

Environmental Justice

Martha Matsuoka and Chad Raphael

Community-engaged researchers who want to contribute to environmental justice (EJ) need a full understanding of the concept of EJ, the movement they want to collaborate with, and the main developments in EJ research. This chapter begins by tracing the expanding definitions of the dimensions of environmental justice, and summarizes the growth of EJ movements in the U.S. and globally since the 1980s to set the stage for more detailed exploration of community-engaged research (CER) for EJ in later chapters of this book.

To ground researchers in history as well as current issues and debates, we devote equal attention to the growth of EJ as a concept, a movement, and a body of research. Yet this is not to suggest that they have played equal roles in the development of EJ around the world. On the contrary, movement thinking, organizing, and demands for change have incubated and motivated much of the theory and research. One of the main arguments of this book is that researchers should deepen their collaboration with EJ movements. To do this, researchers need to consider the multiple dimensions of EJ at stake in any study, how to work with community partners to craft research questions of mutual interest and benefit to EJ communities and movements, and how to employ and improve prior theory and findings on environmental injustices and their potential remedies.

DEFINING ENVIRONMENTAL JUSTICE

Environmental justice is a dynamic and evolving concept because it may be used descriptively or normatively, and because it is a traveling concept that has accrued many meanings as it has spread across diverse political, cultural, and scientific domains around the world (Holifield, Chakraborty, and Walker 2018). EJ is also a concept that continues to grow as activists and researchers confront new

TABLE 1.1. Dimensions of Environmental Justice

Dimension of Justice	In Environmental Justice
Distribution <i>Who ought to get what?</i>	Reducing environmental burdens, and increasing environmental benefits and capabilities, for EJ communities and the earth
Procedure <i>Who ought to decide?</i>	Participation and influence in environmental decision making by historically excluded groups, particularly in frontline communities Protection of individual and group rights through law, regulation, enforcement, and informed consent
Recognition <i>Who ought to be respected and valued?</i>	Respect for EJ communities' diverse environmental cultures and knowledges, and for the interests of future generations and non-human nature
Transformation <i>What ought to change, and how?</i>	Restoration of nature and reparation of damages to EJ communities from colonialism, racism, economic exploitation, and other systems of oppression Systemic and structural transitions to create just power relations, regenerative economies, and reciprocal relations with nature

developments in the world. EJ is often defined in universal terms as “the principle that all people have the right to be protected from environmental threats and to benefit from living in a clean and healthy environment” (Davies and Mah 2020a, 4). Yet EJ is principally “an affirmation of an unequal present and yearning for a better future” (4), in which people of color and of low income, Indigenous peoples, women, future generations, and all species can thrive, rather than having their lands, homes, cultures, and lives poisoned or stolen.

As we define EJ more fully below, we distill previous thinking and diverse terminology into four dimensions of justice that have traditionally defined EJ scholarship (see table 1.1). We adopt David Schlosberg’s (2009) influential framework, which identifies distributive, procedural, and recognition dimensions of EJ, and we add the emerging dimension of transformational justice. We treat capabilities justice, also discussed by Schlosberg, as an element that cuts across several dimensions. We ground each dimension in the main principles of the movement in the U.S., as they were stated in its constitutional document, the *Principles of Environmental Justice*, adopted at the First National People of Color Environmental Leadership Summit (1991), which articulated the values of grassroots leaders in the nascent movement, identified the distinct and common environmental threats they faced, and developed a shared analysis of and vision for EJ. We also mention some of the typical challenges that arise when applying each dimension of EJ to real-world conflicts, which provoke debate among activists, researchers, and policy makers. We see these four dimensions as interrelated elements of the holistic concept of EJ. This is because it seems both impossible and undesirable to

arrive at a fair agreement about how to share environmental benefits and burdens (distributional justice) without involving EJ communities meaningfully in making this decision (procedural justice) and respecting their diverse cultural understandings of the environment (recognition justice), which current institutions are incapable of doing without radical change (transformational justice).

Distribution

The distributive dimension of EJ refers to the fair apportioning of environmental burdens and benefits, and ensuring that environments allow all people to exercise their capabilities. These kinds of issues arise whenever there are disproportionate or intolerably intense harms and deprivations, regardless of whether they are caused by intentional discrimination on the part of specific actors (Kaswan 2021). Distributive concerns formed the initial core of the U.S. EJ movement as it documented and opposed environmental *burdens* on frontline communities, which faced the greatest environmental threats. Protestors fought against contamination from hazardous waste landfills, trash incinerators, oil refineries, chemical plants, mines, and other polluting facilities in majority Black, Latino, and Asian American residential areas; Native American reservations; and rural white working-class communities (Cole and Foster 2001). Groundbreaking research on environmental racism and justice documented the disproportionate exposure of communities of color to hazardous production and waste facilities (Bullard 1990; Commission for Racial Justice 1987).

However, distributive EJ is concerned not simply with *comparative* well-being among groups, but also with the *absolute* well-being of humans and nature. For example, when advocates of waste incinerators accused early EJ activists in the U.S. of being selfish “Not in My Backyarders” (NIMBYs) for resisting polluting facilities, activists replied that contamination did not belong in anyone’s backyard and characterized themselves as “Not on Planet Earthers” (NOPEs) (Pellow 2007, 96). Similarly, the *Principles of Environmental Justice* asserted rights to “universal protection from nuclear testing, extraction, production and disposal of toxic/hazardous wastes and poisons and nuclear testing that threaten the fundamental right to clean air, land, water, and food” (para. 5), as well as a universal responsibility to “challenge and reprioritize our lifestyles to ensure the health of the natural world for present and future generations” (para. 18).

In addition, the movement demanded policies for improving EJ communities’ access to environmental *benefits*, such as access to clean water and energy, transportation infrastructure, urban gardens and greenspaces, and green jobs (Agyman, Bullard, and Evans 2003). For example, the *Principles* asserted the “right of all workers to a safe and healthy work environment without being forced to choose between an unsafe livelihood and unemployment” (para. 9), and demanded “ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things” (para. 4).

The *capabilities* approach to global human rights and development (Nussbaum 2011; Sen 2010) also illuminates distributive aspects of EJ. In this view, justice involves the fair distribution of people's capabilities to function and flourish by realizing their own life choices. Those who apply this lens to global development typically include environmental and physical health as basic capabilities, which are equally important as, and inseparable from, traditional measures of economic well-being, such as income or wealth (Holland 2021). Moreover, individuals' ability to realize their capabilities depends in part on personal and external circumstances. Thus, this approach can help justify equity-based EJ policies, such as adopting stricter exposure limits to hazardous materials to protect people who are most vulnerable to harm (people with compromised immune systems, children, etc.). Capabilities theory has informed measures of collective well-being of humans and nature, such as the United Nations Development Programme's (2018) human development indicators and indices, which now include country-level measures of mortality from air and water pollution, and risk of extinction across groups of species.

However, resolving issues of distributive EJ poses several typical challenges. First, competing principles of distributive justice can lead to different conclusions about how to address unequal benefits and burdens. Should these inequalities be remedied by maximizing overall social welfare (utilitarianism), or by striving for equal distribution of environmental benefits and unavoidable environmental burdens, or by acting in a way to benefit the least environmentally advantaged, or the most historically oppressed, or those in greatest need, or those who deserve greater benefits because they have contributed least to or benefited least from polluting activities, and by other means (Kaswan 2021)? Second, even if we focus not on comparative well-being, but on guaranteeing a common set of capabilities for all, there is still a need for agreement on what those capabilities include and how to resolve potential conflicts among them. Moreover, the theory as a whole has been criticized for conceiving of capabilities solely in individualistic, human, and Western terms that do not reflect other conceptions of fair distribution, especially those of many Indigenous peoples. For example, Watene (2016) points out that capabilities theory conceives of nature instrumentally as a provider of ecosystem services (such as clean air and healthy food) to humans, rather than respecting natural beings as human kin and recognizing that care for their lands is central to many peoples' worldviews and identities. The capabilities view might accept separating Indigenous peoples from their traditional homelands if comparable ecosystem services could be provided to them elsewhere, while the latter view would see this as depriving a people of their existential right and responsibility to maintain their place-based relationships to specific species and sacred sites. As discussed below, conflicts such as this implicate the dimension of justice-as-recognition. For now, it is enough to say that EJ research and activism need to grapple with which principles of distributive justice (and whose) are most appropriate to remedy

environmental injustices, and to weigh distributive considerations against other dimensions of justice.

Procedure

Procedural justice concerns “the ability to participate in and influence decision-making processes” (Suisseea 2021, 38). EJ calls for meaningful participation and influence in environmental decision making by people who are affected by these decisions, especially historically excluded groups in frontline communities, and for consideration of the interests of future generations and non-human nature. This type of justice focuses on whether decision-making processes provide full *access* to information and *inclusion* of participants, whether people and other species are *represented* by those who are authorized to speak for their communities, and whether participants from EJ communities can exercise *power* over outcomes (Bell and Carrick 2018; Suisseea 2021). Procedural matters also include protection of individual and group environmental rights through law, regulation, enforcement, and requirements for free and prior informed consent by affected communities for decisions and research. Capabilities such as self-determination, control over one’s environment, and freedom from discrimination are central to this type of justice (Holland 2021).

Procedural justice has been a central concern of EJ movements, legislation, and treaties. In the *Principles of Environmental Justice*, EJ activists demanded “the right to participate as equal partners at every level of decision-making, including needs assessment, planning, implementation, enforcement and evaluation” (para. 8). The *Principles* also called for “strict enforcement of principles of informed consent, and a halt to the testing of experimental reproductive and medical procedures and vaccinations on people of color” (para. 14). In her keynote address to the 1991 summit where EJ movement leaders drafted the *Principles*, Dana Alston’s pronouncement, “we speak for ourselves,” claimed knowledge, experience, and voice for the movement in environmental policy making and representation in mainstream environmental organizations (First National People of Color Environmental Leadership Summit 1992).

Formal rights to participate are widely recognized around the world, although participation influences decisions unevenly. At present, over 100 countries have legislated mandatory public involvement in environmental decision making (Suisseea 2021). In the U.S., legislation such as the National Environmental Policy Act of 1970 triggered reviews of environmental impacts of federally funded projects, as did many counterpart laws enacted by states. The 1998 Aarhus Convention, an international European treaty, establishes some of the strongest public rights of access to environmental information, participation in decision making, and access to the courts. Numerous United Nations conventions and forums—on climate change, biological diversity, parks and protected areas, and illegal trade in endangered species—require Indigenous participation (but typically on a

non-voting basis) in international negotiations over environmental and development policy (Suiseeya 2021).

Assessing procedural justice requires careful attention to how power is exercised at each stage of decision making. As Suiseeya explains, “*Whose* problems are identified, *how* problems are defined, and the *salience*, or importance, of particular problems are dependent on *who* constitutes the body of decision-makers and the *relative abilities* of decision-makers to influence the decisions” (2021, 48). Many EJ communities and researchers are skeptical about participatory environmental governance, based on bitter experiences of engaging with state agencies that frame agendas to exclude community concerns, withhold information, refuse to communicate in lay terms and in participants’ languages, exclude affected groups from discussion, and treat public participation as an inconvenient bump in the road to ratifying decisions officials have already made.

Recognition

A third dimension of EJ is recognition, including who gets respected and valued. In EJ, recognition entails respect for diverse peoples’ environmental cultures (beliefs, values, practices) and knowledge (Schlosberg 2009; Whyte 2018a). This dimension of EJ highlights two broad kinds of injustices (Coolsaet and Néron 2021). One is exclusion of or discrimination against people who deserve equal standing or consideration by relegating them to lesser status because of their identity. Many environmental injustices are rooted in historic and systemic racism and cultural oppression. For example, Pulido’s (1996) study of Chicano-led campaigns by farmworkers against pesticide exposure and by small livestock growers for grazing rights reveals how these were not merely struggles over environmental and economic claims, but over “confronting a racist and exclusionary political and cultural system, and establishing an affirmative cultural and ethnic identity” (193). Failure to recognize future generations and non-human nature as worthy of consideration in decisions is also a major violation of justice-as-recognition.

Another kind of misrecognition involves coercive assimilation, which disrespects differences among peoples by imposing dominant cultural and scientific understandings and policy solutions universally. Much Indigenous-led resistance to environmental injustice involves demands for recognition of native peoples’ cultural autonomy, self-determination, and land rights, which is “nothing less than a matter of cultural survival” (Schlosberg 2009, 63). For example, when the Standing Rock Sioux protested the Dakota Access Pipeline in 2016, drawing support from around the world to block an oil pipeline that would have crossed the Missouri River on the tribe’s reservation, the tribe based its demands on recognition of their kinship with the river and its sacred status, rather than seeking a fairer distribution of the pipeline’s environmental risks or protection of proprietary water rights (Estes and Dhillon 2019).

The EJ movement prioritized recognition from the start. The first principle of the *Principles of Environmental Justice* called for recognition of “the sacredness of Mother Earth, ecological unity and the interdependence of all species, and the right to be free from ecological destruction” (para. 2). Additional principles included “demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias” (para. 3); an affirmation of “the fundamental right to political, economic, cultural and environmental self-determination of all peoples” (para. 6); and recognition of “a special legal and natural relationship of Native Peoples to the U.S. government through treaties, agreements, compacts, and covenants affirming sovereignty and self-determination” (para. 12). The *Principles* also anticipated efforts to decolonize knowledge by calling for education about “social and environmental issues, based on our experience and an appreciation of our diverse cultural perspectives” (para. 16). Demands for respecting Indigenous knowledge have advanced through the growing influence of traditional ecological knowledge (TEK) in environmental research and regulatory fora (see chapter 2); the adoption of data sovereignty protections for Indigenous peoples’ ability to control information gathered about biodiversity and sacred sites on their ancestral lands (see chapters 5 and 12); and the growth of Indigenous-led academic and research institutions in Latin America, North America, New Zealand, and elsewhere.

Addressing conflicts of justice-as-recognition can pose significant challenges, especially because recognition is not always easily integrated with the distributive and procedural dimensions of justice. Some worldviews cannot be reconciled easily, such as the resource view of nature in which a river is a collection of ecosystem services that can be fairly distributed, and a relational view of nature in which a river is a holistic source of life and cultural identity that must be protected because it is sacred. Unequal power in policy and decision making has tended to decide these conflicts in favor of dominant state and economic interests. In other cases, newly recognized rights of nature have granted protection to rivers and landscapes, and assigned Indigenous peoples rights of guardianship to protect these natural features (Akchurin 2015). Procedural solutions also fail to offer a panacea for some conflicts over recognition. Coulthard (2014) highlights the dangers of co-optation and internalized oppression when Indigenous peoples are recognized as partners in decision-making processes but held in a subordinate position. His study of the Canadian government’s long-term deliberations with the Dene First Nation over a pipeline project suggests that the process transformed the Dene’s relationship to the land, gradually persuading them to think of it in resource-based (proprietary and profit-oriented) terms rather than relational terms, and to accept a pipeline they had initially resisted. These examples point to the importance of considering the quality, extent, and terms of recognition, amidst ongoing pressures of colonization, capitalism, and systemic racism that constrain EJ communities’ ability to defend their culture, knowledge, and right to choose their own economic development plans.

Transformation

Transformational justice is an emerging dimension of EJ, which we add here because it is an increasingly important goal for EJ movements. Transformational justice draws on and extends traditions of restorative and transitional justice. Restorative justice, which emerged from criminal justice reform, seeks to engage offenders in dialogue with victims about how they have been affected by a crime, and to have them decide jointly on steps to repair the harm, with the goals of healing their relationship and healing the community (Capeheart and Milovanovic 2020). Transitional justice was developed to guide national transitions from authoritarianism to democracy and from war to peace, typically by organizing official commissions to seek truth about past abuses, establish accountability by responsible parties, offer reparations to victims, and recommend measures to avoid repetition of harms (Killean and Dempster 2021).

Each kind of justice can be applied to abuses of EJ, for example by deciding on reparations for past contamination of and harms to communities of color, or preparing transitions to full-state recognition of Indigenous peoples' land rights, or guiding climate change policy that recognizes rights of workers. The *Principles of Environmental Justice* appealed to restorative justice in affirming "the right of victims of environmental injustice to receive full compensation and reparations for damages as well as quality health care" (para. 10) and demanding that "all past and current producers be held strictly accountable to the people for detoxification and the containment at the point of production" (para. 7). Restorative claims can also include reparations for future adverse impacts, such as anticipated job losses in the fossil fuel industries as part of a just transition to cleaner energy sources (McCauley and Heffron 2018). Harms to individuals, groups, or nature may require reparations that involve redistribution (such as money damages to pollution victims from legal settlements), procedures (such as the inclusion of new groups in the policy-making process), or recognition (of the sovereignty of Indigenous groups over their traditional homelands, or the rights of nature, for example). The *Principles* also called for a transition to reciprocal relations among humans and nature, urging "urban and rural ecological policies to clean up and rebuild our cities and rural areas in balance with nature, honoring the cultural integrity of all our communities, and providing fair access for all to the full range of resources" (para. 13).

However, current models of restorative and transitional justice can be too narrow to advance EJ. Both typically involve government-led, short-term processes focused on a limited scope of issues, and do not question fundamental relations of state power or economic control, which risks restoring unjust relations or transitioning to new injustices (Killean and Dempster 2021; Nagy 2022). Some EJ activists and researchers seek to enlarge these two types of justice to support deeper transformation of societies and their relation to their environments. Transformative approaches typically call for long-term processes led by movements of grassroots

organizations that radically redesign structures of power, economic relationships, and dominant cultural narratives (Movement Generation Justice and Ecology Project, n.d.; Nagy 2022). A drive for transformative justice fueled some of the most prominent EJ campaigns in the 2010s, such as efforts to shift from an extractive to a regenerative economy while ensuring a just transition for workers and communities, implement environmentally just recoveries that “build back better” from disasters such as floods and earthquakes, enact rights of nature and return lands to Indigenous peoples to manage, advance alternatives to dominant plans for sustainable development, implement local examples of environmentally just production (of food, energy, and consumer goods), and dismantle racist systems of policing and prisons that create hostile and life-threatening environments.

Assessing transformative justice also poses a variety of challenges. Some of them relate to difficulties of weighing restorative justice. With regard to reparations, what kinds are owed, how much, to whom, from whom, who should decide, and how? Which criteria should be used to decide whether landscapes are restored or repaired (especially if some damages, such as species extinction, cannot be undone), much less human cultures, which are internally diverse and always evolving? Who decides? Some dilemmas are characteristic of transitional justice, such as how to resolve competing truth claims about abuses, and attribute personal and collective responsibility (especially to states and corporations). Some challenges are unique to transformational justice. How much change, and for whom, constitutes structural transformation rather than mere reformism? In addition, because this kind of justice involves an integrated vision of EJ, how should we assess uneven changes that involve improvements in some aspects but not others of economic and environmental equity, democratic decision making, and respect for cultures and nature?

MOVEMENTS FOR ENVIRONMENTAL JUSTICE

The expanding concept of environmental justice is important primarily because EJ movements have made it salient to communities, policy makers, and researchers around the world. Community-engaged researchers who work on EJ do not only enter an ongoing conversation among scholars in their fields, but also enter into high-stakes discussions within EJ movements about their communities’ health and survival. Therefore, researchers must be familiar with the broad contours of these movements. Below, we sketch their history, including their diverse origins, their redefinition of mainstream environmentalism and sustainable development, and their characteristic structures and strategies.

While movement leaders developed the initial terminology and organizing for EJ in the U.S. in the 1980s, they addressed a complex of issues rooted in the global history of colonialism, capitalism, patriarchy, the slave trade, and other systems of racial oppression, which seized, exploited, and destroyed lands and peoples for

centuries and which continue to shape people's environments and relations with nature today. Many local examples of resistance to these oppressions comprise what has been called the "long Environmental Justice movement" (Pellow 2018, 9).

EJ Movements in the United States

The contemporary EJ movement emerged in the U.S., as Black, Indigenous, and people of color (BIPOC) communities confronted immediate environmental threats to their neighborhoods, workplaces, and health. Local campaigns against environmental racism broadened into a movement for environmental justice as activists identified and opposed common sources of harm, especially from waste dumping and incineration, mining, industrial and agricultural chemicals, energy production, military toxics, and dispossession from ancestral lands. Given the internal diversity of the movement, the 1991 *Principles of Environmental Justice* discussed above were a major step toward building solidarity and networks for organizing in the growing movement.

The movement drew inspiration and activists primarily from movements for the civil, economic, and cultural rights of Black, Latinx, and Asian Americans and Indigenous movements for self-determination or sovereignty, but also from women's movements for health and reproductive justice, from the labor movement (especially farmworkers' campaigns against pesticides and manufacturing workers' occupational safety and health committees), and from grassroots campaigns against toxic contamination in white working-class communities (Bullard 1990; Cole and Foster 2001; Gaard 2018; LaDuke 1999; Peña 1998; Pulido 1996; Sze 2004; Taylor 1997, 2000). As the vision of EJ grew to encompass urban health and its many determinants, organizers and advocates drew inspiration from movements for public health, social work, and urban planning, which reach back to the 1800s (Corburn 2009; Gottlieb 2005; Taylor 2009).

The modern EJ movement reframed Americans' understanding of the environment and environmentalism. Whereas the traditional environmental movement had focused attention on protecting and managing wildlands and waters, the EJ movement redefined the environment to include people's everyday physical and cultural surroundings: homes, neighborhoods, schools, sacred sites, workplaces, and more (Čapek 1993). The EJ movement also forced a reckoning with racism in the mainstream environmental movement. Led by white, economically privileged males, 20th-century U.S. environmentalism had contributed to forced removal of Indigenous peoples from their lands in the interest of forestry and wilderness preservation (see chapter 12), advanced policies that excluded BIPOC residents from white neighborhoods (see chapter 11), promoted nativist movements to exclude immigrants of color from the country as perceived threats to racial and environmental purity (Taylor 2016), and supported coercive sterilization programs targeting people of color in the name of population control (Hartmann 1995). In the 1970s and 1980s, the largest national environmental organizations routinely

employed litigation and policy strategies that ignored the interests of EJ communities, or cut deals with polluters and state agencies that undercut local EJ organizers' demands. In response, EJ activists called for a more inclusive environmental movement with increased staffing and leadership by people of color who could reverse the movement's historic racism and hold it accountable to EJ communities (Southwest Organizing Project 1990).

The EJ movement also departed from the structure and strategies of mainstream environmentalism, which was controlled by a handful of large organizations led by professional staff headquartered in Washington, D.C. In contrast, the EJ movement comprised local organizations linked by regionally and ethnically defined networks that provided grassroots organizations with technical, legal, and financial support, and helped them build a wider base of support through organizing (Córdova 2002; Córdova et al. 2000; Schlosberg 1999). While these networks formed the initial glue of the EJ movement, they employed a translocal model of organizing that fostered cooperation between local organizations to build common knowledge and power, while remaining accountable to diverse grassroots constituencies. In contrast to the traditional environmental movement, people of color, especially women of color, formed the majority of the leadership of the EJ movement (Taylor 1997).

While mainstream environmental organizations prioritized national litigation and policy advocacy, EJ activists' initial strategies prioritized community organizing, using tactics of nonviolent protest and direct action to open negotiations with state and corporate actors over influencing facilities-siting decisions, legislation, and regulation (Cole and Foster 2001). The EJ movement also employed a community lawyering strategy, in which attorneys integrated litigation into larger organizing campaigns led by grassroots leaders (see chapter 7), as well as cultural organizing to strengthen members' collective identities based on shared identities, connections to place, and relations to nature and the environment (see chapter 6).

EJ Movements around the World

While the term *environmental justice* is not as widely used outside the U.S., EJ has become a global concern, although it is articulated differently around the world (Martinez-Alier et al. 2016). For Indigenous peoples, including those on lands in what is now called the U.S., EJ is a fundamental dimension of self-determination, protection and return of their traditional homelands, and the right to maintain native cultures and spirituality (Whyte 2018b). In Europe, EJ has often been seen more through the lenses of class and ethnicity than race (Walker 2012), and as an extension of human rights, as in the Aarhus Convention's protections for rights to information, participation, and adjudication of environmental issues. In the Global South, EJ issues are more often framed as matters of decolonization, climate justice and other ecological debts owed by polluters, resistance to multinational corporations, participatory and sustainable development and conservation,

food and energy sovereignty, or the environmentalism of the poor (Carmin and Agyeman 2011; Carruthers 2008; Martinez-Alier 2002; Shiva 2016b; Walker 2012). Nonetheless, environmental justice is now a collective action frame that communities around the world use to interpret harms, identify their causes, and mobilize people to act (Sicotte and Brulle 2018). A coherent global discourse of EJ has helped to coordinate and guide policy and action among diverse organizations, coalitions, and governments by providing a common repertoire of concepts, analyses, evidence, and solutions (Agyeman et al. 2016; Walker 2012).

As in the U.S., movements addressing EJ issues elsewhere often arise in reaction to immediate threats to people's surroundings (Sicotte and Brulle 2018). Awareness of these issues has grown worldwide, especially in response to intensified globalization of the extractive economy; relocation of toxic and energy-intensive industrial production from the Global North to the Global South; growing exports of consumer goods to the North and waste to the South; migration of peoples fleeing environmental, economic, military, and political violence; development and conservation projects that displace and disrupt Indigenous cultures and economies; privatized ownership of natural resources and the commons; the globalization of unsustainable agriculture and food systems; existential threats to communities from drought, fire, flooding, and inundation posed by climate change; and the rise of social movements that link environmental rights to economic, social, and political rights (Bickerstaff 2018; Chu, Anguelovski, and Carmin 2016; Martinez-Alier et al. 2016; Peña 1997; Pellow 2018; Shiva 2016a, 2016c; Temper 2018). Notable examples of EJ movements around the world include Kenya's Green Belt Movement, which began by organizing women to plant trees and eventually helped uproot a dictatorial national government (Hunt 2014); the Ogoni people's resistance to oil extraction on their lands in Nigeria (Stephenson Jr. and Schweitzer 2011); and Brazilian rubber tappers' defense of the Amazon rainforest against logging (Keck 1995).

EJ movements increasingly reached across political and economic borders, blurring traditional boundaries of governance and institutions (Pellow 2011; Sikor and Newell 2014). EJ advocates in the U.S. began forming translocal and transnational ties from the 1990s onward, coordinating campaigns and litigation to confront globalized industries where they operated in multiple locales (Ciplet, Roberts, and Khan 2015; Claudio 2007). Movements focused on food sovereignty, biofuels, land and water confiscation, and other issues simultaneously addressed multiple sectors, such as agriculture, energy, mining, trade, and financial markets. Campaigns, such as those against hazardous waste dumping in the Global South, addressed policy and regulation at multiple levels of government around the world (Pellow 2007; Smith, Sonnenfeld, and Pellow 2006). Coalitions organized simultaneous worldwide demonstrations for climate justice, such as the People's Climate March of 2014, which mobilized people in 166 countries with the slogan "To Change Everything, We Need Everyone" (Giacomini and Turner 2015). Global

EJ advocates convened regularly to strategize and promote common visions of an alternative economy and environment at meetings of the World Social Forum and actions linked to the annual United Nations Climate Change Conferences, as well as UN processes on biodiversity and conservation. In doing so, organizers began setting local struggles in larger historical and global contexts, and building solidarity across borders. These strategies reflected the need for transnational alliances rooted in local organizing to address transborder issues, in which economic and political decisions made in distant locations profoundly shape local environments (Mendez 2020; Pellow 2018).

EJ movements have also challenged mainstream environmental thinking at the global level, especially in regard to sustainable development and climate justice. Intergovernmental programs for sustainable development have been faulted for prioritizing market-based economic growth over environmental protection and social equity (Agyeman, Bullard, and Evans 2003; Atapattu, Gonzalez, and Seck 2021). In response, activists have promoted alternative visions of sustainability, including the ideals of Buen Vivir (in Latin America), degrowth (in Europe and North America), Ubuntu (in Southern Africa), Ecological Swaraj (in India), and others (see chapter 8). In addition, by emphasizing the disproportionate impacts of climate change on people of color and people in poverty, EJ movements have reframed the issue as one of climate *justice* (Schlosberg and Collins 2014). They have gone beyond demands for developed countries, which are primarily responsible for historic greenhouse gas emissions, to transfer funds and technologies to help governments in the Global South cope with climate change (Chu, Anguelovski, and Carmin 2016). EJ movements have added demands for their communities to be recognized and to participate as full partners in designing and benefiting from climate resiliency plans, as well as a just transition to an equitable and sustainable economy for workers (see box 1.1).

BOX 1.1. FRAMEWORK FOR JUST TRANSITION

The *Strategic Framework for a Just Transition*, produced by Movement Generation Justice and Ecology Project (n.d.), developed with input from many organizations in the environmental and labor justice movements, offers one snapshot of the breadth of vision among contemporary movements that address EJ (see figure 1.1). The framework lays out pathways for a global transition from an extractive economy devoted to the “accumulation, concentration and enclosure of wealth and power” (7) to a regenerative economy of “ecological restoration, community resilience, and social equity” (15). Its “values filter” reflects demands for distributive justice (by democratizing wealth and promoting racial justice

(Continued)

BOX 1.1. (CONTINUED)

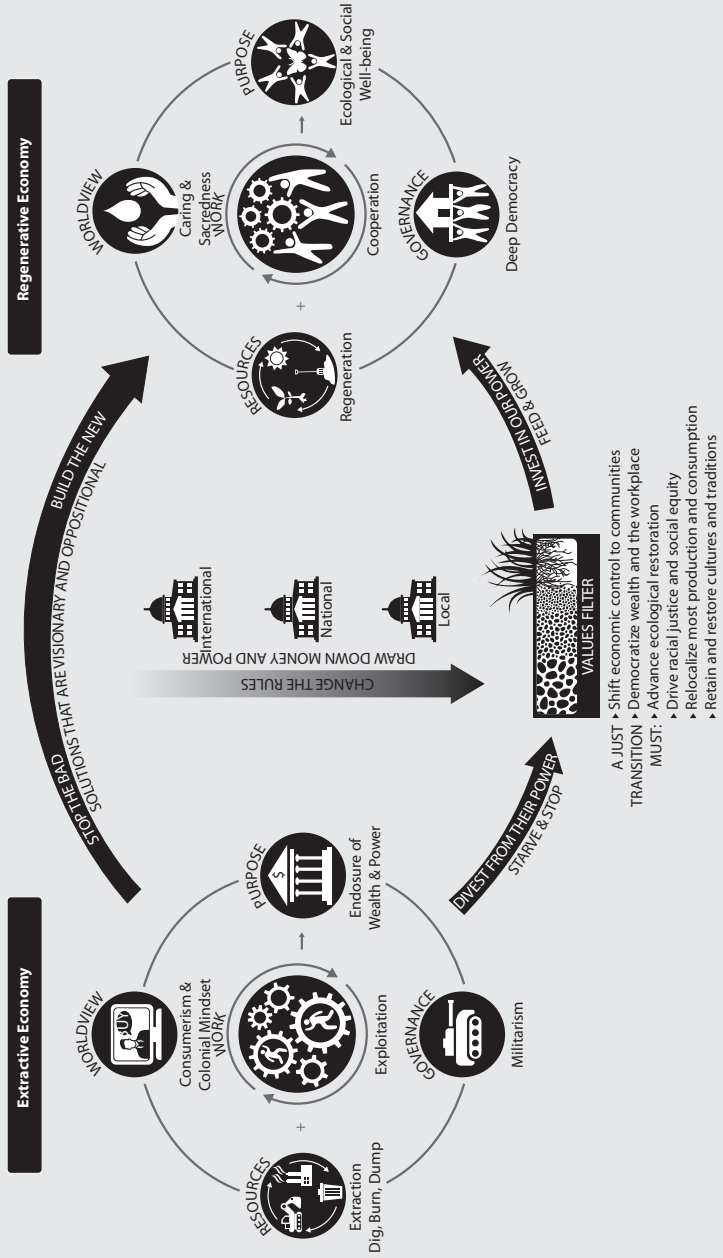


FIGURE 1.1. Strategic framework for a just transition.

SOURCE: Movement Generation Justice and Ecology Project (n.d.).

(Continued)

BOX 1.1. (CONTINUED)

and social equity), procedural justice (democratizing the workplace and transferring economic control to communities), and recognition justice (advancing ecological restoration, and retaining and restoring cultures and traditions). The framework envisions transformational justice via multiple pathways from extractive to regenerative worldviews, re-envisioning relationships to natural resources, ways of organizing work, means of governance, and purposes of the economy.

This expansive vision has informed the drafting of more detailed policy frameworks by frontline and allied organizations in the EJ movement to improve the proposed Green New Deal legislation in the U.S. (United Frontline Table 2020). Movement strategies for implementing this framework include multiple points of intervention: rewriting dominant narratives in public discourse and education, community organizing and base building to strengthen local power, involvement in policy development and implementation, electoral work to ensure responsive representation, and direct action through grassroots organizations and movements accountable to communities. The framework also informs the campaigns of major umbrella organizations working for environmental, economic, and racial justice, such as the Climate Justice Alliance (climatejusticealliance.org) and People's Action (peoplesaction.org).

The *Framework* and strategies for adopting it present a strong contrast to dominant discourses of sustainable development and mainstream climate policy. The latter embody top-down frameworks in which the most legitimate agents of change are states and intergovernmental organizations, which are informed by economic and technical experts and influenced by multinational corporations and the largest global environmental NGOs (Agyeman, Bullard, and Evans 2003; Atapattu, Gonzalez, and Seck 2021).

ENVIRONMENTAL JUSTICE RESEARCH

In addition to understanding the dimensions of EJ and the growth of EJ movements, community-engaged researchers need to be familiar with how EJ research has expanded over time, including research that does not employ a community-engaged approach. Directions within EJ movements have shaped many of the changes in the research agenda, but the growth of this expansive and pluralistic body of work has also been driven by its own dynamics. As Davies and Mah (2020a) observe, EJ research has spread *conceptually* to include additional aspects of justice (and, we would add, disciplines and methodologies); *horizontally* to additional topics, places, and peoples; *vertically* from consideration of local to global scales; and *temporally* to consider longer time periods and future generations. Because

this research is voluminous, and much of it is addressed in later chapters of this book, we limit our citations here to a handful of pioneering studies and recent summaries that provide gateways into broad areas of research.

Conceptual Expansion

Tracking the expanding definition of EJ, research has broadened from an initial focus on fair distribution to include questions of procedural, recognition, and transformational justice, which required additional disciplinary and methodological approaches. Spatial analyses of the socioeconomic *distribution* of facilities and exposure to pollution formed the core of early EJ research. Foundational studies in the U.S. provided systematic evidence that hazardous waste was disproportionately sited in BIPOC and low-income communities (Bullard 1983; U.S. General Accounting Office 1983). A major national study by the United Church of Christ Commission for Racial Justice (1987) established that race was a more powerful predictor of proximity to waste facilities than socioeconomic characteristics. The study's findings and recommendations helped to legitimate the EJ movement and set its initial policy agenda (Agyeman et al. 2016).

Spatial-distributional analysis also set the research agenda for many years. In response to skeptics' challenges to these early studies, researchers applied more fine-grained measures of distance and emerging technologies for mapping, supplemented the plotting of polluting facilities with measures of emissions and exposures to residents and workers, and moved from studying single sources of pollution or individual pollutants to studying populations' cumulative exposure to environmental and social threats (Chakraborty 2018). This research continued to confirm disparities in exposure to toxics and other hazards by race, class, or both (Agyeman et al. 2016). Longitudinal studies addressed debates over the underlying causes and dynamics of these inequities, including discriminatory siting decisions, local land use regulations, and housing policies (Bullard 1990; Kaswan 2021). Exemplifying many of these advancements, a major follow-up study conducted 20 years after the United Church of Christ report demonstrated ongoing disparities from the clustering of multiple environmental hazards in communities of color (Bullard et al. 2008). The study also found that in most cases it was not that people of color moved into polluted areas in search of cheaper housing, but that polluters targeted existing minority neighborhoods for siting hazardous facilities.

The sociologists and geographers who produced these early studies were soon joined by urban planning researchers, who documented inequitable access to transportation, housing, parks, and other amenities (Angelovski et al. 2018; Karner et al. 2018). Research in the health sciences began to study urban residents' disproportionate exposure to air, water, and noise pollution; agricultural workers' and communities' exposure to pesticides, chemical runoff, and noxious fumes; and workers' and fenceline communities' exposure to industrial chemicals and other hazards (Brown, de la Rosa, and Cordero 2020). Health researchers

increasingly integrated methods of exposure monitoring, mapping, toxicology, and epidemiology to analyze the distribution and impacts of cumulative environmental and social stressors in EJ communities and workplaces (Solomon et al. 2016). Agricultural and food researchers analyzed inequitable opportunities to grow and consume healthy food, as well as poor labor conditions, in urban and rural settings and across food systems (Alkon 2018; Shiva 2016a). Community economic development and sustainable development researchers around the world applied EJ principles to research the inequitable impacts of the extractive industries, energy production, and urban development (Bickerstaff 2018; Urkidi and Walter 2018). Health, planning, food, and development researchers were especially responsible for introducing CER methodologies to the study of EJ.

While ongoing research on distributive issues is undeniably important for drawing attention to injustices, research has expanded to address other dimensions of EJ. As the EJ movement confronted polluters, it inspired legal, political, and economic analyses and case studies of the *procedural* barriers to participation and influence in the courts, regulatory processes, legislative arenas, and intergovernmental institutions (Foster 2018; Konisky 2015; Suiseeya 2021). This work also contributed to the development and evaluation of EJ policy and law, and included a significant strand of research conducted in collaboration with movements.

Additional disciplines produced studies relevant to the growing demands by Indigenous and other communities for *recognition* of their cultures, identities, and knowledge in environmental policy making and research forums. Anthropology, philosophy, history, as well as Indigenous, ethnic, gender, and environmental studies helped to illuminate diverse peoples' relationships to their environments and to misrecognition and repression by states, and called for decolonizing environmental knowledge (Gilio-Whitaker 2019; Jarratt-Snider and Nielsen 2020; Nelson and Shilling 2018; Rodríguez 2021; Whyte 2021). As chapter 2 describes, community collaborations helped to recover traditional ecological knowledge, providing valuable insights and alternative conceptions to Western environmental science. CER in the health and social sciences also helped frontline communities to develop their own popular epidemiology, environmental monitoring, biomonitoring, and other techniques for contributing local knowledge, which corrected official sources of data and challenged regulatory science's unwillingness to acknowledge the impacts of pollution on health.

Issues of *transformational* justice loom larger in recent EJ research, much of it provoked by, and some of it produced with, movements. This includes research on envisioning and evaluating local experiments in just and sustainable production of food, energy, and consumer goods (Agyeman et al. 2016; Apostolopoulou and Cortes-Vazquez 2018); policing and prison systems as environmental injustices (Pellow 2018); just transitions and community development (Harley and Scandrett 2019; McCauley and Heffron 2018); just recoveries from disasters (Bullard and Wright 2012; Chu, Anguelovski, and Carmin 2016; Howell and Elliott 2019);

and enacting rights of nature and alternatives to top-down conservation, which often involve returning lands and self-determination to Indigenous peoples (Atapattu et al. 2021; Ryder et al. 2021). Much of this work recognizes and strengthens EJ communities' place-based attachments and claims for justice, for example through planning and design that recognizes all residents' right to the city in culturally diverse metropolises, and through conservation plans that preserve Indigenous peoples' access to their ancestral homelands (Agyeman et al. 2016). Research on transformational justice is increasingly transdisciplinary (London, Sze, and Cadenasso 2018), conducted by researchers who cross and transcend the borders of their fields, and develop new ones, such as the conservation sciences, sustainability sciences, environmental studies and sciences, political ecology, development studies, regional studies, environmental communication and psychology, the environmental humanities and arts, and engineering and design sciences, to name a few.

Researchers concerned with transformational justice have debated whether EJ is possible without radical shifts away from extractive and racial capitalism, and settler colonialism, and how EJ movements should take part in legislative, regulatory, judicial, and consultative efforts. Should activists continue engaging in state-led processes or withdraw from them and challenge their legitimacy, while pursuing mutual aid strategies and creating alternative institutions (Pellow 2018; Pulido, Kohl, and Cotton 2016)? To what extent is EJ possible without efforts aimed at working both against *and* within states, with the aim of radically transforming them to wield their power for EJ, especially as a counterweight to corporate power (Purucker 2021)? How does an anti-state strategy square with the fact that some Indigenous peoples are themselves governments, which demand colonialist states' recognition and engagement in state-to-state relations as equals (Nagy 2022)? The conviction that EJ is not possible without radical change has also drawn attention to alternative economic visions (see chapter 9). Research has assessed attempts to enact these visions and others through prefigurative politics and community resilience strategies—from Central American and African American farmer networks, to urban agriculture, local energy cooperatives, and many other efforts to model how communities can build power to provide for their own needs (Scurr and Bowden 2021; White 2018).

Topical, Geographic, and Intersectional Expansion

The horizontal spread of EJ research means that it is now applied to a broad range of issues, places, and peoples. Benford (2005) identified 52 EJ issues in the literature, not including climate change. By 2021, the online EJ Atlas (<https://ejatlas.org/>) organized around 3500 case studies under ten broad categories developed by researchers and activists around the world, and by more than 60 different commodities.

EJ research has also broadened its geographic scope. An initial focus on the U.S. reflected the origins of EJ movements and the establishment of research

infrastructure in U.S. research and funding institutions. From the 1990s onward, scholars in the U.S. who were allied with the movement created centers and programs on EJ, especially at historically Black colleges and universities, schools of public health and medicine, agriculture, and environmental sciences and studies. Some of these programs formed larger consortiums with each other, with movement organizations, and with independent research centers to conduct collaborative research. Federal funding from the National Institutes of Health, the National Institute of Environmental Health Sciences, and other sources began to support EJ research, much of it involving CER. New journals devoted to EJ appeared, such as *Environmental Justice* and *Local Environment*.

Research on EJ also began to expand globally. In 2009, of scholarly articles published with the keyword *environmental justice*, almost half were authored by researchers based in the U.S., 20 percent were written by authors in the U.K., and 60 percent exclusively addressed U.S. cases (Reed and George 2011). While this distribution likely reflected global scholars' preferences for different terms for EJ issues, it also signaled the need to extend the research community beyond dominant academic institutions and terminology to address EJ around the globe. Academic calls for "seeing from the South" pushed researchers to recognize more diverse perspectives and expand parochial theoretical assumptions (Roy 2011).

In response, new networks and institutions that fostered EJ research developed outside the U.S. Indigenous-led research institutions and universities expanded in North America, Australia, New Zealand, and Latin America, many of which nurtured CER on EJ and other concerns (Díaz Ríos, Dion, and Leonard 2020; Rodríguez 2021). In the 2010s, the European Commission funded the Environmental Justice Organisations, Liabilities and Trade (EJOLT) project, a multinational and multiyear effort linking researchers at universities and EJ organizations in Europe, Africa, Latin America, and Asia. The project helped launch the EJ Atlas, which features case studies written and edited by researchers and activists around the globe, with especially broad coverage of Latin America, Africa, and Asia.

While most EJ research continues to center analyses of injustice based on race, Indigeneity, class, and gender, research increasingly reveals how environmental and health burdens are also unevenly distributed based on ethnicity, nationality, immigration and citizenship status, sexual orientation, age, physical ability, and the intersections among these categories (Chakraborty, Collins, and Grineski 2016; Gaard 2018). Aligning with movements that embrace broad-based organizing on economic, social, and environmental issues—such as Black Lives Matter, #NoDAPL (to stop the Dakota Access Pipeline), and climate justice—researchers are also taking an intersectional approach to analyzing power and how different axes of identity can compound oppression. This research offers more complex accounts of why environmental injustices continue, how they affect groups differently, opportunities for solidarity and allyship, and how to evaluate

the justice of environmental solutions for multiple populations (Di Chiro 2021; Estes and Dhillon 2019; Malin and Ryder 2018; Pellow 2018).

Scalar Expansion

Early EJ research focused on documenting and resisting local inequities caused by single-point sources of pollution and exploitation at a moment in time. Today, organizers and researchers are more likely to consider how local injustices are situated within national and global networks of governance, investment, trade, transportation, and pollution. This multiscale approach is better able to reveal how decisions and hazards generated in one place exert complex effects on people and ecosystems in other places, especially by externalizing harm and resulting EJ conflicts from environmentally privileged to environmentally burdened places and peoples (Agyeman et al. 2016). Examples include the dire threats from climate change to vulnerable communities around the world that have prospered least from climate-altering industrialization and consumption (Chu, Angelovski, and Carmin 2016), the disproportionate burdens of air and noise pollution (and therefore of asthma, cancers, and stress) borne by communities near major ports and freight corridors for global trade (De Lara 2018; Hricko 2008; Matsuoka et al. 2011), and how workers in the global electronics industry suffer outsized risks of occupational cancers and miscarriages to produce and recycle products that few of these workers can afford to buy (Smith, Sonnenfeld, and Pellow 2006; Smith and Raphael 2015). As Sze and London (2008) write, “research that weaves together multi-leveled, multi-scalar, and multi-method analyses of historical, spatial, political, economic, and ecological factors” can best explain how environmental inequalities arise, why they endure, and what could be done to address them (1344).

Temporal Expansion

A multiscale approach also drives researchers to examine how environmental injustices unfold over longer time periods through complex chains of causation and within enduring but dynamic structures and systems of oppression, such as colonialism, capitalism, and racism. Much of the research on transformational justice discussed above takes the long view by imagining an environmentally just *future* and considering questions of intergenerational EJ for ancestors, descendants, species threatened with extinction, and sites vulnerable to destruction. Yet much of this research also aims to recover the *past*, employing historical or longitudinal analysis as a necessary basis for understanding present conditions and how to change them.

This work makes several important contributions. One is the tracing of the “slow violence” (Nixon 2011) of attritional harms that unfold over human lifetimes or longer—for example, cancers due to long-term exposure to workplace chemicals or air pollution, the gradual poisoning and destruction of fenceline communities

around mines and hazardous waste sites, and creeping threats to lives and cultures from deforestation and desertification. Research on slow violence identifies its historic causes in structures of oppression and the decisions of powerful actors such as corporations and regulators, and reveals these harms as acts of violence rather than normal features of the natural or social landscape (Cahill and Pain 2019). These studies typically draw on multiple methods to uncover the deep roots and complex causation of continuing environmental injustices. Sandlos and Keeling (2016), for example, draw on historical records, observations at public meetings, and CER to show how 50 years of arsenic contamination from the Giant Mine, perpetrated by two mining companies and abetted by federal minerals policy, gradually deprived the Yellowknives Dene First Nation in Canada of safe drinking water, traditional foods, and medicinal plants, acting “as a historical agent of colonial dispossession that alienated an Indigenous group from their traditional territory” (7).

This historically grounded research also illuminates how environmental traumas affect the well-being of people in EJ communities over time. It traces physical and mental effects over human lifespans, such as post-traumatic stress and the cumulative physiological damage from chronic environmental and psychosocial stressors (Solomon et al. 2016). It documents intergenerational traumas, such as depression and anxiety, caused by disasters and compounded by survivors’ distrust of authorities. For example, Ezell and his colleagues (2021) summarize studies of the mental and physical harms to BIPOC survivors of the lead contamination crisis in Flint, Michigan, as well as Hurricanes Katrina and Maria, and how these traumas were exacerbated by distrust of the healthcare system in BIPOC communities. This research also recognizes and examines cultural traumas from the splintering of communities and erasure of cultures by dispossessions and dislocations caused by colonization, conservation, climate change, disinvestment, urban redevelopment, gentrification, and wartime destruction (Anguelovski 2013; Chalupka, Anderko, and Pennea 2020; Draus et al. 2019). Other studies, such as Howell and Elliot’s (2019) longitudinal study of how disasters have worsened income inequality in the U.S., examine economic traumatization.

Yet historical research also helps to recover the past as a resource for envisioning a just future. EJ researchers, often in collaboration with community partners, have produced counter-histories that excavate past cultural practices and knowledge that can help restore environmentally just relations. Research on protecting traditional foods, plants, and farming practices has shown why it is important to protect them from biopiracy, corporate monopolization, and industrial agricultural practices (Shiva 2016a). Research on applying Indigenous traditional ecological knowledge has helped to revitalize management of land and fisheries (see Gilio-Whitaker 2019; Jarratt-Snyder and Nielsen 2020; Nelson and Shilling 2018). Historical research on Black farming is a reminder of African Americans’ intergenerational knowledge of how to live well with nature, and how farming and

urban agriculture can be ongoing sources of Black communities' resistance and resilience to oppression and dispossession (White 2018).

This chapter has told three stories about the development of environmental justice—as a multidimensional concept, a multifarious movement, and a multiplying body of research—with which community-engaged researchers should be familiar. More and better research grounded in and driven by community knowledge and linked to action is needed to document and make visible environmental injustices, strengthen movements, develop innovative and effective policies and practices, reform governance, and remake economic and social institutions to create the conditions for EJ. As the next chapter argues, CER approaches are especially valuable for meeting these challenges.