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Environmental Justice

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Industrial civilization yields costs and benefits. Costs include environmental degradation and hazards to health; benefits include technology and material comfort.

Environmental justice is the equitable, or ethical, distribution across the population of the costs and benefits of industrialization. Environmental injustice is the unethical distribution of the costs and benefits of industrialization based on some morally arbitrary attribute such as race, nationality, gender, or socioeconomic status. Distribution can be analyzed both domestically and globally. Defining "ethical" in the context of environmental justice is the purview of political philosophy.

Demography

Social, political, and economic dynamics result in the collocation of industrial operations and low-income residential areas (see Fig. 1) at disproportionately higher rates than middle-class and affluent communities. Evidence is abundant. Altgeld Gardens, a low-income, predominantly black community of Chicago, is ringed by toxic waste incinerators, steel mills, landfills, sewage treatment plants, and chemical and manufacturing plants. The toxins released from these facilities are deleterious to residents' health. The collocation of industry and habitation dates to racist zoning policies of the 1920s. Houston placed all of its landfills constructed between the 1920s and the 1980s and six of its eight incinerators in African-American neighborhoods. Zip code 90058, one of the most polluted in the USA, is centered in Los Angeles' largest Latino and African-American neighborhoods. The one-square-mile community is home to gigantic toxic waste incinerators and waste dumps. Noxious factories expose employees and residents to polychlorinated biphenyls (PCBs), asbestos, lead, and pesticides.

Social scientists attribute the differential distribution of industrial sites to corruption, corporations' deliberate targeting of low-income communities, municipalities' decisions to zone areas near low-income communities for industrial development, and poor communities' inability to match the legal and political power of large corporations. In the 1980s, a private consulting firm recommended to the California Waste Management Board that major industrial facilities be sited in lower-income neighborhoods, because middle- and upper-income communities resist noxious facility siting with greater effectiveness.

Environmental Racism

Since the publication of a seminal report by the US General Accounting Office in 1983, industrial siting has been associated with race. The United Church of Christ Commission for Racial Justice identified race as the most significant variable associated with the location of hazardous waste sites in 1987. Five years later, two investigative reporters named race as the common denominator in Environmental Protection Agency (EPA) enforcement of federal environmental law: penalties levied against industries for violating environmental laws were 46% higher in white communities than minority communities, and vacated toxic waste sites in minority areas took 20% longer to be placed on the Superfund clean-up priority list than sites in white communities. In this context, civil rights leader Benjamin Chavis used the phrase "environmental racism" in hearings before the US Congress in 1993.

Additional demographic data, however, suggest that the common denominator of environmental injustice is socioeconomic status, not race: some poor communities that shoulder a disproportionate share of the costs of industrialization are white. For example, when a leak of methyl isocyanate at a Union Carbide plant in Bhopal, India, killed 4,000 people, attention quickly shifted to a similar Union Carbide plant in Kanawha Valley, West Virginia, which is predominantly Caucasian and low income. After the disaster in India, Kanawha Valley residents accused Union Carbide and EPA officials of obstructing investigation of community health hazards.

For these reasons, the term "environmental injustice" is more inclusive than "environmental racism."

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Environmental Justice. Fig. 1 The collocation of heavy industry and residence, Bytom, Poland (Photograph by Christopher Pillitz. Reprinted with permission of Getty Images)

History

The environmental justice movement has drawn inspiration from different sources. In Europe, the movement arose from Marxian critiques of class hierarchies; in non-Western nations, from critiques of colonialism; and in the USA, from the civil rights movement with precursors in the urban environmentalism of the 1920s. In the tradition of grass-roots activism, the mostly African-American community of Warren County – the poorest in North Carolina – mobilized in 1982 to fight a proposed PCB disposal site. In contrast, mainstream North American environmentalism, with its emphasis on natural resource conservation and wilderness preservation, was slow to acknowledge environmental justice as a serious ethical issue.

The legal foundation of environmental justice in the USA is the Civil Rights Act of 1964 Title VI, which forbids discrimination in any program receiving funding from the federal government. During the 1990s, the EPA investigated allegations of environmental discrimination under the Civil Rights Act, and in 1993 Congress passed the Environmental Equal Rights Act, the Environmental Health Equity Information Act, and the Environmental Justice Act. In 1994, President Bill Clinton signed an executive order on environmental justice.

Causality Between Low-Income Settlement and Industrialization

Research on the causal linkages between industrial siting and the intentional exploitation of the poor is inconclusive. Although studies have found that low income, high minority demographics, and preponderance of rental property are common characteristics of heavily industrialized areas, not all researchers pinpoint poverty as antecedent to industrialization. These researchers have found no definite temporal ordering of low-income settlement with industrialization or industrialization with low-income settlement. These researchers instead relate the co-occurrence of the two with a third factor – the area itself. A piece of land suitable for industrial activity may simply be less attractive for housing: a boggy area with railroad and barge infrastructure would be unattractive to middle-class and affluent families as a place of residence.

Other researchers, however, discern a direct causal connection between low-income settlement and industrialization. There is a higher incidence of industrial siting in traditionally low-income areas than the relocation of persons of low socioeconomic status to areas with preexisting industrial development. More simply put, low-income communities attract industrial development to a greater degree than industrialized areas attract low-income tenants.

Epidemiology

Epidemiological data on the connection between industrialization and hazards to health are also inconclusive, although research has linked cancer to anthropogenic pollution. The Industrial Corridor of the Mississippi River, a heavily industrialized 85-mi. stretch of

petrochemical plants and oil refineries between Baton Rouge and New Orleans, is a notable case. The EPA's Toxic Release Inventory has reported that known carcinogens are released into the environment along the Industrial Corridor.

A study of 20 parishes (counties) along the Industrial Corridor found a statistically significant correlation between rectal cancer and drinking river water. Another study established that people who were not employed by the petrochemical industry but who lived within 1 mi. of a petrochemical facility were four times more likely to die of lung cancer than people not employed by the petrochemical industry living 2–4 mi. away. St. Bernard Parish in metropolitan New Orleans has an abnormally high incidence of cancer, especially lung cancer. In 1997, the cancer death rate was 18% above the average in Louisiana and 22% above the national average.

Other research casts doubts on causal connections between industrialization and ill health. A study funded by the State of Louisiana under the auspices of the Louisiana Tumor Registry concluded that the prevalence of cancer along the Industrial Corridor is normal. Public health officials have suggested that the higher incidence of cancer around New Orleans might be caused by lifestyle rather than environmental contamination: many residents of the Industrial Corridor smoke tobacco and savor a Cajun diet laden with fat. Health habits are important enough for some public health officials to be reluctant to draw definitive correlations between cancer and pollution, and enough for other officials to disregard environmental factors altogether.

Ethical Theory and Environmental Justice

Environmental justice is a problem for practical ethics. Practical ethics is reasoning aimed at action, namely, improving the human condition. The primary elucidations of theories of environmental justice and injustice are based in standard Utilitarian and Deontological moral theory. (Utilitarianism and Deontology are both anthropocentric. The elaboration of nonanthropocentric environmental justice is beyond the scope of this entry.)

Utilitarian environmental policy combines a free-market political economy with an ontology of private property. Adherents of Utilitarian environmental policy believe that the public good is maximized when market mechanisms work in concert with private property rights. Thwarting the logic of market mechanisms exacerbates socioeconomic inequity. Regulations induce corporations to move operations, which depresses, rather than stimulates, local economies. An economist familiar with the Industrial Corridor has said bluntly: "Poverty kills a lot more people than [a polluted] environment does."

The failure of Utilitarian environmental policy to address environmental injustice is apparent when its fundamental assumptions are viewed *seriatim*. First, the ontology of private property is suspect in the light of regulatory reality. Two proponents of free-market environmental policy reject the notion that environmental injustice poses a problem for the ontology of private property. Using the example of a landfill, they point out that third parties (neither the landfill owner nor those paying to dispose of their trash) have legal resources should they be negatively affected by waste seepage. This conclusion is logically weak because many landfills do not succeed in sequestering their contents securely, and third parties suffer harm as a result. Private property owners routinely escape accountability for violations of environmental law. For example, near Charleston, West Virginia, drinking water contains arsenic, barium, lead, and manganese at levels – sometimes exceeding federal regulations by 1,000% – that cause organ failure. A local professor of biology has observed that the chemicals flowing out of water taps are the same as the chemicals that coal companies are pumping into the ground, yet no mining corporation has been cited or fined.

The ontology of private property is itself ecologically unsound. Private property and political boundary lines are artificial human constructions which pose no barrier to pollution. Take, for example, the metropolitan area that encompasses El Paso, Texas, and Ciudad Juarez, Chihuahua. Trucks registered in the USA emit 15 ppm of sulfur, whereas Mexican trucks emit up to 500 ppm of sulfur. Because El Paso and Ciudad Juarez share the same atmospheric conditions, lax Mexican environmental regulations negatively affect US citizens. Noxious pollutants disperse by the law of osmosis and do not recognize legal boundaries; noxious pollutants do not stop spreading at a chain-link fence.

Utilitarian environmental policy also suffers from the problem of classical Utilitarianism: the interests of a majority may easily trump the interests of a minority, even to the point of "legally" violating fundamental human rights. Consider ExxonMobil in Indonesia. ExxonMobil's development of natural gas resources in the Aceh province of Sumatra has displaced Acehnese from ancestral homelands. Although ExxonMobil makes hundreds of millions of dollars in profit annually from its Aceh operations, most Acehnese have seen no noticeable improvement in their standards of living. Aceh villagers have complained about the growing disparity between the rich and the poor. In 2001 ExxonMobil hired elements of

the Indonesian military to serve as a private security detail to suppress discontent, expressed by locals through vandalism of ExxonMobil property. In June, the International Labor Rights Fund filed a lawsuit in the USA against ExxonMobil on behalf of Acehnese villagers, alleging that ExxonMobil aided and abetted Indonesian soldiers in kidnapping, torture, rape, and murder by providing a garrison where the abuses purportedly took place and by providing construction equipment for digging mass graves.

An environmental policy that is complicit in violations of human rights in the name of profit maximization fails to secure environmental justice.

An alternative ethical theory for articulating guiding principles of environmental justice is based on the moral philosophy of Deontology. Deontological environmental policy is rooted in a moral philosophy of intrinsic human value that respects autonomy and the right to self-determination. Fundamental human rights cannot be transgressed for other ends. These inviolable human rights are codified internationally in the *Universal Declaration of Human Rights*.

American philosopher John Rawls sketches a Deontological political philosophy that recognizes the intrinsic value and inviolable rights of humankind's most disadvantaged. Rawls posits two fundamental principles of justice. The first is that persons have equal rights to basic liberties. The second is that social and economic inequalities are justified only if (a) those inequalities result from a political process open to all, including those most negatively affected, and (b) those inequalities are to the benefit of everyone, including those most negatively affected. Inequalities between the advantaged and disadvantaged are justified if and only if the most disadvantaged benefit, because those people would be worse off without the inequity. For example, it might benefit the most disadvantaged to live in a society that pays medical doctors much more than an average wage for the common good of quality health care.

In terms of environmental justice, if the distribution of the costs and benefits of industrialization diminishes the liberty of a certain group of persons – the poor in a developed nation or an indigenous group in a developing nation – then the first principle has been violated. If the benefits of industrialization are not shared by all, then the first part of the second principle has been violated. If those affected by industrialization are excluded from participation in the political process that determines the distribution of the costs and benefits of that industrialization, then the second part of the second principle has been violated.

On the Rawlsian model, environmental injustice occurs when a social group bears a disproportionate burden of the costs of industrialization in comparison to a wider population, and that group would be better off without industrialization. Environmental justice is the situation where a social group bears a disproportionate burden of the costs of industrialization, yet that group benefits more from an industrial economy than an agrarian one and is thus materially better off.

Deontological environmental justice asserts that the ethical distribution of the costs and benefits of industrialization should never violate basic human rights, which include, but are not limited to, access to nutritious food, clean water, shelter, education, health care, and intrahuman relationships.

In summary, because Deontology is a nonconsequentialistic ethical theory that enjoins the duty to respect the intrinsic value of individuals, Deontological environmental policy succeeds where Utilitarian environmental policy fails.

Environmental Justice and Global Climate Destabilization

Given the latest surge of globalization, driven by the rise of multinational corporations, it is essential to consider environmental justice in the global context. A robust conception of environmental justice rooted in Deontology includes the right to participate in the political process regarding the distribution of the costs and benefits of industrialization. These two dimensions of environmental justice – participation and distribution – are no better illustrated than by the issue of global climate destabilization.

Within the scientific community there is general consensus that the atmosphere of the Earth is warming due to anthropogenic causes related to the combustion of fossil fuels – the engine of industry – and that climatic vicissitudes will amplify in the future as a result. The predicted globally destabilized climate will produce searing droughts and catastrophic floods and a sea-level rise of 20 ft or more.

The ideal of justice involves not only the distribution of the economic costs and benefits of industrialization but also access to participation in the political process of determining the distribution of those costs and benefits. The prospect of global climate destabilization brings to the fore environmental justice in both its distributive and its participatory dimensions. First, the world's impoverished stand to bear the brunt of global climate destabilization though they have not benefited from the technology and wealth generated by industrial activity. Second, the people most likely to suffer from global climate destabilization have had the least participation in public policy decisions

concerning the global political economy – a violation of the second part of Rawls' second principle of justice.

Island nations are particularly vulnerable. A study by the US National Oceanic and Atmospheric Administration identifies the Marshall Islands as one such "innocent victim" of global warming. The Maldive Islands, whose highest point is only 8 ft, could be entirely obliterated. The rich industrialized nations most responsible for global climate destabilization sit at middle latitudes where effects are predicted to be less severe. Moreover, industrialized nations have already spent billions of dollars mitigating anticipated negative consequences for themselves.

If an indigenous people's homeland is rendered uninhabitable by global climate destabilization, then that people's right to a traditional lifestyle has been crippled – a violation of Rawls' first principle of justice. Further, those people would have been better off without industrialization – a violation of the first part of Rawls' second principle of justice. Following this logic the Inuit have rightly cast the issue of global climate destabilization as a human rights issue.

Some inequality in the distribution of the costs and benefits of industrialization is ethical. Within a global context, inequalities are justified if constitutive social groups of nations that shoulder a disproportionate share of the costs of industrialization (in the form of local environmental degradation and health threats) are nonetheless better off with industrialization than without.

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