and the resultant pollution in the ensuing years, contributed to a deepening mistrust of the government's assurances. This mistrust was further intensified by the approach taken by the TMC. The language of valuation adopted by the TMC and by many officials was expressed in the grammar of economic losses.⁷⁹ For instance, a former Executive Director of the Kerala Suchitwa Mission and Technical Advisor to the *Haritha Keralam* programme (personal communication, 2022) described the situation at the waste factory at Vilappilsala thus:

“... Large investment has been made at Vilappilsala on account of basic infrastructure and environmental improvement. This investment is mostly irrevocable and hence economic loss.”

The description of the conflict in such terms did little to bridge the growing chasm of mistrust. As Nair (2015)⁸⁰ points out:

“People lost faith in the Corporation's consolatory words like ‘the odour will clear in 10 days’, ‘the flies would go away in a month’, ‘the contamination of water will end once the leachate plant is constructed’ and so on.”

For the residents, then, these platitudes did little or nothing to assuage their concerns; rather, they

⁷⁸ Nair, *Malinyathinethire Vilappilsalayude Samarethibhasam*.

⁷⁹ Eranti, “Re-visiting NIMBY”.

⁸⁰ Nair, *Malinyathinethire Vilappilsalayude Samarethibhasam*.

gave credence to the residents' feelings of injustice and proved the TMC's cavalier attitude. As the residents argued:

"It is the people of Vilappil Panchayat and nearby panchayats that have to bear the brunt of the complete failure of Vilappil Solid Waste Treatment Plant. People are suffering from health issues, environmental issues, economic-social issues, employment issues etc. It is quite disappointing that the associated officials are not ready to [take] redressal actions even when the people of Vilappilsala panchayat, a place destined to carry the whole waste created in Thiruvananthapuram city, are suffering." (*Karmachandran and others vs State of Kerala and others* 2012)⁸¹

The creation of a technical committee in 2006–07, which prepared a detailed project report⁸² proposing practices in line with the MSW Rules, 2000, did very little to win the confidence of the residents, who were already suffering the ill effects of pollution from the factory and were beginning to agitate.

In short, the planners' scientific, expertise-based understanding of risk and the communities' socio-psychological perception of risk were clearly irreconcilable and, in many ways, indicated deeper concerns about accountability, the unequal balance of power and exclusion from planning activities. As Vasudevan Nair (2015) further asserts, "The Municipal Corporation was teaching the people of Vilappilsala that where there is a city, there is garbage and a disempowered people to bear the brunt of it. Vilappilsala is a result of urban planning sans foresight and scientificity".⁸³

IV. Stigma, Reputation and Emotional Political Ecology in Vilappilsala

In Vilappilsala, the presence of the factory had a profound effect not only on the material lives of residents (and indeed those of nearby villages) but also on their reputation, manifesting as stig-

⁸¹ *Karmachandran and others vs State of Kerala and others*. Writ Petition (Civil) No. 1306 of 2012. The High Court of Kerala at Ernakulam. January 16, 2012.

⁸² The technical committee, headed by Dr RGV Menon, prepared a structured, detailed plan for the functioning of the factory. Its recommendations included:

segregated storage of waste at source;

effective collection from source;

transportation of waste to the composting plant without nuisance or risk to the public;

treatment and disposal of waste in the composting plant; and

an environmental management plan for the waste management yard.

Pursuant to this committee's directions, the TMC reorganised its MSW operations under the Health Wing, headed by a Health Officer who was to be specifically trained in sanitation and waste management.

⁸³ Nair, *Malinyathinethire Vilappilsalayude Samarethibasam*.

matisation. Stigma as a concept in the social sciences was popularised by the sociologist Erving Goffman's eponymous work of 1963.⁸⁴ While the term 'stigma' has its origins in ancient Greece, contemporary literature generally uses it in a manner similar to Zhuang et al.'s (2016) definition: "stigma is the negative public perception of living in a community that has experienced a degraded quality of life".⁸⁵ For scholars such as Renn et al. (1992), Gregory et al. (1996) and Gregory and Satterfield (2002),⁸⁶ stigma as a phenomenon "refers to something that is to be shunned or avoided not just because it is dangerous but because it overturns or destroys a positive condition; what was or should be something good is now marked as blemished or tainted".⁸⁷ Since then, the phenomenon of stigma has been studied in various contexts, including that of the environment. Edelstein argues that environmental stigma runs parallel to social stigma, "discrediting settings, places, objects, nonhuman lifeforms, and surroundings, as well as people associated with these environments".⁸⁸

In other words, stigma in the environmental context runs concomitantly with social stigma. Environmental stigma has mostly been identified with hazards or contamination, such as industrial pollution or nuclear facility siting. Miller and Sinclair argue that environmental stigmatisation can involve both real and imagined negative experiences, including economic decline in terms of property values and negative effects on livelihood chances.⁸⁹

In Vilappilsala, this stigmatisation moved beyond social ostracism: the factory's presence loomed large over the economic and livelihood aspects of residents' lives as well. With the factory's presence and the pollution of the water source, many of the residents' economic activities that depended on that source were affected. As Vasudevan Nair puts it, "when the paddy farming (*nel krishi*) and cow rearing activities started to get affected and finally stopped. Since the cow-rearers depended on the water of *Meenampalli thodu*, they were devastated".⁹⁰ Another resident, Babu (personal communication, 2021), remembers, "we had coconut plantations here, now it's not there. Then tapioca was also there, comparatively it was less affected. Plants and trees with deep penetrating

⁸⁴ E. Goffman, *Stigma: Notes on the Management of Spoiled Identity* (Englewood Cliffs, NJ: Prentice-Hall, 1963).

⁸⁵ J. Zhuang et al., "Environmental Stigma: Resident Responses to Living in a Contaminated Area", *American Behavioral Scientist* 60, no. 11 (2016): 1322–41, <https://doi.org/10.1177/0002764216657381>.

⁸⁶ Renn et al., "Social Amplification of Risk"; R. Gregory, P. Slovic, and J. Flynn, "Risk Perceptions, Stigma, and Health Policy", *Health and Place* 2, no. 4 (1996): 213–20, [https://doi.org/10.1016/1353-8292\(96\)00019-6](https://doi.org/10.1016/1353-8292(96)00019-6); R. Gregory and T. A. Satterfield, "Beyond Perception: The Experience of Risk and Stigma in Community Contexts", *Risk Analysis* 22, no. 2 (2002): 347–58.

⁸⁷ R. Gregory, J. Flynn, and P. Slovic, "Technological Stigma", in *The Perception of Risk*, ed. P. Slovic (London: Earthscan, 2001), 341–46.

⁸⁸ Edelstein (2001), cited in Zhuang et al., "Environmental Stigma".

⁸⁹ Miller and Sinclair (2012), cited in Zhuang et al., "Environmental Stigma".

⁹⁰ Nair, *Malinyathinethire Vilappilsalayude Samarethibhasam*.

roots like coconut trees, rubber trees etc were the worst affected ones.” Along with the alleged fall in the productive capacity of the village, property values in the vicinity of the factory, and later in nearby areas, also fell, as Pranitha (personal communication, 2019) points out:

“people sold their land for cheap prices because they couldn’t live there. They couldn’t get water, couldn’t live there, nobody would marry into this area, even if they married someone from here, nobody would come and eat meals here, it was at that stage, so people just sold their land and left. They all sold their land for nominal amounts and migrated to the city. They used to survive on the revenue from rearing cattle or small-scale agriculture, but they decided to go to the city and do work like household help etc.”

David (personal communication, 2022) further elaborates on this point:

“There are people who left their houses and properties within 3-4 kms of the plant because of the stench from the waste. Because these houses were uninhabitable, then there are people who sold their houses at very cheap rates and then there are people who still live there because they don’t have any other way.”

Here it is evident that waste in this context still retains its symbolic/ritualistic connotations, influencing land prices near the factory – a calculation that residents say was made partly by factoring in the risk potential of the factory – despite the formalisation of the material in the form of the waste factory and its intended establishment. Following Kunreuther and Slovic (1999),⁹¹ one can attribute this to the socially amplified risk that waste represents, in its material as well as its symbolic/ritualistic form. Such calculations and framings of risk, and attributions of stigma, were instrumental in how Vilappilsala was constructed by its inhabitants as well as by others.

Moreover, much of this was expressed in terms of a loss of identity caused by the factory, through shame, loss and suffering on the one hand, and pride in the residents’ connection to the land on the other. In the context of North America and Europe, considerable work has been done in the behavioural sciences and allied disciplines exploring the strategies used by communities living in proximity to polluting facilities, such as toxic waste dumps and nuclear plants.⁹² This literature

⁹¹ H. Kunreuther and P. Slovic, “Coping with Stigma: Challenges and Opportunities”, *RISK: Health, Safety and Environment* 10, no. 3 (1999), <https://scholars.unh.edu/risk/vol10/iss3/>.

⁹² R. Lidskog and I. Elander, “Reinterpreting Locational Conflicts: NIMBY and Nuclear Waste Management in Sweden”, *Policy and Politics* 20, no. 4 (1992): 249–64; S. Hunter and K. M. Leyden, “Beyond NIMBY: Explaining Opposition to Hazardous Waste Facilities”, *Policy Studies Journal* 23, no. 4 (1995): 601–19, <https://doi.org/10.1111/j.1541-0072.1995.tb00537.x>; Litmanen, “Environmental Conflict as a Social Construction”; K. Bickerstaff and P. Simmons, “Absencing/Presencing Risk: Rethinking Proximity and the Experience of Living with Major Technological Hazards”, *Geoforum* 40, no. 5 (2009): 864–72, <https://doi.org/10.1016/j.geoforum.2009.07.004>.

has contributed to emerging concepts of how communities cope with and adapt to such hazardous facilities. While many of the concerns expressed about these hazardous sites have been couched in the language of risk – to the environment, to health and in terms of economic losses – scholars such as Wulforth (2000)⁹³ point out that these expressions can also stem from concerns about how the community in question thinks it is perceived.

Farhana Sultana (2011),⁹⁴ through her work on water and arsenic contamination in Bangladesh, develops an Emotional Political Ecology (EmPE) that combines feminist political ecology, resource management and emotional geographies to analyse relations of power, access and embodiment. Sultana's conception of Emotional Political Ecology highlights the significance of "heeding the complex emotions and meanings attached to resources access, use and conflict in order to better understand the emotionality thereby engaged in everyday struggles".⁹⁵ Through the concept of *koshto*,⁹⁶ Sultana differentiates the phenomenon of suffering into 'suffering for' and 'suffering from'. In Vilappilsala, it is evident that the residents were suffering from the harm caused by the factory (in terms of stench, pollution, illness etc.) as well as suffering for their dignity and identity (owing to stigmatisation, humiliation, loss etc.). Emotional Political Ecology takes into account the roles played by complex emotions and affects in conflicts such as that of Vilappilsala. More significantly, Emotional Political Ecology rejects the notion that emotions in environmental struggles are irrational. Instead, Sultana⁹⁷ and others argue that emotions matter in so far as they reveal the complex and sophisticated worldviews on which communities draw, especially in terms of resources, and point to the political nature of human–nature relationships by showing the significance of emotions in unearthing networks of power.

Significantly, emotions can also reveal how power is mobilised by various actors. For instance, the police action taken by the Government of Kerala (GoK) in Vilappilsala has been cited by respondents as having produced a chilling effect in the minds of the residents. In addition, the *lathi* charge by the police, as well as the prohibitory orders issued by the district administration, was aimed at striking fear into the agitators, in an effort by the GoK to counter the protests. Fear, in this in-

⁹³ J. D. Wulforth, "Collective Identity and Hazardous Waste Management", *Rural Sociology* 65, no. 2 (2000): 275–94, <https://doi.org/10.1111/j.1549-0831.2000.tb00029.x>.

⁹⁴ Sultana, "Suffering for Water".

⁹⁵ Sultana, "Emotional Political Ecology".

⁹⁶ Sultana here differentiates *panir koshto* (roughly translated as 'water hardship') into two types: *panir theke koshto*, or suffering from water contamination by arsenic, and *panir jonno koshto*, or suffering for the lack of water. For more, see Sultana, "Suffering for Water" and Sultana, "Emotional Political Ecology".

⁹⁷ Sultana, "Suffering for Water"; Sultana, "Emotional Political Ecology".

stance, was not merely a product of the conflict; rather, it was deliberately deployed as a technology of power.

Yet, as González-Hidalgo and Zografos (2020)⁹⁸ would suggest, emotions in Vilappilsala did not move along a single register. In the first instance, the stigma attached to Vilappilsala (in terms of reputation, derived from the factory's presence) operated along personal and private lines, with many residents negotiating the burden of association (articulated in terms of shame) individually.

As Sajan (personal communication, 2021), a journalist and resident of Vilappilsala, recounts:

“When the waste factory was here, though it was situated on Kanikanumpara, the entire 20 wards in Vilappil suffered because of that. Because when someone from here goes outside and says Vilappilsala as their native instantly they would get equated with the waste factory and would be treated with contempt. So, people from here usually say their native place as Peyad or other such nearby places instead of Vilappil”.

Sajan here is referring to the negative reputation that Vilappilsala acquired owing to its association with the waste factory, whereby residents were at the receiving end of indirect social sanctions. The residents have steadily maintained that the ‘tag’ of Vilappilsala, which was associated with the factory and waste, had a profound and negative effect on their reputation and, in turn, affected the way in which they identified themselves.

Consequently, the residents were forced to hide their connection to Vilappilsala, for instance by omitting it when naming their native place; such manoeuvrings were made by the residents to distance themselves from the stigma associated with living in proximity to a polluting facility. Read alongside the flight of residents that David recounts, it could be argued that this privatised register of stigma and reputational harm emanating from the factory worked towards fragmenting the community.

However, while such concealment may *prima facie* appear parochial, given that individual residents had ample personal reasons to reject the factory, such readings underscore and reinforce the very binary that Sultana and others reject through EmPE. In other words, through the concealment and disavowal of their ties to Vilappilsala, the residents showcase the ‘ambivalence of emotion’.⁹⁹ Extending Sultana’s framework, González-Hidalgo and Zografos (2020) argue that emotions can

⁹⁸ M. González-Hidalgo and C. Zografos, “Emotions, Power, and Environmental Conflict: Expanding the ‘Emotional Turn’ in Political Ecology”, *Progress in Human Geography* 44, no. 2 (2020): 235–55, <https://doi.org/10.1177/0309132518824644>.

⁹⁹ González-Hidalgo and Zografos, “Emotions, Power, and Environmental Conflict”.

both produce (or reproduce) and subvert relations of power, often shifting in and with the course of a struggle.¹⁰⁰ The Vilappilsala conflict is emblematic of such ambivalence, as the stigma, humiliation and shame attached to the place were also central to the mobilisation of the protests, providing a galvanising effect on the struggle, described by Shamseer (personal communication, 2021) thus:

“...the living conditions of the people degraded and they even lost their sense of dignity. Humans would tolerate anything but they won’t tolerate humiliation. The people of Vilappilshala were humiliated ... On one side they had to face abuse from the officials and on the other side people from other regions also humiliated them because of the condemned state of their native place.”

Put another way, the humiliation and shame – practised and experienced individually – that led to concealment and disavowal were later converted into grounds for mobilisation.¹⁰¹ As Nair (2015) points out, “this [protest] is not a resistance against the Govt. or the corporation, instead it is a resistance against the denial of people’s right to life with dignity”.¹⁰²

V. Conclusion: Towards a Politics of Dignity in Vilappilsala

An Emotional Political Ecology approach to the Vilappilsala conflict calls into question the very binaries that are at the heart not only of NIMBY/LULU characterisations but also of understandings of waste (represented here as municipal solid waste). Echoing the arguments of Sultana and of González-Hidalgo and Zografos, the arguments made by the residents of Vilappilsala can be understood as articulations of harm/injury that rational/irrational binaries often overlook and obscure. The residents’ emotion-based articulations – stigma, humiliation, fear and shame – were aimed not only at communicating their personal ordeals but also operated as the medium through which they related to the physical, social and relational aspects of Vilappilsala.

Eranti (2017)¹⁰³ frames this as a ‘grammar’ based on ‘familiar affinities’, described as ties specific to meanings attached to material, social and cultural “arrangements with meanings attached to the most intimate surroundings of people”. These arrangements include “material and immaterial surroundings, places and ideas”, and involve strong emotional and personal affinities and entanglements. Such place-identity-based arguments made by the residents sought to safeguard

¹⁰⁰ González-Hidalgo and Zografos, “Emotions, Power, and Environmental Conflict”.

¹⁰¹ Woods et al. (2012), cited in González-Hidalgo and Zografos, “Emotions, Power, and Environmental Conflict”.

¹⁰² Nair, *Malinyathinethire Vilappilsalayude Samarethibasam*.

¹⁰³ Eranti, “Re-visiting NIMBY”.

their sense of place, in what Devine-Wright (2009)¹⁰⁴ terms ‘place-protective’ behaviour. This was borne out in Vilappilsala, where the residents expressed their concerns within a local register which, Anguelovski and Martínez-Alier argue, encompasses “the defense of the right to place and territory and the right to stay without being displaced”,¹⁰⁵ rather than vague, larger concerns. This was exemplified in their oft-repeated slogan “*rashtriyam alla jeevitham anu valithu*” (life is more important than politics) (personal communication, 2021). Approached thus, it is evident that the conflict at Vilappilsala is poorly captured by the NIMBY/LULU literature, which in many ways continues to be anchored in rationality/irrationality binaries. The conflict reveals not so much a preoccupation with ‘backyards’ as a politics of dignity anchored in emotional articulations of harm/injury.

To conclude, this paper has examined the conflict between Vilappilsala and the TMC over the latter’s centralised waste management plant. Anchoring itself in literature that challenges the attribution of NIMBY labels to similar conflicts, the paper argues that the conflict in Vilappilsala was largely coloured by the symbolic and material connotations of waste as risk. A dissonance in framing and perceiving risk reveals the socially and culturally mediated nature of risk, especially vis-à-vis waste and its management. The conflict further shows that dissonant forms of risk manifested in shame, suffering and humiliation. Using an Emotional Political Ecology approach, the paper argues that the Vilappilsala conflict reveals how power and emotions are deeply entangled. The paper also shows the limits of the existing NIMBY literature, much of which continues to operate along the rational/irrational binary. In rejecting such binary framing, the paper posits that such conflicts must also be read as articulations of harm/injury, especially in peri-urban settings in the cities of the global south, where communities that have historically borne the discards of the urban are increasingly rejecting them. Taken together, the paper argues that conflicts such as that of Vilappilsala signal not merely a refusal to take on a socially proscribed artefact such as waste, but the emergence of a deeper politics of dignity.

References

Adam, A. G. “Understanding Competing and Conflicting Interests for Peri-urban Land in Ethiopia’s Era of Urbanization”. *Environment and Urbanization* 32, no. 1 (2020): 55–68. <https://doi.org/10.1177/0956247819890215>.

¹⁰⁴ Devine-Wright, “Rethinking NIMBYism”.

¹⁰⁵ I. Anguelovski and J. Martínez-Alier, “The ‘Environmentalism of the Poor’ Revisited: Territory and Place in Disconnected Glocal Struggles”, *Ecological Economics* 102 (2014): 167–76, <https://doi.org/10.1016/j.ecolecon.2014.04.005>.

- Alexander, C., and P. O'Hare. "Waste and Its Disguises: Technologies of (Un)Knowing." *Ethnos* 88, no. 3 (2023): 419–43. <https://doi.org/10.1080/00141844.2020.1796734>.
- Allen, A. "Environmental Planning and Management of the Peri-urban Interface: Perspectives on an Emerging Field". *Environment and Urbanization* 15, no. 1 (2003): 135–47.
- Allen, A. "Beyond Suburbia? Urban Transitions across the Global South". In *Infinite Suburbia*, edited by A. Berger, J. Kotkin, and C. B. Guzmán. New York: Princeton Architectural Press, 2017.
- Anguelovski, I., and J. Martínez-Alier. "The 'Environmentalism of the Poor' Revisited: Territory and Place in Disconnected Glocal Struggles". *Ecological Economics* 102 (2014): 167–76. <https://doi.org/10.1016/j.ecolecon.2014.04.005>.
- Atay Kaya, İ., and N. Kaya Erol. "Conflicts over Locally Unwanted Land Uses (LULUs): Reasons and Solutions for Case Studies in Izmir (Turkey)". *Land Use Policy* 58 (2016): 83–94. <https://doi.org/10.1016/j.landusepol.2016.07.011>.
- Bickerstaff, K., and P. Simmons. "Absencing/Presencing Risk: Rethinking Proximity and the Experience of Living with Major Technological Hazards". *Geoforum* 40, no. 5 (2009): 864–72. <https://doi.org/10.1016/j.geoforum.2009.07.004>.
- Blowers, A. "Environmental Policy: Ecological Modernisation or the Risk Society?". *Urban Studies* 34, no. 6 (1997): 845–71. <https://doi.org/10.1080/0042098975853>.
- Blowers, A., and P. Leroy. "Power, Politics and Environmental Inequality: A Theoretical and Empirical Analysis of the Process of 'Peripheralisation' ". *Environmental Politics* 3, no. 2 (1994): 197–228. <https://doi.org/10.1080/09644019408414139>.
- Bridge, G., S. Barca, B. Özkaynak, E. Turhan, and R. Wyeth. "Towards a Political Ecology of EU Energy Policy". In *Advancing Energy Policy: Lessons on the Integration of Social Sciences and Humanities*, edited by C. Foulds and R. Robison, 163–76. Cham: Palgrave Macmillan, 2018.
- Demaria, F. "Shipbreaking at Alang–Sosiya (India): An Ecological Distribution Conflict". *Ecological Economics* 70, no. 2 (2010): 250–60. <https://doi.org/10.1016/j.ecolecon.2010.09.006>.
- Devine-Wright, P. "Rethinking NIMBYism: The Role of Place Attachment and Place Identity in Explaining Place-Protective Action". *Journal of Community and Applied Social Psychology* 19, no. 6 (2009): 426–41. <https://doi.org/10.1002/casp.1004>.
- Douglas, M. *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*. London: Routledge and Kegan Paul, 1966.
- Drackner, M. "What Is Waste? To Whom? An Anthropological Perspective on Garbage". *Waste Management and Research* 23 (2005): 175–81.
- Dupont, V. "Peri-urban Dynamics: Population, Habitat and Environment on the Peripheries of Large Indian Metropolises; An Introduction". In *Peri-urban Dynamics: Population, Habitat and Environment on the Peripheries of Large Indian Metropolises; A Review of Concepts and General Issues*, edited by V. Dupont. New Delhi: Centre de Sciences Humaines, 2005.

- Eranti, V. "Re-visiting NIMBY: From Conflicting Interests to Conflicting Valuations". *Sociological Review* 65, no. 2 (2017): 285–301. <https://doi.org/10.1177/0038026116675554>.
- Follmann, A. "Geographies of Peri-urbanization in the Global South". *Geography Compass* 16, no. 7 (2022). <https://doi.org/10.1111/gec3.12650>.
- Gibson, T. A. "NIMBY and the Civic Good". *City and Community* 4, no. 4 (2005): 381–401.
- Goffman, E. *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, NJ: Prentice-Hall, 1963.
- González-Hidalgo, M., and C. Zografos. "Emotions, Power, and Environmental Conflict: Expanding the 'Emotional Turn' in Political Ecology". *Progress in Human Geography* 44, no. 2 (2020): 235–55. <https://doi.org/10.1177/0309132518824644>.
- Gregory, R., and T. A. Satterfield. "Beyond Perception: The Experience of Risk and Stigma in Community Contexts". *Risk Analysis* 22, no. 2 (2002): 347–58.
- Gregory, R., J. Flynn, and P. Slovic. "Technological Stigma". In *The Perception of Risk*, edited by P. Slovic, 341–46. London: Earthscan, 2001.
- Gregory, R., P. Slovic, and J. Flynn. "Risk Perceptions, Stigma, and Health Policy". *Health and Place* 2, no. 4 (1996): 213–20. [https://doi.org/10.1016/1353-8292\(96\)00019-6](https://doi.org/10.1016/1353-8292(96)00019-6).
- Gururani, S., and L. Kennedy. "The Co-production of Space, Politics and Subjectivities in India's Urban Peripheries". *South Asia Multidisciplinary Academic Journal* no. 26 (2021). <https://doi.org/10.4000/samaj.7365>.
- Haase, D., B. Güneralp, B. Dahiya, X. Bai, and T. Elmqvist. "Global Urbanization: Perspectives and Trends". In *Urban Planet: Knowledge towards Sustainable Cities*, edited by T. Elmqvist, X. Bai, N. Frantzeskaki, C. Griffith, D. Maddox, T. McPhearson, S. Parnell, P. Romero-Lankao, D. Simon, and M. Watkins. Cambridge: Cambridge University Press, 2018. <https://doi.org/10.1017/9781316647554>.
- Hager, C. "Introduction: A New Look at NIMBY". In *NIMBY Is Beautiful: Cases of Local Activism and Environmental Innovation around the World*, edited by C. Hager and M. A. Haddad, 1–14. New York: Berghahn Books, 2015.
- Hamilton, J. T. "Testing for Environmental Racism: Prejudice, Profits, Political Power?". *Journal of Policy Analysis and Management* 14, no. 1 (1995): 107–32.
- Hermansson, H. "The Ethics of NIMBY Conflicts". *Ethical Theory and Moral Practice* 10, no. 1 (2007): 23–34. <https://doi.org/10.1007/s10677-006-9038-2>.
- Herrera, V. "Waste Warriors: The Fight for Waste Justice and Participatory Rights in the City". *Urban Affairs Review* (2026). <https://doi.org/10.1177/10780874261443450>.
- E.M.Hoffmann, et al., "Rurbanity: A Concept for the Interdisciplinary Study of Rural–Urban Transformation." *Sustainability Science* 18, no. 4 (2023): 1739–53. <https://doi.org/10.1007/s11625-023-01331-2>.

- Holm, R. H., B. A. Chunga, A. Mallory, P. Hutchings, and A. Parker. "A Qualitative Study of NIMBYism for Waste in Smaller Urban Areas of a Low-Income Country, Mzuzu, Malawi". *Environmental Health Insights* 15 (2021). <https://doi.org/10.1177/1178630220984147>.
- Hunter, S., and K. M. Leyden. "Beyond NIMBY: Explaining Opposition to Hazardous Waste Facilities". *Policy Studies Journal* 23, no. 4 (1995): 601–19. <https://doi.org/10.1111/j.1541-0072.1995.tb00537.x>.
- Hutchings, P., S. Willcock, K. Lynch, D. Bundhoo, T. Brewer, S. Cooper, D. Keech, et al. "Understanding Rural–Urban Transitions in the Global South through Peri-urban Turbulence". *Nature Sustainability* 5, no. 11 (2022): 924–30. <https://doi.org/10.1038/s41893-022-00920-w>.
- Karpouzoglou, T., and A. Zimmer. "Ways of Knowing the Wastewaterscape: Urban Political Ecology and the Politics of Wastewater in Delhi, India". *Habitat International* 54 (2016): 150–60. <https://doi.org/10.1016/j.habitatint.2015.12.024>.
- Karpouzoglou, T., F. Marshall, and L. Mehta. "Towards a Peri-urban Political Ecology of Water Quality Decline". *Land Use Policy* 70 (2018): 485–93. <https://doi.org/10.1016/j.landusepol.2017.11.004>.
- Kunreuther, H., and P. Slovic. "Coping with Stigma: Challenges and Opportunities". *RISK: Health, Safety and Environment* 10, no. 3 (1999). <https://scholars.unh.edu/risk/vol10/iss3/>.
- Lidskog, R., and I. Elander. "Reinterpreting Locational Conflicts: NIMBY and Nuclear Waste Management in Sweden". *Policy and Politics* 20, no. 4 (1992): 249–64.
- Litmanen, T. "Environmental Conflict as a Social Construction: Nuclear Waste Conflicts in Finland". *Society and Natural Resources* 9, no. 5 (1996): 523–35. <https://doi.org/10.1080/08941929609380991>.
- Lombard, M. "Land Conflict in Peri-urban Areas: Exploring the Effects of Land Reform on Informal Settlement in Mexico". *Urban Studies* 53, no. 13 (2016): 2700–2720. <https://doi.org/10.1177/0042098015603569>.
- Lombard, M., and C. Rakodi. "Urban Land Conflict in the Global South: Towards an Analytical Framework". *Urban Studies* 53, no. 13 (2016): 2683–99. <https://doi.org/10.1177/0042098016659616>.
- Marshall, F., and J. Dolley. "Transformative Innovation in Peri-urban Asia". *Research Policy* 48, no. 4 (2019): 983–92. <https://doi.org/10.1016/j.respol.2018.10.007>.
- Mussa, A., and K. V. Suryabhagavan. "Solid Waste Dumping Site Selection Using GIS-Based Multi-criteria Spatial Modeling: A Case Study in Logia Town, Afar Region, Ethiopia". *Geology, Ecology, and Landscapes* 5, no. 3 (2021): 186–98. <https://doi.org/10.1080/24749508.2019.1703311>.
- Nair, N. V. *Malinyathinethire Vilappilsalayude Samarethihasam* [A History of Vilappilsala's Struggle against Waste]. Priyadarshini Publications Society, 2015.
- Narain, V. "Growing City, Shrinking Hinterland: Land Acquisition, Transition and Conflict in

- Peri-urban Gurgaon, India”. *Environment and Urbanization* 21, no. 2 (2009): 501–12. <https://doi.org/10.1177/0956247809339660>.
- Narain, V., and D. Roth, eds. *Water Security, Conflict and Cooperation in Peri-urban South Asia: Flows across Boundaries*. Cham: Springer, 2021. <https://doi.org/10.1007/978-3-030-79035-6>.
- Petts, J. “Municipal Waste Management: Inequities and the Role of Deliberation”. *Risk Analysis* 20, no. 6 (2000): 821–32.
- Prabhakar, A.V. “‘Out of Sight, Out of Mind’: Periurban Narratives of Waste and Resistance in Vilappilsala, Kerala.” *Urban India* (New Delhi) 43, no. 2 (2023): 37–52.
- Priya, R., R. Bisht, P. Randhawa, M. Arora, J. Dolley, G. McGranahan, and F. Marshall *Local Environmentalism in Peri-Urban Spaces in India: Emergent Ecological Democracy?*. Working Paper No.96. Peri-Urban Environmentalism. STEPS Centre, 2017.
- Rademacher, A., and K. Sivaramakrishnan. “Introduction: Ecologies of Urbanism in India”. In *Ecologies of Urbanism in India: Metropolitan Civility and Sustainability*, edited by A. Rademacher and K. Sivaramakrishnan. Hong Kong: Hong Kong University Press, 2013.
- Ranganathan, M. “Caste, Racialization, and the Making of Environmental Unfreedoms in Urban India”. *Ethnic and Racial Studies* 45, no. 2 (2022): 257–77. <https://doi.org/10.1080/01419870.2021.1933121>.
- Renn, O., W. J. Burns, J. X. Kasperson, R. E. Kasperson, and P. Slovic. “The Social Amplification of Risk: Theoretical Foundations and Empirical Applications”. *Journal of Social Issues* 48, no. 4 (1992): 137–60. <https://doi.org/10.1111/j.1540-4560.1992.tb01949.x>.
- Reno, J. “Waste and Waste Management”. *Annual Review of Anthropology* 44 (2015): 557–72. <https://doi.org/10.1146/annurev-anthro-102214-014146>.
- Sambyal, S. S., and S. Narain. *Not in My Backyard: Solid Waste Management in Indian Cities*. New Delhi: Centre for Science and Environment, 2016.
- Schindler, S., and B. Kishore. “Why Delhi Cannot Plan Its ‘New Towns’: The Case of Solid Waste Management in Noida”. *Geoforum* 60 (2015): 33–42. <https://doi.org/10.1016/j.geoforum.2015.01.008>.
- Schindler, S., and F. Demaria. “‘Garbage Is Gold’: Waste-Based Commodity Frontiers, Modes of Valorization and Ecological Distribution Conflicts”. *Capitalism Nature Socialism* 31, no. 4 (2020): 52–59. <https://doi.org/10.1080/10455752.2019.1694553>.
- Schwarz, M., and M. Thompson. *Divided We Stand: Redefining Politics, Technology and Social Choice*. Hemel Hempstead: Harvester Wheatsheaf, 1990.
- Sebastien, L. “From NIMBY to Enlightened Resistance: A Framework Proposal to Decrypt Land-Use Disputes Based on a Landfill Opposition Case in France”. *Local Environment* 22, no. 4 (2017): 461–77. <https://doi.org/10.1080/13549839.2016.1223620>.
- Seto, K. C., M. Fragkias, B. Güneralp, and M. K. Reilly. “A Meta-analysis of Global Urban Land

- Expansion". *PLoS ONE* 6, no. 8 (2011): e23777. <https://doi.org/10.1371/journal.pone.0023777>.
- Silver, J. "Incremental Infrastructures: Material Improvisation and Social Collaboration across Post-colonial Accra". *Urban Geography* 35, no. 6 (2014): 788–804. <https://doi.org/10.1080/02723638.2014.933605>.
- Simon, D. "Urban Environments: Issues on the Peri-urban Fringe". *Annual Review of Environment and Resources* 33 (2008): 167–85. <https://doi.org/10.1146/annurev.enviro.33.021407.093240>.
- Simone, A. *For the City Yet to Come: Changing African Life in Four Cities*. Durham, NC: Duke University Press, 2004.
- Slovic, P. *The Perception of Risk*. London: Earthscan, 2001.
- Snary, C. "Understanding Risk: The Planning Officers' Perspective". *Urban Studies* 41, no. 1 (2004): 33–55. <https://doi.org/10.1080/0042098032000155678>.
- Stallings, R. A. "Media Discourse and the Social Construction of Risk". *Social Problems* 37, no. 1 (1990): 80–95.
- Starr, C. "Social Benefit versus Technological Risk". *Science* 165, no. 3899 (1969): 1232–38. <https://doi.org/10.1126/science.165.3899.1232>.
- Sultana, F. "Suffering for Water, Suffering from Water: Emotional Geographies of Resource Access, Control and Conflict". *Geoforum* 42, no. 2 (2011): 163–72. <https://doi.org/10.1016/j.geoforum.2010.12.002>.
- Sultana, F. "Emotional Political Ecology". In *The International Handbook of Political Ecology*, edited by R. L. Bryant, 633–45. Cheltenham: Edward Elgar, 2015.
- Swyngedouw, E., and N. C. Heynen. "Urban Political Ecology, Justice and the Politics of Scale". *Antipode* 35, no. 5 (2003): 898–918. <https://doi.org/10.1111/j.1467-8330.2003.00364.x>.
- UN-Habitat. *Urbanization and Development: Emerging Futures; World Cities Report 2016*. Nairobi: UN-Habitat, 2016.
- UN-Habitat. *World Cities Report 2020: The Value of Sustainable Urbanization*. Nairobi: UN-Habitat, 2020.
- UN-Habitat. *World Cities Report 2022: Envisaging the Future of Cities*. Nairobi: UN-Habitat, 2022.
- Varkey, A. M., E. Johnny, and J. Chinnasamy. "Peri-urban Real Estate, Land-Use Changes, and Sustainability Challenges in Bangalore: Lessons from the Global South". *Real Estate* 3, no. 1 (2026): 2. <https://doi.org/10.3390/realestate3010002>.
- Wittmer, J. "Dirty Work in the Clean City: An Embodied Urban Political Ecology of Women Informal Recyclers' Work in the 'Clean City.'" *Environment and Planning E: Nature and Space* 6, no. 2 (2023): 1343–65. <https://doi.org/10.1177/25148486221102374>.

- Wolsink, Maarten. "Learning in Environmental Policy: The Obstinacy of Policy Beliefs and Other Structural Impediments." Paper presented at Social Theory and the Environment-International Sociological Association and Research Committee 24, Woudschoten Conference Centre. *Sociological Theory and the Environment :Cultural and Social Constructivism*, 1997:1-18.
- Wulfhorst, J. D. "Collective Identity and Hazardous Waste Management". *Rural Sociology* 65, no. 2 (2000): 275-94. <https://doi.org/10.1111/j.1549-0831.2000.tb00029.x>.
- Zhuang, J., J. Cox, S. Cruz, J. W. Dearing, J. A. Hamm, and B. Upham. "Environmental Stigma: Resident Responses to Living in a Contaminated Area". *American Behavioral Scientist* 60, no. 11 (2016): 1322-41. <https://doi.org/10.1177/0002764216657381>.