



ENVIRONMENTAL JUSTICE, HEALTH & WELLBEING RESEARCH SEMINAR

A seminar exploring how ideas of environmental justice can inform and advance research and action on the linkages between environment, human health and wellbeing.

7 April 2011, UEA London, UK

Seminar Report

compiled by

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The seminar was organized by Roger Few, Fiona Marshall, Andrew Collins, Adrian Martin and Abigail Dalglish, with assistance from Sofia Samper and Garrett Schaperjahn.

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Contents

Summary of the seminar sessions	2
1. What characterises an environmental justice approach?	4
2. What does an environmental justice approach contribute to understanding of health and wellbeing issues?	5
3. What are the global dimensions of health and environment justice issues?	6
4. How can environmental justice scholars connect research to policy and practice?	7
Concluding comments	9
Appendices: Seminar preamble & Abstracts of presentations	10

ENVIRONMENTAL JUSTICE, HEALTH & WELLBEING RESEARCH SEMINAR

On 7 April 2011 a research seminar was held in London, UK, exploring how ideas of environmental justice can inform and advance research and action on the linkages between environment, human health and wellbeing. The seminar was jointly convened by the Global Environmental Justice research group at University of East Anglia and the Environment, Health and Development Network, with support from the Disaster and Development Centre at Northumbria University and the Social, Technological and Environmental Pathways to Sustainability Centre at Sussex University.

At the inaugural conference of the Environment, Health and Development Network in 2009, discussion among participants indicated that themes of justice lay at the core of most people's research interests and concerns. It was suggested that further discussions should be organized to develop this idea as a foundation for the network, including explorations of the utility of contemporary framings of environmental justice, and how they might relate to broader conceptions of social justice (see Seminar Preamble in Appendix 1). The seminar was a contribution to that debate.

The seminar took a global perspective, and attention focussed strongly on addressing the continuing need for research and debate on environment, health and wellbeing issues in developing countries, where the effects of environmental injustice tend to be thrown into sharpest relief. However, the underlying processes of environmental injustice are truly global (and increasingly globalized) and discussions also examined how justice concepts can frame environment and wellbeing concerns in the UK and other higher-income countries.

The seminar was organized into sessions broadly on justice perspectives, dynamics and transformations – tackling both distributive and procedural aspects of justice. These entailed a series of empirical and conceptual talks on themes connecting environment and health/wellbeing (including specific issues such as water quality, sanitation, infectious disease, air pollution and arsenicosis), and opportunities for detailed discussions on the key characteristics and overall utility of an environmental justice approach, its application to issues of health and wellbeing, the global dimensions of health and environmental justice issues, and issues in connecting research to policy and practice.

This report concentrates primarily on these broad research agenda themes, providing detail mainly on the discussions and contributions surrounding four key questions posed to the participants.

Summary of the seminar sessions

The sessions of the Seminar were organized not on the basis of empirical topics but on broad themes such as change and transformation. The programme was designed to allow room for discussion within each session, followed by an extended discussion forum in the final session. For further details on specific presentations please consult the set of abstracts provided in the appendix to this report.

Session 1: Introduction

The first session began to explore what justice means and how it can be articulated in relation to the links between environment and health/wellbeing. The chair, **Roger Few** (University of East Anglia), provided some preliminary thoughts about justice perspectives on environmental health, emphasizing how environmental justice as a political movement was rooted in health and wellbeing issues, applicability of distributive and procedural ideas of justice, and social power, spatial scale and inter-generational dimensions. **Jennifer Holdaway** (Social Science Research Council) then presented on

Environmental justice, health and wellbeing: reflections on the Chinese experience. Her talk stressed both the socio-political complexity of environment and health challenges and their context specificity, questioning, for example, simple assumptions about the relationship between poverty and environmental health burdens in China. **Carmit Lubanov** (The Association of Environmental Justice in Israel) did emphasize the role of economic and political marginalization in heightening risk in her talk on ***Health and environmental justice in Israel as a platform for policy change.*** She spoke particularly about neglected disease burdens and the need for action, but also of the specific difficulties and limitations of state-led action in a country with such deep political divisions.

Session 2: Dynamics

The second session set out to examine environmental justice in the context of change: of environmental change, the dynamics of vulnerability and development, and processes of intervention. The chair, **Andrew Collins** (Northumbria University), reflected on his work on health security, emphasizing the distributive and procedural aspects of health risk both from infectious and non-communicable diseases, and raised the justice dimensions too of how vulnerability is represented. **Tim Karpouzoglou** (University of Sussex) looked at issues of water pollution management in his talk on ***Developing insights on the role of 'expert-science' for addressing water quality in dynamic peri-urban environments: Case study, Delhi/Ghaziabad, India.*** He focussed particularly on knowledge production and the discursive practices of sets of actors operating at various scales and how these selectively framed the policy options being pursued. In his presentation **Janaka Jayawickrama** (Northumbria University) focussed on ***Environmental injustice in disaster and conflict responses.*** He argued that justice dimensions are often side-lined in international humanitarian responses, because of a lack of long-term focus and an emphasis on relief delivery rather than active participation of affected communities.

Session 3: Transformation

Building on these issues, the third session looked at processes and pathways toward addressing environmental health injustice, with a focus particularly on knowledge processes and the role of researchers. The chair, **Fiona Marshall** (University of Sussex), initiated the session by raising several points regarding the potential contribution of interdisciplinary approaches to environment, health and development research and policy engagement. These included developing dialogue around different notions of sustainability, providing evidence for socially just decision-making, drawing on socio-ecological systems approaches and active engagement in policy advocacy. In her talk, **Linda Waldman** (Institute of Development Studies) highlighted variance in the representation of environmental health hazards through her work on ***Reframing risk: Comparative framings of asbestos and disease.*** She showed how contrasting framings of the problem in the UK, India and South Africa, with different underlying value judgments, led to different outcomes in terms of policy and practices. **Jewellord Nem Singh** (University of Sheffield) presented an analysis of resource extraction in ***What does extractive justice mean for moderate variants of post-neoliberal resource governance? Comparative perspectives in Brazil and Chile.*** He emphasized the uneven distribution of the environmental costs of copper and petroleum extraction and their associated occupational health risks, and procedural injustices in terms of who decides on rights and regulations surrounding the industries. The final speaker, **Gayle Burgess** (London Sustainability Exchange), discussed a set of initiatives facilitated by her organization on ***Promoting environmental justice through citizen science.*** She described how local people in areas of London had been actively engaged in undertaking scientific studies on air and noise pollution, and the broader empowering effects of such engagement.

Session 4: Discussion Forum

The fourth session provided an extended forum in which to bring the ideas together from the preceding sessions. The chair, **Adrian Martin** (University of East Anglia), provided a series of reflections on the seminar themes, regarding global-local interconnections, the interaction and potential conflict between

procedural and distributive justice goals, and the role of 'ways of knowing' in framing risk and response. In brief additional comments, **Ugo Guarnacci** (University of Reading), also emphasized the need to re-think how risks and needs in relation to environmental health are defined and acted on.

The participants then formed four breakout groups, each of which discussed and reported back on one of the following questions:

1. What characterises an environmental justice approach?
2. What does an environmental justice approach contribute to understanding of health and wellbeing issues?
3. What are the global dimensions of health and environment justice issues?
4. How can environmental justice scholars connect research to policy and practice?

Responses from the breakout groups and plenary discussions, and inputs from the preceding sessions addressing these questions, are now summarized in turn.

1. What characterises an environmental justice approach?

Contributions from participants emphasized the following points:

- Environmental justice has been defined in many ways with differing interpretations. Even within the United States, where the term has its roots and is well established in academic research, the term has been defined in relation to regulation, broader ideas of sustainability and processes of transformation.
- Much of the literature centres on socio-environmental struggles, on activism and justice claims, but it is also concerned with the production of injustices and just outcomes.
- Drawing on wider debates on social justice, there is now a critical revisit of environmental justice in relation to: distinguishing distributive, procedural and recognition (voices of the marginalized) elements; multiple interpretations of what constitutes justices/fairness; trade-offs and unforeseen consequences in 'just' actions; the role of social power and entitlements; the possibility of agenda capture by interest groups; temporal (intergenerational) dimensions as well as spatial scales and interconnections.
- Examples from the presentations showed how distributive and procedural justice aspects are commonly entwined. Environmental problems in Israel, for example, tend to impinge heavily on the welfare of the weakest and most marginalized, but this process is exacerbated by weaknesses in public participation, lack of access to decision-making nodes and a counter-perspective that associates environmentalism with Zionism and exclusion.
- We can similarly ask who has real access to decision-making in the formulation of environmental regulation and the rights of those exposed to health hazards, as in the case of resource extraction and regulations on labour, indigenous rights and environmental protection.
- Moreover, procedural justice issues are heightened further in an increasingly globalised world in which decision-making is distanced physically and psychologically from the people who are most likely to be beneficiaries or victims of decisions.

- Does the environmental justice framing help to identify new categories of victims (of injustices)? What are the environmental elements within justice claims? Is environmental justice different from social justice, or merely a component of it?
- Environmental justice, as an approach, brings a critical analytical and moral dimension to looking at environmental issues. This stems in part from the way research and activism have been closely inter-linked.
- By taking the distribution of environmental goods and bads as a starting point of analysis, it is distinctive from the environmental movement. The environmental movement tends to have a more protectionary focus on the environment rather than on human wellbeing and the connection with humans. The environmental justice approach instead makes the connections between nature and society very clear; although in this sense it has close parallels with approaches such as political ecology and environmental entitlements/capabilities.
- Another key question is whether an environmental justice approach is distinct from wider social justice approaches. Yes, environmental justice leads to a research agenda where one starts unpacking the notions of distributive and procedural justice from an environmental perspective. It also tends to place emphasis on localized struggles and agency.
- However, once moved from the initial departure point into analysis the distinctiveness is much more difficult to realize as the boundaries between what one studies under environmental justice and social justice become dissolved in many cases. Is it distinctive in any other way other than it focuses on the environment?
- Perhaps a key sense in which environmental justice is distinctive is its concern for intergenerational equity coupled with sustainability, and the notion of irreversibility of some environmental changes. In this sense what may serve the wellbeing of people in the short-term may undermine long-term sustainability.
- Environmental justice also has its variants, and a deep ecology strand would be distinctive from social justice in positing the intrinsic value of the environment and asserting non-human rights. So the distinction between the two depends largely on personal perspective on how closely inter-linked environmental protection and human wellbeing are, and should be.

2. What does an environmental justice approach contribute to understanding of health and wellbeing issues?

Contributions from participants emphasized the following points:

- The roots of the environmental justice 'movement' were in issues of health and wellbeing – pollution and toxic dumping in the US.
- Some environmental health issues are explicitly linked to environmental justice, but for others the link is yet to be articulated.
- Health is a fundamental survival need, and hence distributional aspects are paramount. However, there are very clear procedural elements too, including how decision-making structures affect access to what is needed for health and wellbeing, and procedural aspects of how

environmental health movements operate and priorities are framed (e.g. the 'securitization' of pandemic risk within the global environmental health agenda).

- There are procedural justice questions in terms of who decides what is an acceptable disease risk or what is a priority risk? We can also think in terms of representational justice. How do we choose to represent vulnerability and risk, how is this constructed for different environmental health issues, what values drive these constructions?
- In India, for example, there is a very clear distinction between environmental policy, health and development – a distance between practitioners and scientists in these three in how they perceive and address issues such as water quality. These different framings therefore work through into implementation.
- A critical approach to environmental justice, health and wellbeing, however, must take a careful look at evidence and assumptions, especially of distributive justice. For example, expressing environmental health problems as a justice issue in contexts such as China is not always tenable, where disease burdens are changing and highly variable, there are complicated interactions between exposure and livelihood options, and the relationship with poverty and social inequality are less direct. There are examples of people actively opting for occupations that pose risks rather than being forced into exposure through poverty or lack of choice.
- More broadly, the literature linking environmental health issues with outcomes must be looked at critically in order to assess the effectiveness of such studies. Much of the work has focussed on exposure as opposed to outcomes, and the assumption that socio-economic deprivation and environmental exposure necessarily leads to greater ill-health need to be interrogated. There also should be closer linkages with the literature on health inequalities.
- There is a need also to interrogate what we mean by health and what we mean by wellbeing, and how these differ according to context. We need to understand that external researchers may have a different perspective on disease and health from the communities with which they work. We also have to recognize that health is dynamic, as perceptions, environments and social contexts are evolving on a daily basis.
- Standing back from the existing data and linking understanding of the processes of change - socio-economic, environmental and health topics to each other is crucial.

3. What are the global dimensions of health and environmental justice issues?

Contributions from participants emphasized the following points:

- Globalized aspects of environment and health potentially include: global environmental change and systemic resource scarcity; climate change and health; pandemic risk; globalization of production processes and technology; globalized discourses of environmental management; global governance mechanisms; international mobilizations on justice issues (alliances formed across scales).
- Global distributive aspects are prominent in consideration of infectious disease and health security, with the burden concentrated in the South. Capacity for prevention and care is inversely distributed: it is most lacking where there is the greatest need.

- Yet, is management of environmental challenges always likely to be played out in practice at the local scale? Can the above only have meaning if they are interpreted in terms of local realities, since the locality is the locus of environmental justice?
- With the globalization of environmental institutions, it becomes harder and harder to achieve effective participation the higher the level of the institution. In this context, there is a much stronger potential for domination by international experts who exclusively bring their knowledge claims to bear on issues. 'Ways of knowing' can quickly become important in scientific and political discourses on a global scale.
- In China, the aim of meeting the Millennium Development Goals (MDGs) has discursively driven the agenda, leaving gaps on issues not explicitly addressed in the MDGs.
- How do we match local interpretations of justice/injustice with hegemonic global perspectives?
- We also have to challenge the assumption that western knowledge will provide the answers. If we are to think about environmental justice as a goal, we need to think through how we are going to collaborate with local knowledge to come up with people-specific solutions.
- We can perhaps conceive of global environmental justice issues in terms of 'roots and wings'. Specific issues have their roots in particular contexts or local sites where injustice plays out. But issues also have wings in that they are increasingly connected to struggles going on in other parts of the world, through a mutuality of expressed concerns as well as the globalization of environment problems themselves.
- Then we can ask two-way questions about these interconnections within the same struggles: how do global processes translate into local justice claims, and how do local justice claims feed back into global processes.

4. How can environmental justice scholars connect research to policy and practice?

Contributions from participants emphasized the following points:

- Contributions to policy and practice could flow from a more complex analysis and dialogue around notions of sustainability and how they can converge with justice dimensions. For example, interrogating sustainability of what and for whom, and understanding alternative framings of risk and particularly how they benefit different interest groups. These debates expose different priorities and criteria for assessing sustainable management (equity, equality, affordability, or environmental integrity), exposing trade-offs and implications for socially-just decision-making (for example around competing demands for water).
- Defining what may be just outcomes will always be difficult, because of the complex entanglement of environmental issues in terms of context, time and space. Good and harm, for example, are often time-bound, so that what may be beneficial in the medium term may be harmful for health and wellbeing in the long-term. As researchers, it is therefore important to thoroughly explore and interrogate patterns of behaviour, in order to work through these complex questions surroundings ways of changing them.

- These types of analysis require inter-disciplinary groupings that bring together people working e.g. on knowledge and power, on the one hand, and on institutions and implementation processes, on the other, in order to work with practitioners and publics and experts to try to find out how we can do better.
- Research on the comparative framings of risk can expose the extent to which value judgements rather than science underlie policy and practice, and thereby provide a means to challenge policy on the grounds of justice claims.
- However, we need to go beyond recognition of different framings of problems to consider how we can constructively facilitate interactions between different types of knowledge and actors with different power resources.
- Connecting research to policy makers and planners is of undoubted importance, but the effectiveness with which this can be achieved is highly dependent on the context. Receptivity to research is partly subject to policy-makers' priorities, and there is also a danger that research findings may be 'captured' by government to reinforce other policy agendas. Powerful interest groups and actors may be at play.
- We also have to accept that in many contexts there will be time lags in terms of addressing dynamic environmental problems because of institutional/policy path dependency. We have to recognize inevitable problems of fit, and go beyond that to ask how systems can more effectively deal with rapidly changing circumstances.
- There is value in having policy advocacy groups in the research team from the outset in order to be prepared for moments of potential policy influence, as long as mechanisms are in place to preserve independence of analysis.
- Researchers can also actively engage local people in citizen science to undertake scientific study and take an active role in knowledge production (e.g. the work of London Sustainability Exchange with communities in London on air quality and pollution, using various data collection techniques). It is important to recognize the potential impact of this activity not just in an immediate instrumental sense (in terms of addressing the issue at hand) but in terms of community mobilization, interaction, cohesion and empowerment.
- The process of citizen science is not simple, and care must be taken not to raise expectations of research partners that knowledge will necessarily lead to policy action. The process also raises issues of transferability to scale because of the intensity of interaction required at local scale.

Concluding comments

The presentations and discussions raised a wide range of points, both confirming and questioning the value of extending an environmental justice approach further into critical analysis of the linkages between environment and human wellbeing. Not least among these was the question of whether environmental justice (at least in its more anthropocentric interpretation) could be seen as bringing something analytically distinct from a social justice approach. For many present, the two were essentially conflated: the former was seen as a categorical sub-theme of the latter, differing principally because of its thematic focus on human-environment relations. However, the discussions also suggested that aspects of these relations drew attention to especially prominent, if not absolutely distinctive, elements that an environmental justice approach would tend to highlight – including the linkage across spatial scales between local sites of injustice and global processes, and across temporal scales in terms of environmental and social change and issues of inter-generational justice. Moreover, it was argued that these dimensions can sometimes generate conflicting priorities and trade-offs between what might be considered social justice claims and environmental justice claims.

In counter to this, however, part of the discussions of the transformative potential of research emphasized the need to bring perspectives and disciplines together to work through the implications of justice issues for policy and practice. In this sense it was argued that we should beware viewing environmental justice, social justice and other forms of justice as separate entities - these ideas should be interrelated and connected as they reinforce each other. It was suggested that when research approaches are divided there is a danger that the policies created reflect these disconnects.

It is clear that environmental justice is always likely to be subject to a plurality of interpretations. Maybe a search for a unified approach is unrealistic. What may be a key value of an environmental justice approach is the way it brings attention to the framing of issues surrounding human health and wellbeing. The utility of an environmental justice framework or 'lens' may simply be in providing a systematic way of thinking about some of the key social issues arising from environmental management, including: the social distribution of environmental harms and benefits and processes of participation in decision-making that influence that distribution; the social and environmental trade-offs that exist in terms of the flow of benefits or the management of risks; and the diversity of knowledge and plurality of voices surrounding issues of environment and health/wellbeing.

This report was written by Roger Few, with assistance from Garrett Schaperjahn. Together with this report from the seminar a set of perspective pieces from seminar participants will be posted in the coming weeks on the Environment, Health and Development Network and Global Environmental Justice research group websites. A position paper on environmental justice and health is also in progress for publication.

Appendix 1 Seminar Preamble

Given the recent growth of interest in justice within wider theoretical, moral and political debates, it is timely now to re-examine the implications of contemporary thinking for environment and health research three decades or so after the first waves of environmental justice activism and following more recent challenges over its theoretical depth.

Environmental justice addresses both the distribution of environmental harms and benefits (goods and services), and people's participation in decision-making, including recognition of people's particular identities and visions of a desirable life (Schlosberg 2004; Jamieson, 2007). These concerns are often expressed as aspects of distributive justice and procedural justice. The basic premise motivating environmental justice research is that injustices drive environmental degradation and profoundly influence its differential impacts on people. It is centrally concerned with the capacities of different social actors to resist impacts and with the constraints on individual and collective action – drawing on the ongoing theoretical discussions emphasizing the role of capabilities in social justice (e.g. Sen 2009). Recent debates also surround the related concept of health justice. In much social justice literature, health (as opposed to health care) has typically not been regarded as a focus for distributive justice, but authors such as Sen (2002), Ruger (2004) and Norheim and Asada (2009) argue the contrary. Ruger (2004) sees health as a foundation for human agency, and propounds a view of justice based on capabilities to achieve good health (and avoid disease risk from environmental hazards). Moreover, it is important, in this sense, not to address health in a narrow, biomedical sense but to embrace wider concepts of human wellbeing (e.g. emotional, spiritual dimensions), and their fundamental linkages with poverty, participation and sustainability. This connects further with ideas surrounding global justice and the international distribution of resources, welfare and/or capabilities (Singer, 2008; Papaioannou et al., 2009), and with the role of ecological dynamics and social transitions in shaping environmental health challenges and their differential impact within society (Collins 2001; Marcotullio & McGranahan 2007).

The seminar will take a global perspective, and attention will focus strongly on addressing the continuing need for research and debate on environment, health and wellbeing issues in developing countries, where the effects of environmental injustice tend to be thrown into sharpest relief (Schroeder et al, 2008). In many developing nations, income poverty and other constraints on livelihood assets heighten vulnerability of individuals to health risks from environmental health hazards, while collective poverty reduces the capacity of society to reduce those hazards and to provide adequate health care when impacts arise (Few 2007). However, the underlying processes of environmental injustice are truly global (and increasingly globalized) and we will also examine how justice concepts can frame environment and wellbeing concerns in the UK and other higher-income countries. Indeed, in terms of political activism, it is notable that the roots of the environmental justice movement can be traced largely to health risks from toxins, initially in the USA and other industrialized countries and later in many developing country contexts (Schroeder et al, 2008).

Despite international policy-level calls for better integration of health/wellbeing and environment, such as the 2008 Libreville Declaration on Health and Environment in Africa and the 2009 Busan Pledge for Action on Children's Health and the Environment, global environmental health challenges remain relatively neglected. A joint report from staff of 19 international agencies claims that 'environmental health issues that are important for the poor are rarely a high priority on the development agenda', and argues the need to raise their profile and integrate them much more effectively into policy (Poverty-Environment Partnership, 2008, p4). Reports from DFID and multilateral agencies similarly underline the vulnerability of the poor (Cairncross et al, 2003; World Bank 2007), and the impacts of environmental change for wellbeing were emphasized in the Millennium Ecosystem Assessment (Corvalan et al, 2005). Issues of social justice, equity and rights are central to the work of the WHO Commission on Social Determinants of Health and the UK Department of Health's forthcoming strategic review of health inequalities. Inherently, these policy calls are not just about distributive justice, but also about procedural justice – including opening up the policy process to address hitherto neglected environment/health concerns of marginalized population groups.

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Appendix 2 Abstracts of presentations

Environmental Justice, Health and Wellbeing: Reflections on the Chinese Experience

Jennifer Holdaway

Social Science Research Council

Since reform and opening up began in the late 1970s, China has made substantial progress in reducing income poverty. It is also well on track to achieve the Millennium Development Goals (MDGs) which encapsulate other dimensions of well-being, including several health-related indicators. At the same time, the very growth that has made these achievements possible is taking a high toll on the environment, threatening the sustainability of development and imposing high costs in terms of human health impacts over the long term. Inevitably, some regions and populations are more seriously affected by environmental degradation, and exposure to related health risks interacts in complex ways with other forms of vulnerability. This paper first considers how useful the framework of environmental justice is in considering the dynamic relationship between environment, health and wellbeing in China and where the important “fault lines” lie in this particular context. Through an analysis of related research and policy the author then attempts to evaluate 1) the extent to which an assessment of “environmental justice” in China is possible and 2) how effective current governance arrangements are in preventing and redressing environmental injustices. The paper draws on research conducted by members of the interdisciplinary Forum on Health, Environment and Development.

Health and Environmental Justice in Israel as Platform for Policy Change

Carmit Lubanov

The Association of Environmental Justice in Israel (AEJI)

The article portrays the state of health and environmental justice in Israel, in relation to peripheral populations, and referring "*the right to a healthy and appropriate environment as a basic right*" as platform for reframe policy implementation.

Three main characteristics of the state of health and environmental justice in Israel:

- 1) The debilitated population – similar to research findings elsewhere, the affect of environmental conditions on health is uneven and is related to socio-economic status.
- 2) Lack of accessibility to decision making nodes as well as to basic services and infrastructure that are essential to ensure the health of the population and the availability of medical treatment;
- 3) Inherent inequality of the public health system due to governmental decisions.

The work, based on the grave findings, recommends the government to assign proper values to environmental-social and health issues in the evaluation of development plans. Among others, norms of environmental justice should be applied in cases that the absence of sufficing scientific evidence prevents the use of available tools to evaluate environmental and health risks, and Health Impact Assessments should applied similar to the environmental impact studies, undertaken by planning authorities before approving a building or development plan.

Developing insights on the role of 'expert- science' for addressing water quality in dynamic peri-urban environments: Case study, Delhi/Ghaziabad, India

Tim Karpouzoglou

Science and Technology Policy Research (SPRU)/STEPS Centre, University of Sussex,

Deteriorating water quality has almost become an endemic feature of peri-urban environments, linked to the overbearing presence of pollutants in river bodies and groundwater, systemic failures of sewage disposal and treatment infrastructures, and the weak monitoring of industrial pollution. Polluted water is strongly linked with environmental degradation and has particularly serious implications for the livelihoods of poorer people who often lack access to safer alternatives. The disproportionately higher exposure of marginalized peri-urban citizens to poor water quality is thus understood as a central contributor to environmental injustice in peri-urban areas. Despite increasing recognition of these concerns by peri-urban researchers and academics, formal policy interventions are still largely understood as *techno-centric* often guided by a narrow set of actors, namely pollution control scientists, water engineers and urban planners. While the dependency of water quality restoration policies in India upon traditional forms of *expert* knowledge (i.e. namely regulatory science and engineering) is often pointed out in the literature, there is only *patchy* empirical evidence regarding the precise role of expert scientific communities and their relationship to policy making often omitting important questions from intellectual scrutiny. How does the dominant scientific paradigm around 'water quality' (i.e. exuded by national level scientific advisors) become influential in setting water quality priorities for peri-urban areas? Is there a mismatch between the language of the 'sciences' and the more 'experience-based' learning of poorer communities? What are the potential policy and research avenues for making expert advice more responsive towards the needs of the poor in the context of rapidly changing environments? The presentation is largely based on my doctoral research, drawing primarily from fieldwork and interviews carried out in Delhi and Ghaziabad, India.

Environmental injustice in disaster and conflict responses

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This paper addresses issues of disaster response and environmental justice by bringing examples from disaster and conflict affected Sri Lanka, Sudan and Malawi. Specifically, three central areas are examined in light of failures in disaster and conflict responses to humanitarian interventions, rehabilitation and development. The first area of review is the ignorance of community knowledge within the mainstream humanitarian responses. The second area is the lack of planning for waste disposal, and the possibility that this has created public health and environmental injustice locations. Third, the presentation examines issues faced by disaster and conflict affected communities, who are trying to develop after disasters and conflicts.

During the 1980s, in response to the environmental discrimination of African-American, Hispanic and indigenous communities in the USA, the environmental justice movement adopted a social and civil rights approach. Although, it was largely a substitute of 'race' for 'class', the process of justice is achieved through class action suits. This creates an issue in the conflict and disaster affected developing world as the structures of justice are different from the West.

In non-Western developing countries, the environmental justice movement emerged as a response to injustice experienced by colonisation and unplanned development. The Bhoomi Sena Movement in 1970s and Narmada Dam Protests in 1980s in India and Environmental Justice Networking Forum in South Africa in 1990s are some examples of these responses. Unlike the USA, these are examples of class issues and do not have race as the driving force. At the same time, religious and moral frameworks such as Hinduism, Buddhism and Gandhi's non-violent movement are beyond legal frameworks that communities follow.

Based on these different understandings of environmental justice in Western and non-Western countries, this paper proposes the following recommendations:

- Environmental justice can only be part of the response to disaster and conflict, if justice is facilitated by the humanitarian actors.
- Local communities have to be equal partners in planning and delivering responses.
- Use local resources and traditional methods to respond to emergencies, recognising that communities are the first responders.
- Government responses must emphasise service infrastructure such as sanitation rather than individual infrastructure such as housing.

Reframing Risk: Comparative Framings of Asbestos and Disease

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This paper explores the manner in which different countries have dealt with asbestos issues at the level of national policy level. It seeks to explore how scientific, political, technological and governance processes intersect through a theoretical analysis of dominant and alternative framings. Using case study examples of activist mobilization from South Africa, India and the UK, this paper demonstrates that considerable variation occurs in terms of how countries understand and deal with asbestos environmental and health issues. The ways in which these framings, both dominant and alternative, use and contest different interpretations of science and bring other considerations to bear in relation to technical expertise is shown to be country and context specific. Finally, the paper argues that dominant and alternative framings create differential participatory opportunities for asbestos victims, and that this results in different practices of democracy as their voices get traction in policy processes.

What does Extractive Justice mean for Moderate Variants of Post-Neoliberal Resource Governance? Comparative Perspectives in Brazil and Chile

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The notion of social justice has emerged as a central element of claims by leftist governments in power across the region. With the growing disenchantment on neoliberalism as an economic model, Latin American governments have typically been categorised in many ways and forms to reflect the political changes. Equally, the rise of the left coincided with the commodity boom, which has given the state elites more policy autonomy not only to alter their economic trajectory but also to argue, at least discursively in the public sphere, of a more inclusive politics. Brazil and Chile offer cases of moderate versions of politico-economic models reflecting the recalibration of the developmental role of the state whilst recognising the indispensable role of the private sector in the globalised international economy. Within this context, this paper explores how far we can genuinely claim that a post-neoliberal political economy is being constructed, in the cases of Brazil and Chile, and what this means for claims of democratic citizenship. In highly institutionalised policy settings where natural resources play a central role, the notion of 'extractive justice' becomes a useful analytical tool to understand how democracy and development projects by leftist governments are intricately connected. My argument is that the Brazilian and Chilean development models of resource extraction in the post-dictatorship period exhibit *political continuity and change* where historical/institutional legacies and international constraints by the global international economy are imposed. The model and its concomitant contradictions have consequences on democratic practices and institutions in terms of (a) who gets to access decision-making, (b) how far economic elites in extractive industries are made accountable to mitigation and compensation, and (c) whether the traditional link between the state, party, and labour unions have been altered.

Promoting Environmental Justice through Citizen Science

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Issues of environmental equality affect the lives of many people living in the UK and appear to be even more pronounced in London. Noisy neighbourhoods and poor air quality threaten quality of life: people living in densely populated areas, next to busy streets or manufacturing are most at risk

Over the last three years, LSx has built on its 2004 report 'Environmental Justice in London'. We have worked in particular with a community suffering from a noisy scrap yard and busy roads. We established a citizen science approach, enabled and empowered the volunteers in the community to gain knowledge on how to apply easily accessible and replicable methods in air quality monitoring and surveying. We then set up partnerships to work directly with residents in order to tackle these.

This paper identifies the project outcomes: mechanism of engagement with the community (we used social marketing techniques), information gathering process (citizen science which referred to available data) and developing community empowerment in order to stimulate and crystallise the effective links with local and regional policy. It also identifies how the Big Society can include elements of citizen science to support a communities approach to the complex challenges of the 21st century.