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# Engaged Communication Scholarship for Environmental Justice: A Research Agenda

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*Abstract*

As a discipline of crisis and care, environmental communication needs to address questions of environmental justice. This article argues that the most appropriate approach to studying environmental justice communication is engaged scholarship, in which academics collaborate with community partners, advocates, and others to conduct research. The article reviews prior engaged communication scholarship on environmental justice, and proposes four streams of future research, focused on news and information, deliberation and participation, campaigns and movements, and education and literacy.

*Keywords*

Engaged scholarship; environmental justice; news; deliberation; campaigns; social movements; education.

In the inaugural issue of *Environmental Communication*, Robert Cox proposed that scholars in this emerging field should understand ourselves as members of a "crisis discipline" formed to address imminent harm to the human and natural environment (2007, p. 6). He argued that we had an ethical duty to identify and analyze "the failures, distortions, and/or corruption in human communication about environmental concerns" (p. 18). Our scholarship should also enable "those affected by threats to environmental quality . . . to participate in decisions affecting their individual or communities' health and well-being" and our work should inform recommendations to "enhance the ability of society to respond appropriately to environmental signals" (p. 15). As Phaedra Pezzullo has added, our field should also exhibit an ethic of care for the interdependence of human and nonhuman communities, envisioning how we can thrive, not simply survive, together (Pezzullo & Cox, 2018).

If environmental communication is to be a discipline of crisis and care, it must pay ongoing attention to matters of environmental justice. Marginalized peoples and social groups are often the most vulnerable to environmental threats and enjoy the least access to environmental benefits (Adeola, 2011; Taylor, 2014). These inequities stem in part from distorted public communication and participation, which devalues these groups' voices and interests in the news media, risk communication, and social and economic development (Bullard, Mohai, Saha, & Wright, 2007; O'Brien, 2000). Disempowered groups' conditions and voices are also important signals about the wellbeing of human and natural systems, and sources of hopeful action to improve them. For example, resistance to the Dakota Access Pipeline by the Standing Rock Sioux and many allies mobilized thousands of Americans to demonstrate on behalf of replacing oil with cleaner energy alternatives; revelations of lead-contaminated water in predominantly black and low-income Flint, Michigan prompted investigation of similar threats to

water quality across the U.S.; and demands for climate justice from the global South helped inform the Paris Climate Accords.

This article urges environmental communication scholars to pay greater attention to environmental justice (EJ) and to do so by practicing engaged scholarship (ES) with non-academic partners in our communities. Our field certainly has not ignored EJ, which occupies a chapter in the major textbook on environmental communication (Pezzullo & Cox, 2018) and has been the focus of a special issue of this journal (Sowards, 2012). I will argue below that we have done much good work we can build upon, especially rhetorical analyses of EJ controversies, movements, and news, and applied research on how public engagement in EJ policy can be more inclusive of marginalized voices.

Still, it would be difficult to argue that we have made EJ a central concern of the field. From 2010 to 2015, just 7.8% of articles in this journal focused on environmental or climate justice (Hamilton & Pedelty, 2017). In a 2015 special section of *Environmental Communication,* five leading scholars reflected on the major hallmarks of the field and future challenges before us. None of their articles mentioned the word justice, much less the idea of environmental justice. Nor did any of them propose an enlarged role for engaged scholarship, despite its spread in allied fields, such as public health, environmental studies, geography, and environmental sociology. Thus, I aim to address two underdeveloped areas of our research. After defining EJ and ES, I offer a rationale for integrating them, and sketch a research agenda that could build on prior work in our field and others to advance more engaged communication scholarship for EJ. I do not propose this agenda as a stifling prescription to focus exclusively on EJ, but to make it more central to our field. Nor do I suggest that we adopt ES as our only scholarly orientation, but

as our preferred approach to EJ research, one that can reenergize the field by inspiring inquiry that is transdisciplinary, relevant, and directly engaged with questions of justice.

## Environmental Justice

EJ concerns the fair apportioning of environmental burdens and benefits (distributive justice); equal protection against environmental harms through law, regulation, and enforcement (procedural justice); meaningful recognition of, and participation in, environmental decision making by all who are affected, including historically excluded groups (process justice); and repair and reconciliation of past environmental injustices (restorative and corrective justice).[1]

As a movement, frame, and discourse, EJ has made a significant impact on environmental thinking and policy over the past four decades. In the United States, the EJ movement emerged in the 1980s from the civil and economic rights movements of people of color, the indigenous, women, and farmworkers (Sandler & Pezzullo, 2007). In the process, EJ reframed the environment to include our everyday cultural and physical environs: our homes, workplaces, and neighborhoods.  Advocates pointed to the underlying causes of environmental injustices in the legacies of colonialism, corporate exploitation and government oppression of subordinate peoples and of nature, calling for a more inclusive environmental movement and policy process to address environmental inequities (People of Color Summit, 1991). As a discourse, EJ has helped coordinate and guide global environmental policy and action among movements, activists, and governments (Dryzek, 2013).

EJ now applies to a proliferation of issues and communities. Initial efforts to combat the disproportionate siting of hazardous waste facilities in low-income communities of color expanded to include struggles against farmworker and consumer exposure to pesticides, urban

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[1] This is a composite of several of the major definitions of the field, summarized at
http://deohs.washington.edu/environmental-justice.

and rural air pollution, industrial pollution, abandoned urban brownfields, inadequate nutrition, climate change, and other threats (Holifield, Chakraborty, & Walker, 2017; Taylor, 2014). EJ advocates also worked for more equitable access to environmental benefits, including clean air, water, and land, urban parks and green spaces, public transportation, green jobs and energy, safe and affordable housing and health care, food security, and a safer climate (Davoudi & Brooks, 2012). EJ scholarship has uncovered environmental and health disparities based not only on race and class, but also ethnicity, citizenship status, gender, sexual orientation, age, and the intersections among these categories (Chakraborty, Collins, & Grineski, 2016). Activists are increasingly appealing to these diverse axes of identity to mobilize broad-based organizing against President's Trump's environmental, healthcare, and immigration policies (Hestres & Nisbet, 2018).

Outside the U.S., advocates are more likely to frame EJ issues as matters of climate justice, participatory and sustainable development, indigenous and women's rights, and food and energy sovereignty. Yet many national and transnational movements have rallied around EJ discourse to defend local peoples against the effects of deforestation, the extractive industries, climate change, hazardous waste dumping, and the like (Walker, 2012). This approach has also informed the United Nations' (2015) Sustainable Development Goals.

However, we should not overestimate how much governments, foundations, businesses, and dominant nongovernmental organizations have substantively addressed EJ concerns. For example, the Sustainable Development Goals include pledges to "reduce inequality within and among countries" and to "promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable and inclusive institutions at all levels" (United Nations, 2015), yet their endorsers include governments that demonstrate little

commitment to economic equity and democracy. Especially in development and aid work, where EJ discourse has been widely and sometimes cynically co-opted, the promises of public participation and equity are far more common than their fulfillment (Dutta, 2015; Waisbord, 2015).

## Engaged Scholarship

Proponents of engaged scholarship (ES) aim to reconnect scholarship to "our most pressing social, civic, economic, and moral problems" (Boyer, 1996, p. 11), reversing the growing specialization of academic knowledge, its preferred stance of value neutrality and objectivity, and the reduction of universities' purposes to producing research and employees for the market. The many strands of ES developed over the past three decades share common commitments to scholarship that:

> (a) focuses on significant ethical, social, and civic problems; (b) involves crafting reflexive research practices that enable collaboration between academic and nonacademic communities of practice; and (c) cocreates and coproduces knowledge through a collaborative research process between academics and nonacademics (Barge, 2016, p. 4000).

ES remains scholarly because it grounds itself in valid theory, research and methodology; it is mutually beneficial because it advances knowledge for academic benefit, while making direct contributions to the wider community; and it is public-facing because it disseminates knowledge both in traditional academic venues and through the work of partners outside the university (Welch, 2016).

[Table 1 around here]

6

The many types of ES practiced by environmental communication scholars involve different levels of community participation by civil society, government agencies, or members of the public. Table 1 modifies the IAP2's (2014) widely-used spectrum of public participation in decision making to present a range of potentially engaged scholarly approaches to environmental communication, according to the degree of participation they typically afford community actors in research. I have placed these communication research approaches according to my understanding of the degree of participation in *most environmental communication research* using each approach to date. There are individual studies using each approach that could be classified differently and future work employing all of these approaches could shift in a more participatory direction. Indeed, that is my hope.

At present, the least participatory approaches that can still meet the definition of ES include risk communication (Lundgren & McMakin, 2018) and public understanding of science (Groffman et al., 2010), when they involve tailoring information to communities based on surveys, focus groups, and other means of gauging their interests and needs. Ethnography (de Onís & Pezzullo, 2017) and rhetorical field studies (Pezzullo & de Onís, 2018) can promote fuller participation by amplifying community members' voices in scholarship and conducting "member checks" with participants to test researchers' understandings against community interpretations (although researchers exert final control over analysis). Community members can be involved in more aspects of study design and execution in much applied communication research (Barge, 2016), in which non-academics are often researchers' clients, and in large-scale citizen science projects (Allan & Ewart, 2015), in which the community usually plays a bigger role in gathering than analyzing and expressing data. Community-based participatory research (Chen, Milstein, Anguiano, Sandoval, & Knudsen, 2012), collaborative learning (Walker,

Daniels, & Emborg, 2015), communication activism research (Carragee & Frey, 2016), and participatory communication for social change (Barranquero Carretero & Sáez Baeza, 2017) typically lend themselves to the highest levels of participation. These approaches may involve collaboration between scholars and community organizations to manage funding and other resources, and co-design and co-produce all aspects of research. Here, local community knowledge often exerts as much epistemological authority as academic expertise. In rare cases, the same approaches are used to fully empower community partners with final control over, and financial ownership of, all elements of the research.

In our field and others, EJ scholars have turned to ES largely because an engaged approach can strengthen the relevance, rigor, and reach of scholarship (Balazs & Morello-Frosch, 2013), as well as its reflexivity.

*Relevance*

Scholarly relevance depends not only on asking important questions but conducting research in ways that align with its goals. ES aligns with the democratizing thrust of EJ, which aims to increase oppressed communities' involvement in decisions that affect their health and environments. This includes involvement in decisions about scholarship – from setting research agendas and funding priorities, to gathering and interpreting data, to drawing conclusions and implementing action in response to findings. A more inclusive scholarly process is crucial for strengthening marginalized groups' rights to access and create knowledge that can help build their power to influence regulation, policy, and institutional practices. ES asks us to conduct scholarship *with*, not merely *on* or *for*, communities (Welch, 2016), and this is reason alone to prefer ES to other modes of inquiry into EJ.

Adopting an engaged approach also promotes restorative justice.  Equitable scholarly collaboration with communities is one important corrective to a long history of academic and government research that has ignored, excluded, or actively harmed disempowered groups' environments and health.  Environmental communication scholars are not responsible for traditional risk and development communication research, which helped promote the destruction and contamination of nature and humans, displacement of indigenous peoples, and coercive sterilization of women (see, e.g., Dutta, 2015; O'Brien, 2000; Visvanathan, Duggan, Nisonoff, & Wiegersma, 1997). But we have an opportunity to collaborate with oppressed groups to make scholarship serve them better than it has, and we can make more of this opportunity.

*Reflexivity*

ES is an important response to calls for greater reflexivity and recognition of the interested nature of our work (e.g., Anderson, 2015), including our assumptions about scholarship, who it aims to serve most directly, and the opportunity costs of choosing one topic rather than another. The contributions to the 2015 special issue of this journal focused on what our field has accomplished and what it needs to do to improve its understanding and influence, rather than starting from the question of what the world needs from us. Reflexivity should act as a check on our anxieties about scholarly identity and status, on professional and disciplinary insularity, and self-regard. Reflexivity reminds us that discipline-building – increasing access to grants, recognition, and seats at the policy table – is a means to larger ends, not an end in itself. It pushes us to worry less about whether we are *distinguishing* ourselves from other fields and more about whether we are *collaborating* well with scholars from other disciplines and with community actors to address our most significant environmental challenges and imagine their solutions.

Scholars of EJ can begin by routinely employing Barge's (2016) heuristic for reflexive research design, which prompts us to clarify our positionality, purpose, temporality (length of commitment to a project), intended level of change (from local to global, individual to collective), and change model (elite-led, grassroots, etc.) We can also ask how we are practicing accountability to marginalized groups, not just to our funders and our field. ES often does each of these things by establishing clear and specific agreements among research partners, which spell out joint aims, complementary contributions, and shared resources. Incorporating lay people into the research team can promote deeper community understanding of and trust in the scholarly process and its conclusions (Groffman et al., 2010). ES has also formalized reflexivity and accountability through review boards in which community members and academics work together to evaluate research proposals and publications. Some disciplines have developed standards of peer review specific to ES, which apply traditional criteria such as authors' ability to reference and build upon prior work, but also assess how effectively academic researchers incorporate community expertise, the degree to which the work benefits communities, and other standards unique to ES (Campus Compact, 2018; Engagement Scholarship Consortium, 2018; Jordan, 2007).

*Rigor*

ES can strengthen the rigor of communication research by improving study design, data collection, and data analysis. Communication scholars have found that developing research questions and goals with community-based organizations helped to build trust that opened doors to new research sites and populations, such as Latinx cultural groups (Chen, Milstein, Anguiano, Sandoval, & Knudsen, 2012) and fair trade activists (Palmer, 2007). In addition, by enlisting

community members as co-researchers, scholars can reach larger sample sizes, increase survey and interview response rates, and boost participation in interventions and treatments.

Most importantly, ES might help fulfill calls to expand the scope of rhetorical and media studies beyond isolated analyses of representations of the environment (Anderson, 2015; Besley, 2015; Cox, 2015). This media centrism limits our understanding of how environmental discourse is produced, circulated, interpreted, and deployed in public discourses and policy processes, and its influence on individual attitudes and behavior, collective action, and political outcomes. Media-centrism can also lead us to assume that environmental problems stem solely from an information deficit among the public, which can be corrected by providing better information or presenting it more palatably. This points us toward silver bullet solutions, some worthy but none sufficient, all of them involving one-way communication from experts to the public, such as training scientists to communicate better, promoting celebrity scientists in the mass media, and seeking the single most persuasive issue frame. These strategies ignore findings that increased knowledge among the public does not necessarily lead to behavioral changes or policy advocacy because our interpretation of and willingness to act on environmental messages depends largely on our social norms and identities, political ideologies, trust in institutions, and sense of personal and collective efficacy (Nisbet, Hixon, Moore, & Nelson, 2010).

In contrast, ES encourages a more holistic view of the communication process by allying our work with practitioners of environmental and health communication who aim to engage, inform, influence, or serve specific constituencies. Organizers of public participation, social movement advocates, service providers, independent research institutes, and public agencies have much at stake in understanding the full circuit of public communication to accomplish their goals, such as facilitating participatory governance, persuading and mobilizing citizens,

influencing legislative and corporate action, crafting regulations, and improving health behaviors. Practitioners often seek communication strategies guided by past theory and practice but sensitive to the context at hand, and open to revision and elaboration through iterative rounds of community input and results that allow researchers to refine their interventions and studies (Moser, 2016). By defining the scope and aims of our research with these practitioners, we can open our scholarly lenses to design studies that link media messages to public opinion and action.

*Reach*

Besley (2015) observes that our field limits its own influence by devoting more effort to critiquing media representations than producing better ones, and more attention to theory building than providing empirical evidence that offers useful guidance for policy and practice. These patterns reflect the pressures felt by all university researchers. In response to academic reward structures and disciplinary demands, many of us are "talking to ever smaller and narrower academic audiences, using a language that educated readers do not understand, publishing in journals they don't read, and asking questions they don't care about" (Hoffman, 2015, p. A48).

In response, ES aims to disseminate knowledge to diverse audiences and translate it into useful tools for practice, policy, and organizing, as well as academia (Balazs & Morello-Frosch, 2013). Scholars and partners express their research in many forms, from journal articles to policy briefings, white papers, fact sheets, opinion articles, testimony in regulatory forums, activities and games in community meetings, and so on.  Community partners play a crucial role in building an active audience for ES, promoting and applying its findings, and implementing or demanding responses from decision makers. Rather than publishing research and hoping it has

some effect, scholars build relationships and dialogue with their audiences throughout the course of their research, increasing their reach and influence.

*Challenges of ES*

Along with unique advantages, ES presents distinctive challenges.  It can be challenging to produce research that is simultaneously useful to community partners, complies with funding agencies' goals, and meets criteria for academic publication.  Some universities have not fully implemented the policies and peer review standards for evaluating ES cited above, which is important for ensuring that ES is valued fully in hiring and promotion. Like ethnographers, engaged scholars must explain why an epistemology grounded in co-production of knowledge and dialogue with research participants is a valid alternative to traditional positivist values of scholarly detachment and objectivity (de Onís & Pezzullo, 2017).  Some Institutional Review Boards need to update their policies to enable community partners to participate fully in gathering and analyzing sensitive data (Morello-Frosch, Brown, & Brody, 2017).  Engaged scholars need professional development in building community partnerships, cultivating cultural humility and intercultural communication skills, and cross-disciplinary collaboration (Campus Community Partnerships for Health, 2018).  Academics who want to pursue ES should review the growing literature on how to feed their souls without sacrificing their positions, which is increasingly possible (e.g., Barge, 2016; Welch, 2016).

While they pose new demands, ES partnerships can also unlock new sources of funding, research tools, data, participants, and conceptual frameworks. For example, in the U.S., federal and private support for ES in public health increased dramatically from the late 1990s onward (Balazs & Morello-Frosch, 2013), and major philanthropies devoted more funding for climate

communication and grassroots organizing in marginalized communities in the 2010s (Nisbet,

2018).

## Research Agenda

Table 2 proposes four streams of engaged communication scholarship and how they

might enlarge our research on EJ. While one or more of these streams often converge in

particular projects, it is useful to distinguish their purposes, which are defined by modes of

community engagement often mentioned in the ES literature (Welch, 2016), and that cut across

our discipline's many subfields (such as environmental, risk, and science communication).

Descriptions of each stream include new directions for expanding our scope from less to more

engaged research. This is in part an issue of moving from analysis and critique toward a praxis of

theoretically-informed interventions and reflective research. Yet it is also about considering how

to deepen community members' participation in all stages of our research, when possible. These

shifts are proposed as *expansions* on prior work rather than *replacements* for it. For example,

rather than suggesting that we abandon analyses of media texts, I am suggesting that we connect

our analyses better to collaborative interventions in public discourse.  For each stream, I also

sketch a sample research agenda and some relevant communication subfields (for brevity's sake,

these do not include environmental, science, risk, health, and applied communication, which can

contribute to each stream). This agenda is suggestive, not exhaustive.

[Table 2 around here]

## Information, News, and Discourse

This stream focuses on the representation and monitoring of EJ in public discourse and

informational infrastructure (apps, databases, archives, and the like). To date, our field's main

contributions to this stream consist of research on the sociology of environmental news

production and patterns of coverage, and how these relate to public opinion and policy making (Hansen & Cox, 2015). Longitudinal research has documented a large-scale shift in journalistic paradigms since the 1950s, from reporting the environment primarily through the lens of scientific control and resource exploitation to adopting a lens focused on protection and sustainability (Hansen, 2015). Some of this research demonstrates agenda-setting and agenda-building influences, although the relationships between the scientific, political, advocacy, media, and public issue agendas are complex and dynamic, not simply a linear flow of effects from experts and advocates to journalists to the public and policy makers (Liu, Lindquist, & Vedlitz, 2011).

The small body of research on EJ and journalism consists of case studies demonstrating that EJ sources and frames are slighted in mainstream news and therefore must seek alternative media coverage to be aired more fully. This work has shown that mainstream journalism tends to efface the history and causes of environmental injustices (Andersson, 2017) and that journalists are oriented to reporting the views of established authorities in business and government, rather than advocates (Sovacool, 2008). For example, several studies demonstrate the dominance of neoliberal and corporate discourse over indigenous frames in mainstream coverage of debates over environmental and trade regulation in Peru (Takahashi & Meisner, 2012) and in struggles over metals mining in El Salvador (Hopke, 2012).

We can move beyond a media-centric focus on the representation of EJ in several ways. First, we still do not know much about how EJ issues in news interact with public opinion and policymaking in the current media environment. Amidst the challenges of political polarization, misinformation, media partisanship, and motivated reasoning, a crucial task is to identify how organizations can provide accurate and trusted sources of EJ info to disempowered communities

and officials in ways that help them to act on it. Studies of how marginalized communities, other members of the public, and policy makers interpret and are influenced by EJ news and information today would help fill these gaps. This includes whether and how academics exert influence through our public scholarship – by acting as expert news sources, offering training for journalists, authoring opinion articles and policy briefs, giving public testimony, speaking at community meetings, and the like. We might also partner with researchers in multiple fields who are beginning to study the effects of translational and participatory research, such as a recent study of the impact of distributing climate justice maps on the most vulnerable residents' understanding of and preparedness for climate change hazards (Cheng et al., 2017). We still have much to learn about how to circulate environmental health information through a dialogic process that makes research findings accessible to lay people, and how to communicate findings about marginalized communities in ways that overcome their mistrust about being stigmatized (McDavitt et al., 2016).

Second, we can expand our focus from static media texts to analyze and improve interactive tools that allow advocates and others to describe, depict, map, monitor, and analyze EJ. As media ecologists remind us, technologies such as these shape what can be known and done with information in ways that can be more pervasive and persistent than isolated news stories and government reports (Strate, 2017). For example, regulators and EJ advocates are using new public database and mapping tools (described below) to identify communities that are already subject to cumulative environmental hazards, which can influence whether new hazards are permitted there. At the same time, communication scholars know that the verbal and visual interfaces, and criteria for data selection, of technologies such as these inevitably reflect their designers' assumptions about nature and society, rather than simply providing neutral platforms

for raw data (Gitelman, 2013). As these media technologies increasingly influence how advocates, policy makers, and regulators represent EJ issues, these tools can play a greater role in processes of framing, agenda-setting, and agenda-building.

We can help improve how these tools are designed and used to communicate about EJ. Consider the U.S. Environmental Protection Agency's (EPA) Integrated Risk Information System (IRIS) (https://www.epa.gov/iris), an important database of risk assessments conducted on about 550 chemicals, which many governments use to set exposure standards in homes and workplaces. IRIS records reflect traditional risk assessment, reporting the "acceptable level of risk" for each substance to the "average person" (typically a healthy adult male), based on reductionist testing of effects of the chemical alone, and assuming that it is safe unless toxicology proves otherwise. IRIS does not translate regulatory science for the public, serving up a thicket of RfDs, LOAELs, and composite UFs. In response, EJ advocates and academics created the Chemical Hazard and Alternatives Toolbox (ChemHAT) (http://www.chemhat.org), which draws on global scientific records to characterize hazards posed by substances based on the precautionary principle and alternatives assessment. In plain language and color-coded visuals, ChemHAT reports potential acute and chronic effects on human health (including cumulative and synergistic effects, and impacts on children and the immune-suppressed), environmental impacts, where one is likely to be exposed, how to protect oneself, safer available alternatives, and links to underlying data sources. ChemHAT is the product of participatory research conducted with workers by labor unions, occupational safety and health organizations, environmental groups, public health scholars, and digital media designers. Environmental communication scholars should be initiating these kinds of projects too.

Scholars in other fields exemplify additional paths for us. Environmental researchers serve as advisers and peer reviewers of government and nonprofit databases, such as EJScreen (http://www.epa.gov/ejscreen), developed by the U.S. EPA to map environmental and demographic characteristics of communities and help identify disproportionate environmental impacts. Public health scholars provide some of the data sets on health disparities found on the U.S. Office of Disease Prevention and Health Promotion's HealthyPeople.gov web site, and are "power users" who deploy those data to produce second-level informational products for the public. Scholars and community partners are using data and mapping tools, including the EPA's C-FERST database and the Public Lab web site (https://publiclab.org), to map community assets and hazards, and to prioritize environmental health prevention activities (English et al., 2018; United States Environmental Protection Agency, 2016). Computer scientists have assigned or encouraged students to help create information tools with community partners, such as the GetCalFresh smart phone app (https://www.codeforamerica.org/services/getcalfresh) developed by Code for America, which promotes food security and justice by helping low-income Californians to sign up for food stamps. Academics at the Universitat Autonoma de Barcelona created the Environmental Justice Atlas (http://ejatlas.org), an interactive archive of case studies of EJ conflicts around the world, written collaboratively by scholars and activists to support teaching, networking, and advocacy.

### Public Deliberation and Participation

Deliberative participation typically occurs in public forums and consultations in which community members contribute their knowledge, values, and proposals to influence the decisions and plans of government agencies and other institutions. Communication scholars have helped to show how EJ advocates face an uneven playing field in regulatory forums and risk

communication processes, which typically invest authority in technical expertise, dismiss public concerns as irrational, and reserve control over decisions for regulators who are often more responsive to polluters than the public (Depoe, Delicath, & Elsenbeer, 2004). Scholars in our field have also helped to develop alternatives. Sandman's (1987) redefinition of risk as hazard (defined in narrow technical terms) plus outrage (based on whether public exposure is voluntary, controllable, widely shared, and, crucially, fair) helped legitimate overburdened communities' EJ demands to resist additional risks. Daniels and Walker (2001) drew on their extensive experience organizing environmental stakeholder consultations to develop a "collaborative learning approach," which emphasizes enlisting the public in making meaningful decisions based on dialog, deliberation, and mutual learning among officials and stakeholders. This approach, along with Walker's (2007) framework for participatory communication aimed at establishing shared understanding, has helped community members inject discussion of values and justice, and experiential and indigenous knowledge, into regulatory proceedings.

Research shows that well-organized public deliberation about environmental issues can confer a host of benefits. Participants can deepen their understanding, learn new perspectives, and develop empathy and trust for each other and for governance processes (Moser, 2016). Deliberative consultation has also improved policy outcomes, especially at the local level, for climate change adaptation, clean energy, sustainable community development, and community forest management (Fischer, 2017; Romsdahl, Blue, & Kirilenko, 2018). Yet deliberation on EJ matters sometimes still excludes disempowered groups; reinforces communicative hierarchies based on race, ethnicity, gender, class, and other characteristics; limits discussion to a narrow range of options determined by elites; and fails to affect policy when it challenges dominant political and economic interests (Dutta, 2015; Endres, 2012).

Thus, the first task for ES on deliberation is to deepen understanding of how to practice inclusion. To that end, practitioners are experimenting with special efforts to recruit diverse participants and facilitate discussion on equal terms, provide accessible information that translates expert thinking into lay terms, welcome emotional expression as well as cognitive reasoning, value personal storytelling and testimony as much as statistics and abstract argument, avoid enforced agreement, and draw attention to disempowered groups' interests as integral components of the common good (Gastil, 2017; Karpowitz & Raphael, 2014). ES can evaluate existing and emerging techniques for recruiting and facilitating EJ deliberation equitably.

This includes questioning the assumption that public deliberation is most legitimate when it occurs in groups that are representative microcosms of the population. In regard to EJ issues, well-structured enclave deliberation among less-empowered groups may be a valuable stage in a larger process of discussion with more privileged citizens. Research finds that enclave discussion can enhance less-advantaged members' participation, self-efficacy, and issue knowledge, while avoiding the dangers of groupthink and extremism (Abdullah, Karpowitz, & Raphael, 2016). Yet we still need to know more about how to integrate deliberation in enclaves and in cross-cutting groups, especially about EJ controversies (Karpowitz & Raphael, 2014, chapter 7).

We also need more research on how public deliberation succeeds at incorporating grassroots frames and promoting EJ outcomes. For example, Schlosberg, Collins, and Niemeyer (2017) helped organize and evaluate a citizen panel as part of the City of Sydney's climate planning process. Deliberating in diverse groups, citizens expanded their initial framing to consider the impacts of climate change on the most vulnerable members of their community and the wider region. Before and after surveys showed increases in participants' concern for the most

vulnerable populations, less discriminatory views of climate migrants and indigenous Australians, greater attention to protecting flora and fauna, and increased support for investing in the transition to a post-carbon economy. In short, the citizen panelists enlarged their views from immediate and pragmatic concerns to articulate a long-term vision of a just transition for people and nature. The citizen panel's recommendations were also more expansive than local governments' existing climate adaptation plans, which did not incorporate an analysis of vulnerable groups or protecting other species.

What factors promote the positive goals of deliberation about EJ seen in the Sydney panel, such as respect for indigenous knowledge and peoples, incorporating equity considerations, and increasing procedural democracy in environmental governance? What can comparative research tell us about why deliberative approaches such as participatory development and participatory budgeting have resulted in more equitable distribution of public funding in some parts of the developing world (Leighninger, 2016) than in others (Waisbord, 2015) and in the U.S. (Pape & Lerner, 2016)?

ES can also help advance understanding of how deliberation can be integrated with EJ activism. It would be a mistake to conflate deliberation, which is a mode of communication, with a political orientation that prizes ideological centrism and depoliticized problem-solving. Social movements are themselves rich sites for the study of internal deliberation over goals, strategy, and tactics. For example, della Porta (2006) has shown how deliberation within the global justice movement for fair and sustainable trade strengthened leadership accountability, political education and mobilization. Palmer's (2007) study of a consensus communication training he designed for an affiliate of the global justice movement suggests that it made valuable contributions to the organization's ability to make collective decisions. We can also partner with

advocates to improve their ability to convene the public to set EJ goals, as many organizations are doing to envision a just transition to a sustainable energy economy (Cozen, Endres, Peterson, Horton, & Barnett, 2018). Activists also deliberate with their adversaries, recognizing that the challenge is to identify when political conditions are ripe for talk or for protest, not whether to choose one or the other strategy exclusively (Fung, 2005). How does the quality of EJ movements' deliberation affect their internal democracy and success at achieving their goals? How do EJ movements manage the necessary shift from internal deliberation to raising a united external voice for action? What roles can communication and communication scholars play in fostering inclusive and equitable deliberation in movements, and between them and their targets in corporations and government?

We also need more ES on how to maximize the impact of public consultations on procedural and distributive aspects of EJ. In particular, how can public input influence the development and regulation of science and technology to identify potential value conflicts, especially at "constitutional moments" before new technologies arrive on the market, when it is often too late to act on public concerns (Jasanoff, 2011)? The Integrated Assessment of Geoengineering Proposals Project, which involved public deliberation on climate engineering in four U.K. cities, surfaced several EJ concerns among participants, including about moral hazards, environmental dumping, vested interests, and fair procedures for engineering the climate (McLaren, Parkhill, Corner, Vaughan, & Pidgeon, 2016). How can these consultations be institutionalized and empowered in diverse policy contexts?

Scholarship can also shed more light on the persistent challenge of bridging the gap between expert and lay knowledge. Endres' (2009) study of public consultation on nuclear waste siting found that advocates and the public can and must make scientific arguments, not just

cultural claims, to influence EJ controversies. How do they do this most effectively? Conversely, what are the most effective communication strategies that scientists are using to motivate and empower the public to make decisions, not just inform the community, however accessibly (Groffman et al., 2010)? Transforming science and risk communication also depends on experts and regulators becoming "democratic professionals" (Dzur, 2008), who introduce participatory and deliberative innovations into their institutions, often in the face of bureaucratic and professional pressures to maximize their authority and efficiency. How do they establish these communicative innovations and which are most promising for EJ?

## Campaigns and Movements

This stream focuses on strategic and persuasive communication to promote individual attitudes and behaviors, and collective capacities and mobilization, for policy and legislative advocacy, and changes in corporate and institutional behavior. Many public actors carry out EJ campaigns, including advocacy organizations and movements, civic groups, health and service providers, global aid organizations, and government agencies.

Environmental communication scholars have been especially attentive to analyzing how EJ movements' critical rhetoric counters opponents' public arguments. This body of research encompasses struggles over a wide array of issues, including climate and reproductive justice (de Onís, 2012), e-waste and sustainable electronics (Raphael & Smith, 2006), nuclear waste (Endres, 2009), toxics (DeLuca, 1999; Pezzullo, 2009, 2014), stresses on people and land from U.S.-Mexico border enforcement (Shellabarger, Peterson, Sills, & Cubbage, 2012), energy colonialism in Puerto Rico (de Onís, 2018), deforestation and peacebuilding in Africa (Gorsevski, 2012), and compensation for victims of the Union Carbide chemical release in Bhopal, India (Pal & Dutta, 2012).

23

This research has identified several themes specific to EJ conflicts. One concerns how, in a movement led mainly by women, EJ activists powerfully invoke the moral authority of motherhood to lay claim to widely shared values (Gorsevski, 2012; Sowards, 2010). Another important focus is how public argumentation legitimates and delegitimates extraction of resources from, and imposition of negative environmental externalities on, oppressed and underresourced groups and areas (e.g., de Onís, 2018, Endres, 2009; Pezzullo, 2009; Shellabarger et al., 2012). Third, rhetorical studies are revealing how corporate communication increasingly co-opts EJ rhetoric, such as the coal industry's campaign for the "moral case" for coal as a solution to "global energy poverty" (Schneider, Schwarze, Bsumek, & Peeples, 2016).

Drawing on this valuable base, we can go beyond rhetorical case studies of existing movements to help design EJ campaigns and evaluate their impacts on their participants and goals. Communication activism research (Carragee & Frey, 2016) offers an especially useful framework for scholarly collaborations with community organizations and movements to create communicative interventions for social justice and research the impacts. Movements can also benefit from other scholarly contributions. In some cases, analyses of existing discourse, literature reviews, and theoretical essays may be helpful preparatory work for launching campaigns (Barge, 2016). Retroactive and prospective analyses of campaign discourse can also be useful. For example, scholarly collaboration has helped sustainable electronics advocates to better understand the movement's prior framing strategies and share them with other activists (Smith et al., 2006) and clarify priorities for future campaigns (Raphael & Smith, 2015). Scholars have also shared critical feedback with campaign leaders, such as analysis of how the 2007 Step It Up campaign's rhetorical focus on consumer action against climate change and

reliance on online-only organizing failed to build alliances with EJ advocates (Endres, Clarke, Garrison, & Peterson, 2009).

In the interest of procedural justice, we can also move from top-down to participatory campaign design. Many campaigns employ a social marketing model, pre-testing messages focused on inducing individual attitudinal and behavioral changes in target populations. Other campaigns use a media advocacy model to advance short-term policy objectives by mobilizing support through the mass media. A third model, which Ryan and Brown (2015) call a social movement or social justice model, used in the Sierra Club's "Beyond Coal" campaign and Green for All's "Green Jobs" campaign, has proved especially apt to scholarly collaborations with EJ groups. This model prioritizes building relationships with community members over time to build their communication resources and skills, so that members of disempowered publics can participate directly in communication campaigns. Brulle (2010) offers a conceptual basis for EJ campaigns of this kind, and the Media Research and Action Project (https://www.mrap.info) and Center for Media Justice (http://centerformediajustice.org) are exemplars for doing the practical work of developing communication strategies with community partners. We can draw additional inspiration from public health campaigns that train *promotoras* (community health educators) to disseminate information and monitor health, including on climate justice (Sandhaus et al., 2018), which is one example of the larger shift toward participatory research on culturally-relevant communication in public health campaigns (English, Richardson, & Garzón-Galvis, 2018; Gray, 2018). Environmental communication scholars can contribute expertise in health, intercultural, and strategic communication to these efforts.

We can also help develop and assess campaigns that mobilize people to connect individual change with structural transformation. Reflecting on communication research about

global aid for health and sustainable development, Waisbord (2015) concludes that traditional diffusion campaigns aimed at changing individual attitudes and behaviors are not sufficient to make lasting and widespread improvements. Participatory campaigns also need to engage communities in advocating for supportive policies, programs, and funding from governments and international donors. He notes that communication scholarship has provided far more evidence about campaigns' influence on individual and group behavior than about effective policy advocacy, and that future research needs to link the two.

Public health researchers can offer some guidance on how to make these connections. They are beginning to do so in response to the paradigm shift in health research that finds health inequities are rooted less in disparities of healthcare, lifestyles, or genes, and more in differences among the social, economic, and physical conditions in which people live. This research suggests that the most important causes of poor health are poverty, meager educational and employment opportunities, social exclusion, lack of access to healthy food and housing, toxic environments, and similar problems of social and environmental justice (Corburn, 2009). In response, some health campaigners are shifting their targets from communities to corporations, industries, and regulators as the sources of health disparities (Zoller, 2017). In this light, public health campaigns are not simply about getting people to take their asthma medication, but challenging coal companies' emissions, pharmaceutical companies' pricing strategies, and barriers to regulating them more effectively.

We can also contribute research that helps to strengthen the environmental movement by bridging differences between EJ and mainstream environmental advocates. For example, Tema Milstein and her colleagues collaborated with established environmental organizations, Latinx cultural and policy advocacy groups, and community members to research Latinx perspectives

on ecocultural struggles in New Mexico (Chen, Milstein, Anguiano, Sandoval, & Knudsen, 2012). Their focus on identifying participants' ecocultural meaning systems (about how their identities linked to place, land, food, and neighbors) provided basic groundwork for helping predominantly white environmental groups broaden their vision to include Latinx residents' understanding of local and state environmental issues, and for Latinx cultural groups to incorporate ecological themes more fully in their work. ES such as this might help us develop pluralistic ways of communicating about justice effectively with diverse communities, building intercultural bridges between the dominant and EJ wings of the environmental movement.

## Education and Literacy

We can also strengthen EJ learning and literacy by advancing ES aimed at improving communication education. Some environmental communication educators have embraced ecopedagogy (Milstein et al., 2017), critical communication pedagogy (Walker, 2017), and communication activism pedagogy (Frey & Palmer, 2014). While these approaches differ in important ways, they share a commitment to fostering critical understanding and practice of sustainability and justice, through experiential, collaborative, community-based and place-based learning, which is expressed in a variety of media and communication skills (Milstein, Pileggi, & Morgan, 2017). The engaged curricula aims to provoke individual and social transformation via learning methods such as deep reflection on natural and cultural places; face-to-face and digital simulations; producing media for community organizations; and developing research-based communication and organizing campaigns, including efforts to make university campuses more just and sustainable.

Given these educational goals, a central research question is how to link personal and structural transformation for EJ. We have little systematic research on the effectiveness of

environmental or communication pedagogy that aims to deepen individuals' experience of nature and justice, and connect this understanding to action for social and structural change (Wals, Mochizuki, & Leicht, 2017). How can we help students and community members engaged in place-based learning grasp how local EJ issues relate to global forces? What are the influences of learning that last beyond a single semester? How does engaged pedagogy affect not only students, but also the faculty members and community partners who practice it, especially their capacities for collaboration and communication for EJ? How can we assess not just individual learning, but also the development of *community* capacities for just development (Wals et al., 2017), health (Gray, 2018), and other goals, such as the UN's education for sustainable development goals (UNESCO, 2017)? Might we adapt some of the same research designs and measures that have yielded clear findings about effective civic education (Colby, Beaumont, Ehrlich, & Corngold, 2010) and participation (Nabatchi & Leighninger, 2015)?

Second, much learning about EJ happens outside schools, in informal contexts that often involve more individually-driven, voluntary, intermittent, and lifelong learning, motivated by civic or consumer interest rather than by academic goals (Groffman et al., 2010). For example, Pezzullo's (2009) ethnographic research on toxic tours offered by EJ advocates found they promoted uniquely experiential and embodied learning about justice and place, yet participants sometimes drew very different conclusions. How do people make personal-structural connections about EJ differently in these contexts, such as community-based learning placements; EJ exhibits mounted by museums, such as The Natural History Museum (http://thenaturalhistorymuseum.org); training for advocacy, such as the online Climate Justice Initiative Toolkit (http://action.naacp.org/page/-/toolkits/ClimateToolkit_FINAL.pdf); and

interactive and culturally-relevant community health campaigns that address the social determinants of environmental health inequities (English et al., 2018; Finn & O'Fallon, 2017)?

A third set of research questions revolves around how to design and teach with media for EJ, especially to introduce learners to places, people, and experiences they cannot experience directly.  For example, research on digital games and simulations is identifying the psychological variables – such as presence, flow, and character identification – which can promote empathy and interest in global sweatshop workers (Raphael, Bachen, & Hernández-Ramos, 2012) and survivors of environmental disasters in the developing world (Bachen, Hernández-Ramos, Raphael, & Waldron, 2016).  How can we partner with media designers and EJ advocates to create and evaluate effective media and surrounding experiences (preparatory study, group debriefings, and individual reflections) that deepen understanding of the consequences of personal and policy decisions for EJ?

Fourth, we need research on how best to teach the EJ impacts of media technologies themselves, which should be a special concern of our field. It is no secret that each stage in the lifecycle of phones and computers is a dirty business for workers and the environment – from the enormous amounts of conflict minerals, chemicals, water, energy, and cheap labor used to produce components to the illicit global trade in e-waste, and the toxic hazards it poses to workers and communities involved in recycling and disposal (Smith, Sonnenfeld, & Pellow, 2006).  How effective are consumer politics, such as responsible buying and recycling guides, and do-it-yourself (DIY) culture, such as Repair Cafés that invite people to learn how to fix rather than replace their electronics (Kannengießer, 2017), as starting points for student and community engagement with these issues? How can faculty, students, and advocates collaborate well to design curricula, framing strategies for electronics campaigns (Raphael & Smith, 2006),

campus advocacy for responsible electronics purchasing and recycling policies, and action research on industry practices (e.g., SACOM, 2012)? In addition, we can partner with local organizations to study and address the role of the information and communication technology (ICT) sector in widening income inequalities between those who benefit from the new economy and workers who are replaced by ICTs; in displacing low-income people from city centers, increasing their commutes and carbon emissions; and in supporting app-fueled gig economy industries like ride-hailing, which increase urban traffic and air pollution while depressing wages. We can build on a foundation of critical-cultural research in this area (e.g., Maxwell & Miller, 2012; Maxwell, Raundalen, & Vestberg, 2015) to develop and assess engaged pedagogy on the impacts of ICTs and how they intersect with a host of EJ issues, including urban planning, public transportation, and affordable housing.

Fifth, we need to know more about how environmental communication can strengthen long-term university-community partnerships, in which universities act as anchor institutions in their cities and regions, investing their human and economic resources in collaborations to improve services, education, health care, economic development, and cultural activities. Methods include robust community-based learning partnerships, volunteering, and interdisciplinary research initiatives (Welch, 2016).

The University of Maine's Sustainability Solutions Initiative offers a good example of the value that communication scholars can add to these partnerships. Initially, natural scientists and engineers assumed that the communication researchers' role was simply to disseminate the projects' findings, providing "a service for improving the transmission of others' brilliance" (Lindenfeld, Hall, McGreavy, Silka, & Hart, 2012, p. 30). However, the communication scholars became valuable experts in listening deeply to the community, "assessing salient

discourses, power structures, local language, and cultural practices within particular contexts" (p. 30). This helped the research team to frame problems and choose forms of collaboration that engaged community partners more effectively. The communication scholars also improved cooperation within the large interdisciplinary team of academics from institutions across the state, leading framing exercises to help researchers develop a common language, and employing organizational and small group communication approaches to improve scholarly collaboration. For example, they found that "setting the problem at an altitude that rests above the ability of any one discipline ensures that the collective actions of the group override the dominance of any one researcher" (p. 36).

Finally, we need to remain reflexive about the purpose and impacts of these partnerships. EJ scholars are increasingly questioning whether our efforts to build more sustainable urban communities and develop ecotourism are displacing rather than helping people in poverty (Agyeman, Schlosberg, Craven, & Matthews, 2016). Community gardens, farmers markets, bike lanes, and other improvements can also grease the wheels of gentrification, and ecotourism can displace local people, overtax local ecologies, and increase transportation-related greenhouse gas emissions. We need to incorporate study of these unintended consequences into our research.

## Conclusion

Engaged scholarship is the most appropriate approach for studying EJ communication because it includes oppressed communities in the design and conduct of our research, democratizing scholarship in ways that can help democratize EJ policy and practices. ES poses unique challenges, including sharing control and resources with community partners, practicing cultural humility, integrating engagement and research well, and satisfying unique criteria for participatory research as well as traditional academic expectations. However, many scholars and

community collaborators have found the rewards of ES outweigh its costs. An engaged approach can strengthen the relevance, rigor, reflexivity, and reach of our research and the field.

Environmental communication can be proud of its contributions to EJ, especially its analyses of social movement rhetoric, the chilly reception it has received in mainstream environmental news, and how public participation in environmental policy and decision making can be more inclusive of the knowledge, interests, and voices of disempowered communities. Yet, given its global importance, EJ deserves more attention from our field than it has received of late.  If environmental communication is a discipline of crisis and care, then the crises we confront especially affect the least powerful and wealthy, who are taking the brunt of climate change and other environmental and health burdens, and who deserve to participate more fully in decisions that affect their communities. We can demonstrate our care by building on existing examples of engaged communication scholarship on EJ to conduct more of it.

Raphael, C. (2019). Engaged communication scholarship for environmental justice: A research agenda. *Environmental Communication*. doi.org/10.1080/17524032.2019.1591478

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Table 1. Levels of Community Participation in Research

**Increasing Level of Community Participation** →

| | Inform | Consult | Involve | Collaborate | Empower |
|---|---|---|---|---|---|
| **Process** | ▪ Researchers share information with the community, customized to its needs or interests<br>▪ Mutual recognition<br>▪ Brief encounter | ▪ Researchers amplify community voices, seek their feedback on analysis before publication<br>▪ Dialogue<br>▪ Short-term relationship | ▪ Researchers enlist community to contribute to study design, data gathering, and/or execution<br>▪ Cooperation<br>▪ Medium-term relationship | ▪ Researchers share resources and control over all stages of study with community<br>▪ Co-production of knowledge<br>▪ Long-term partnership | ▪ Community controls resources and has final say over all stages of study<br>▪ Community-led<br>▪ Long-term partnership |
| **Outcomes** | ▪ Tailored transmission of research strengthens its relevance and impact | ▪ Perspective sharing ("member checks") strengthens interpretive validity and impact of research | ▪ Relationships strengthen research study design, access to data, validity, community problem solving | ▪ Cooperative learning partnership strengthens research and community problem solving, mobilization, transformation | ▪ Co-ownership strengthens research and community capacities for further research, mobilization, transformation |
| **Approaches** | ▪ Risk Communication<br>▪ Public Understanding of Science | ▪ Ethnography<br>▪ Rhetorical Field Studies | ▪ Applied Communication Research<br>▪ Citizen Science | ▪ Participatory Action Research<br>▪ Community-Based Participatory Research<br>▪ Collaborative Learning<br>▪ Communication Activism Research | → → → → |

Table 2.  Streams of Engaged Communication Scholarship for Environmental Justice (EJ)

| Stream | Purpose | New Directions | Sample Research Agenda | Relevant Subfields |
|---|---|---|---|---|
| Information, news, and discourse | Describe, depict, map, and monitor EJ | Analysis of interventions and interactive tools | • Analyses of relationships between EJ communication, public opinion and policy<br>• User studies that help improve design of news, risk, and health information for underserved groups<br>• Analyses of interventions to boost EJ sources, frames, and viewpoints in public discourse<br>• User studies aimed at improving design and use of EJ tools | • Rhetorical and media studies<br>• Strategic, political, visual, intercultural, critical-cultural, and computer-mediated communication |
| Public deliberation and participation | Stimulate inclusive public discussion, decision making, and conflict resolution of EJ issues | Analysis of enclave deliberation and the integration of deliberation and activism | • Comparative studies of the design and qualities of inclusive deliberation about EJ, and its impacts on participants and policy making<br>• Research on the optimal integration of enclave and cross-cutting deliberation, deliberation and advocacy, and expert and lay knowledge<br>• Analyses of the impact of public participation on procedural and distributive justice in risk communication, and stakeholder and public consultation | • Group, organizational, intercultural, political, risk, and peace and conflict communication |
| Campaigns and movements | Promote EJ attitudes, behaviors, and mobilization for collective action and policy advocacy | Participatory design and evaluation of campaigns; bridging EJ and mainstream wings of environmental movement | • Collaboration with EJ partners to design and evaluate campaigns, and train community members to conduct them<br>• Participatory research on campaigns that connect community and policy change<br>• Engaged research on bridging differences between EJ and mainstream environmental communication | • Social movement, political, strategic, and critical-cultural communication; communication for development and social change |
| Education and literacy | Improve learning about EJ for individual, social, campus, and community transformation | Linking personal and structural change; analysis of impacts of media technologies; facilitation of community partnerships | • Participatory research on effective EJ education for individual and community learning, about local and global issues, in formal and informal contexts, over short and long term, for personal and social change<br>• Research on how to design and teach with educational media<br>• Research on how to teach the impacts of media technologies<br>• Research on communication's contributions to university-community partnerships | • Communication and education<br>• Critical-cultural, computer-mediated, organizational, group, and intercultural communication |