

Focus on environmental justice: new directions in international research

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EDITORIAL

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Abstract

More than three decades since the emergence of the environmental justice (EJ) movement in the U.S., environmental injustices continue to unfold across the world to include new narratives of air and water pollution, as well as new forms of injustices associated with climate change, energy use, natural disasters, urban greenspaces, and public policies that adversely affect socially disadvantaged communities and future generations. This focus issue of *Environmental Research Letters* provides an interdisciplinary forum for conceptual, methodological, and empirical scholarship on EJ activism, research, and policy that highlights the continuing salience of an EJ perspective to understanding nature-society linkages. The 16 letters published in this focus issue address a variety of environmental issues and social injustices in multiple countries across the world, and advance EJ research by: (1) demonstrating how environmental injustice emerges through particular policies and political processes; (2) exploring environmental injustices associated with industrialization and industrial pollution; and (3) documenting unjust exposure to various environmental hazards in specific urban landscapes. As the discourse of EJ continues to evolve both topically and geographically, we hope that this focus issue will help establish research agendas for the next generation of EJ scholarship on distributive, procedural, participatory, and other forms of injustices, as well as their interrelationships.

Introduction

More than three decades since the emergence of the environmental justice (EJ) movement in Warren County, North Carolina, environmental injustices continue to unfold within and beyond the borders of the U.S. to include new narratives of air and water pollution, as well as new forms of injustices associated with climate change, energy use, natural disasters, urban greenspaces, and public policies that adversely affect minority, indigenous, and low-income communities, as well as other socially disadvantaged groups and future generations. From its origins in grassroots activism and engaged sociological scholarship, primarily in the U.S., EJ research has now evolved into a vast, diverse, and multi-disciplinary literature that encompasses a wide range of environmental issues and politics in many countries throughout the world. Recent scholarship has addressed and emphasized the multidimensionality of justice in EJ (Holifield *et al* 2017). In addition to distributive justice, which

remains an important focus of quantitative EJ analysis, a growing body of research now attends to procedural and participatory justice, justice as recognition, and justice as capabilities, as well as the interrelations among these dimensions (Walker 2012, Agyeman *et al* 2016).

This focus issue of *Environmental Research Letters* provides an interdisciplinary and international forum for new conceptual, methodological, and empirical scholarship on EJ activism, research, and policy. The 16 letters published in this focus issue encompass review articles that reflect on the endemic state of specific EJ concerns, as well as case studies that apply or extend previous EJ approaches to examine new issues, regions, and locations. In the process, it draws together a variety of environmental problems, social injustices, and geographic contexts, and highlights the salience of an EJ perspective to understanding nature-society linkages. Specifically, the letters in this focus issue advance EJ research in three important ways: (1) demonstrating how environmental injustice emerges

through particular policies and political processes; (2) exploring environmental injustices associated with industrialization and industrial pollution; and (3) applying the EJ framework to document disproportionate exposure to environmental hazards in specific urban landscapes across the world.

Policy and politics

While EJ research has traditionally focused on issues of distributive justice, several letters in this focus issue extend EJ scholarship through a critical assessment of environmental policies, procedural issues, and regulatory frameworks. Dobbie and Green's (2015) research considers the effectiveness of Australia's national policy in protecting the public from air pollution. Their two case studies indicate that much remains to be done since existing regulation provides loopholes that enable industries to escape pollution norms. Perez *et al* (2015) focus on contemporary EJ activism and related movements in the U.S. Their qualitative study, based on interviews with prominent EJ activists, scholars, and community leaders, traces the various ways in which EJ organizations have transformed and grown, even as the national policy environment has yet to reflect the vibrancy of the overall movement. Mitchell *et al* (2015) examine whether improvements in air quality in Great Britain, led in part by concerns over health and efforts to meet European Commission (EC) directives, have benefitted socio-economically deprived areas. Their research shows that even within deprived areas, the relatively more deprived areas continue to face the highest burdens associated with poor air quality. Lynch *et al* (2015) survey the rise of EJ research within the field of criminology, with a specific focus on the emergence of green criminology. Their review article illustrates how legal frameworks can be applied to address the actions of environmental polluters, as well as how criminologists can contribute to the EJ literature. Finally, Bell's (2015) letter raises a significant question about the possibility of addressing environmental injustice within a capitalist system that is designed to privilege profits over environmental protection. Drawing on a case study that encompasses six countries representing varying degrees of historical and contemporary state support for market-led reforms, Bell argues that the struggle against environmental injustices ultimately requires an engagement with the capitalist economic system.

Industrialization and industrial pollution

Even as the EJ research framework continues to expand in new directions, the need to examine the

adverse social impacts of industrialization still remains an important focus of EJ scholarship. Several letters in this focus issue provide new insights on the EJ implications of industrial toxic pollutants and polluters. Collins *et al* (2016) utilize the example of the U.S. to argue that rather than blanket laws, it may be more useful to focus on the most egregious industrial polluters (hyper-polluters). The results of their national-scale quantitative analysis of industrial toxic emissions suggest that selective environmental enforcement emphasizing the 'worst-of-the-worst' could be more effective in reducing disproportionate social harms than other broad-based approaches. Clough and Bell's (2016) letter examines the EJ consequences of unconventional gas development in an area of Pennsylvania whose location coincides with the largest shale gas formation in the U.S. This study demonstrates how environmental injustice may not manifest in terms of disproportionate impacts on a minority or socioeconomically disadvantaged community, but through the exclusion of local residents from sharing in the benefits of a new resource economy, even as they are exposed to pollution resulting from resource extraction. Their letter thus extends the meanings of environmental injustice beyond social inequalities to economic exclusion resulting from industrial growth. Both Grineski *et al* (2015) and Basu and Chakraborty (2016) add quantitative case studies on industrial pollution from the Global South, thus widening the frame of EJ beyond its usual association with the U.S. Grineski *et al's* (2015) article focuses on proximity to industrial parks in Tijuana, Mexico, and draws attention to environmental injustices faced by female factory workers. Basu and Chakraborty's (2016) national-scale study illustrates how an EJ framework is useful to understanding the spatial and social distribution of industrial hazardous waste generation in India. Mohai and Saha (2015a, 2015b) in their two letters consider how longitudinal analyses of socio-demographic changes can answer the perplexing 'which-came-first' question in EJ research: whether polluting facilities and industries choose to locate in socially disadvantaged communities, or whether disadvantaged social groups move to live near polluting facilities after they have been sited. Their first article (Mohai and Saha 2015a) reviews theoretical arguments, methods, and findings from previous longitudinal EJ studies, in addition to identifying future research needs and directions. Their second article (Mohai and Saha 2015b) includes a case study of commercial hazardous waste facility siting in the U.S. that examines socio-demographic composition of host neighborhoods at the time of siting, as well as post-siting socio-demographic changes. Their results indicate that noxious facilities were more likely to locate in host neighborhoods that were already experiencing socio-demographic changes (e.g. increase in minority

populations) in decades prior to siting instead of attracting socially disadvantaged residents to host neighborhoods after they were sited, thus suggesting that siting decisions have targeted neighborhoods undergoing demographic transition.

Urban landscapes

The connections between urbanization and environmental injustice are explored in several quantitative studies that examine social inequities in exposure to environmental hazards. Two letters focus on EJ analysis in the Miami metropolitan area—one of the most ethnically diverse urban areas in the U.S. facing high levels of exposure to both natural (floods) and technological (air pollution) hazards. Collins *et al* (2015) utilize household-level survey data and evaluate the distribution of cancer risks from exposure to vehicular air pollutants, while Montgomery and Chakraborty (2015) analyze the socio-demographic characteristics of residents in neighborhoods exposed to both coastal and inland flood risks. In addition to documenting environmental injustices for the Hispanic population in the Miami area, both studies demonstrate how the presence of socially privileged residents in amenity-rich neighborhoods challenges conventional thinking regarding the socio-demographic characteristics of high-risk areas. Grineski *et al* (2015) provide a quantitative analysis of environmental injustices associated with industrial parks in Tijuana—one of the largest cities in Mexico that shares its border with San Diego, USA. As mentioned previously, this study highlights the need for quantitative EJ research to expand its focus to cities in the Global South, as well as the significance of analyzing environmental risks faced by female-headed households and female workers, in particular. Maantay and Maroko's (2015) study analyze the linkages between land use and urban health, and more specifically in terms of the relationship between extent of vacant/derelict land and mental health indicators in Glasgow, Scotland. Their findings indicate that many deprived communities are disproportionately burdened with environmental impacts and psycho-social stressors associated with vacant or derelict land. Mitchell and Chakraborty (2015) and Byrne *et al* (2016) both focus on the emerging issue of 'thermal inequity' through case studies that examine social inequities in exposure to urban heat in the three largest U.S. cities and an Australian suburb, respectively. While Mitchell and Chakraborty's (2015) findings indicate the presence of multiple social inequalities in the distribution of urban heat risk, Byrne *et al* (2016) highlight the need to augment the ability of disadvantaged households to cope with increased heat, for example, through tree planting in disadvantaged neighborhoods.

Conclusion

While the scope and purpose of EJ has continued to expand since its emergence as field of activism and research in the 1980s, it remains particularly relevant today due to the refusal of governments and corporations across the world to address the causes and consequences of environmental degradation as well as their disproportionate impacts on socially disadvantaged groups. The letters in this Focus Issue address a wide range of environmental harms and injustices across the world and demonstrate the different ways in which EJ activism, research, and policy have expanded significantly in recent years. These articles not only provide a critical assessment of the current state of EJ scholarship associated with several contemporary environmental issues, but extend it through the implementation of innovative methodological approaches, new variables, and empirical case studies in multiple countries and at multiple geographic scales (national to urban). They collectively contribute to EJ research by demonstrating how environmental injustices emerge through particular policies and political processes, exploring environmental injustices associated with industrialization and industrial pollution, and by documenting unjust exposure to various environmental hazards in specific urban areas across the world.

As the discourse of EJ continues to grow and evolve, we hope that this Focus Issue will help establish research agendas for the next generation of EJ scholarship on distributive, procedural, and other forms of injustices, as well as their interrelationships. In future, the concepts and case studies presented here can provide an important basis for expanding the current framework of EJ research to incorporate a range of social inequalities (e.g. female workers and mental health issues), communities and countries in the Global South (e.g. Mexico and India), and understudied environmental hazards (e.g. shale gas extraction and urban heat islands), as well as understanding the limitations of national regulatory frameworks to stem the presence of environmental injustice (e.g. Australia, India, and U.S.).

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