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Unheard Voices: Environmental Equity

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A fairly large and growing body of literature today presupposes that there are substantial public health costs borne primarily by minority, low-income, and other disadvantaged populations specifically because of their differential exposure to environmental hazards (Bowen, 2001). As a democratic society, we must strive to set an example and improve the conditions of those vulnerable to the forces of inequitable power relations and social systems. Environmental justice principles seek to: affirm the right to protection, prevent harm, shift the burden of proof, obviate the requirement to provide proof of intent to discriminate, and target resources to redress inequities (Bullard, 1993). Environmental equity is premised on the notion of fairness in the distribution of environmental risks, particularly those of a technological origin (Tarlock, 1994). Environmental equity is complex because it encompasses scientific studies, judicial decisions, social policy, international trade, ethics, and conflicting values. This article briefly describes environmental justice issues facing urban and rural communities in the United States and address one particular problem-lead poisoning-since it has become apparent that the incidence of subclinical lead poisoning is overwhelming high among minority populations in low-income urban areas (Giegengack, Cressler, & Bloch, 1999). It also looks at the connections between racism, sexism, cultural destruction, power relations, and environmental equity.

Historically, environmental justice was viewed as a movement to prevent people of color from becoming victims of industrial pollution. The principles of the environmental justice movement in the United States were articulated by the delegates to the First National People of Color Environmental Leadership Summit (United Church of Christ Commission for Racial Justice, 1992). Simultaneously, community groups gathered strength across the nation, from the Mothers of East Los Angeles, formed by Juana Gutierrez, who fought against a hazardous waste incinerator; to the Good Road coalition in Rosebud, South Dakota; all the way to the Evanston community in Cincinnati, Ohio. The Evanston community (population 8,300, with 95% people of color) formed a community center in response to three acts of environmental racism including the siting of a BASF storage and waste facility and the clean-up after an explosion at the facility which they contend occurred because of irresponsible management (Phillips, 1995). There is no buffer zone between the BASF facility and Evanston, while there is a buffer zone between the facility and the predominantly white communities of Norwood and Walnut Creek. Carol Browner, former administrator of the

Environmental Protection Agency (EPA), confirmed that some communities do bear a disproportionate share of contamination problems (Environmental Protection Agency, 1994). It has become apparent that the disenfranchisement of minorities is strengthening an alliance of civil right advocates and environmentalists. Women in ecodevelopment have added the issue of sexism into the environmental justice arena. Thus, environmental justice goes beyond our borders.

As Garret Hardin (1968) discussed in *The Tragedy of the Commons*, resource exploitation leads to ecological, social, and institutional crises, and now such exploitation is on global scale that encompasses urban relocation issues in areas such as Africville, Nova Scotia, to environmental sustainability needs of women in highly populated regions of the world such as Africa and India. Environmental justice encompasses culture, race, gender, age, class, and power relations in issues ranging from health-related agricultural issues to inner-city toxic contamination of children. On a global scale, the World Health Organization estimates that 40,000 people die each year of pesticide poisoning, mostly in developing nations. However, California agriculture uses 10% of all pesticides in the world, ranking only 49th in sustainable farming practices (Jenks-Jay, 1999).

In this article, a main focus is to examine the common denominators among the exploitation of marginalized citizens in the communities of the United States and the less developed countries. One major commonality is the unheard voices in environmental decision-making. Within the United States this is partly because those citizens do not understand how to impact the legal process. In this article I provide references and strategies on how individuals and environmental groups can access information, gain legitimacy, and ameliorate environmental inequalities through policy and administrative responses. Without knowledge about the process it is like playing a game without the rulebook—one has to "trust" the referee. Evidence reveals that people of color are subjected to a disproportionately large number of health and environmental risks in their neighborhoods (e.g. childhood lead poisoning) and on their jobs (e.g., pesticide poisoning of farm workers) (Bryant & Mohai, 1992, p. 10). As an educator and legal analyst, my intention is to raise awareness about different tactics that can be implemented to revitalize communities locally and globally, since the present legal and regulatory system is failing certain segments of society. I hope to put local and national struggles into a global context to illustrate how the same tactics can be used to impact environmental challenges at all levels. The simple acknowledgement of others' living conditions and cultures within our own society is an excellent first step.

Grassroots leaders (many of them women) have emerged from groups of

concerned citizens who see their families, homes, and communities threatened by some type of polluting industry or government policy (Bullard, 1990; Gibbs, 1982; Shiva, 1989; Pardo, 1990; Hamilton, 1990). Often times the issue of racial bias, or *perceived* racial bias, tends to create adversary situations that do not separate the people from the problem. I contend that to resolve environmental disputes, one needs to re-evaluate the complex cultural, scientific, economic, legal, and power issues surrounding environmental disputes.

The Game of Environmentalism

Environmentalism is like a chess game with different players, numerous strategies, and a racial dichotomy. It is a universal game that can be played by people that do not share a common language-like global environmental issues that demand moves from people that do not share a common language, culture, or ideological views. The board represents a fixed place-Mother Earth. The white players represent: multinationals, developed countries, courts, regulators, the upper class, traditional environmental groups, and politicians. The black players represent developing countries, women, community groups, and poor workers who must choose jobs over environmental concerns. Like a chess game, there is a temporal element to the environmental movement. Do we speed up the sixth mega extinction? Do we destroy the planet through nuclear annihilation in an instant? Or do we slowly cause irreversible ecological decay to the ecosystem through ozone depletion. Like chess, environmental decisions are often complex and require comprehensive strategies similar to chess. No one knows the outcome; each player has a different role. These are the players:

WHITE

Pawns. Including: the amateur environmentalist (who canvases but doesn't know all the issues); the recycler (limited effort but philosophically feels better); Jacques Costeau (role models who expand our comprehension of species and environments); the Sierra Club (organizations involved in land preservation-the stereotypical environmental movement types); the righteous environmentalist (Not in my Backyard-NIMBY advocates that drive gas guzzling SUVs to public meetings. Sport utility vehicles have remained one of the most popular vehicles among middle class families in spite of the fact that baseline fuel efficiency is only 15.3 mpg (Wipke, 1998)); the activist of color who refuses to say "not in my backyard" without questioning or caring about whose backyard the problem ended up in (Bullard, 1993).

Rooks. A quite powerful piece, but often misplayed and kept out of the game too long for maximum benefit. Rooks include the safety manager/consultant

and the educator who tries to raise awareness.

Bishops. Including the Supreme Court-the final authority on legal environmental cases, through cases such as *Sierra Club v. Costle* they dictate an individual's or entity's ability to affect proposed rules-and the regulating agency-the translators of lofty legislative goals such as "restoring the integrity of the nations water" language from the Clean Water Act). The EPA and state agencies are charged with issuing discharge permits for municipalities and industry based upon a water body's classification. These permits known as National Pollutant Discharge Elimination System (NPDES) permits are public records therefore citizens can obtain copies through the Freedom of Information Act.

Knights. Including multinationals such as the World Bank. These giant funding organizations that create large dams, like the ones underway on the Yangtze and Namada rivers, with little regard for ecological damage and human displacement. At stake also is the cultural loss in such places as the ancient city of Zeugma-a Byzantine city inundated by the Birecek Dam. Another noted example is the series of dams built on the Awash River. The World Bank funded the project, which provides water to the sugarcane, cotton, and banana plantations owned by wealthy Ethiopians and Dutch, Italian, Israeli, and British firms. The project effectively dried up the lands downstream and flooded lands upstream, uprooting more than 20,000 people (Shiva, 1989).

Queen. Rachel Carson, scholar, scientist, and activist, did more through her book *Silent Spring*, published in 1962, to force legislation such as the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) in spite of criticism by her peers. This queen is a symbol of interdisciplinary success.

King. The American consumer-the rich, white consumer who uses a disproportionate amount of energy. The average person in an industrial market economy uses more than 80 times as much energy as someone in Sub-Saharan Africa (World Commission on Environment and Development, 1987).

BLACK

Pawns. Including the maquiladora workers (working in factories that create pollution in the communities); Latino farm workers (exposing themselves and future generations of children to pesticides); lead-exposed African American children (urban poor living in public housing projects); urban residents (toxic donut residents, so called because they are surrounded by toxic sites); indigenous societies (such as the Hopis); fishermen (citizens

that live off the land and are connected to their food source); hunters (contributors to Ducks Unlimited); and the politicians-representatives that introduce environmental legislation for campaign purposes. However, of the hundreds of bills that are introduced few are passed and even less are funded which make them little more than political propaganda. Take for example, Wayne Allard, Senator from Colorado, who was challenged in the November 2002 election by the League of Conservation Voters to verify his environmental campaign claims based on his dismal voting record that included voting to fence off rather than clean-up the Shattuck hazardous waste site, voting against funding for national parks, and voting for the roll-backs of the Clean Air Act's New Source Performance Review standards. In fact, Senator James Inhofe's bill to allow roll-backs was endorsed by the majority of the senators, while Senator Edwards' bill to delay roll-backs pending further study was defeated 46-50 (Environmental Defense Fund, 2003).

Rooks. Representing "soldiers" (paid players destroying the environment for the king). For example, the Forest Service has offered below-cost timber sales, in which the price paid by the loggers for the timber is lower than the costs incurred by the Service, to make the timber available. Below-cost timber sales resulted in average annual losses by the Forest Service (and ultimately by the taxpayers) of \$327 million between 1979 and 1990 (Kaufman & Franz, 2000).

Bishops. Representing the United Church of Christ Commission on Racial Justice who challenged the EPA's policies on environmental equity (United Church of Christ Commission on Racial Justice, 1987), and Lois Gibbs and the Citizens Clearinghouse of Hazardous Waste, a database for citizens to learn about chemicals in their neighborhoods.

Knights. Include the First Nation People of Color Environmental Leadership Summit who commissioned a national conference on environmental justice, and the Environmental Defense Fund who represents communities and groups in environmental litigation and negotiations.

Queen. Vandana Shiva, physicist and author, representing ecofeminists from developing nations.

King. The Animal Kingdom-in all its diversity, from ciliates and amoebas to Saepiolus Blue butterflies.

King

The King moves only one square at a time. The temporal element of

evolution. The king also represents the distinct lineages of species.

Queen

The Queen is the most powerful piece. She moves any number of squares in any direction. Like ecofeminists, self-proclaimed or not, the Queen's moves represent the distances that women have to take to obtain water and firewood. For example, in parts of India women have to walk 15 to 20 miles to fetch water (Shiva, 1984). The Queen can move in any direction-choosing to have no children or numerous children, thus controlling population. This alone makes her the most powerful environmentalist and player.

Bishops

These players move diagonally any numbers of squares forward or backward. Politicians and religious/community leaders represent Bishops. The politicians are influenced by special interests. For example, if a politician received campaign funds from a timber company, he might be less likely to vote for wilderness designation of an area that would not allow timber sales. The religious leaders move in different directions as well. Some religious leaders in Christian and Jewish traditions interpret and preach from the Old Testament that human divine rights include control over nature. Other religious societies, such as the Hopi, are devoted to securing blessings from nature. To the Hopi, objects such as springs are objects of religious veneration.

Rooks

The rooks can move any number of squares horizontally or vertically. The rook represents the environmental health and safety officer or consultant. He can influence a number of people or processes but has limited power (i.e. staff, money). The rook can also be a soldier representing the white King's interest at the expense of the environment.

Knights

The knights are the only pieces able to jump over another piece. The white knights are represented by multinationals that hold themselves as the saviors to developing countries in terms of providing capital for major infrastructures. Yet these projects, such as dams, literally and figuratively drown cultures and civilizations. The multinationals jump over the process of public participation. Our black Knights are represented by the First National People of Color Environmental Leadership Summit and by coalitions of environmental and social justice groups, such as the National Resource

Defense Council and the NAACP Legal Defense and Education Fund, who joined forces and won an out-of-court settlement of approximately \$16 million for a program in California to test blood lead levels. *Matthews v. Coye* arose because the state was not performing the federally mandated lead testing of some 557,000 poor children who could pay for the testing through their Medicaid benefits but were not receiving the tests regardless of the fact that they were financially entitled to care (Westra & Wentz, 1995).

Pawns

A pawn can be moved either one or two squares forward on its first move. One of the pawns is the college student, moving with conviction and vigor initially, yet by the second decade his convictions are challenged as he is asked by his employer to represent anti-environmental clients. Moving more slowly, he becomes an armchair environmentalist. Another pawn does reach the opposite side and is promoted to queen.

Check and Checkmate

The environmental movement is similar to chess in the aspect that scientists warn us, just as a player announces, "check." The ending depends on the players and how they move—hopefully it is not a checkmate or perpetual check. And so we can come together to engage one another thoughtfully, or we can end the game in one quick deliberate move. The environmental justice movement promotes the concept of engaging one another in dialogue and has several important players, like Robert Bullard who claims environmental justice is a movement to prevent certain communities from becoming ecological "sacrifice zones." Beyond our border is ecofeminist Vandana Shiva, who believes environmental justice represents not only prejudices against nature but against women as well. Like the definition of environmentalism, environmental justice has a broad range of meanings. The chess analogy reflects the pieces, strategies, the complexity of environmental gambles, and the interrelationships between players, resources, the environment and development. The next sections provide examples of the interconnections between powerful players and affected members of society and strategies to balance the game.

Exporting Environmental Racism

An international perspective of environmental justice includes oppressors disguised as economic agencies, such as the Export-Import (Ex-Im) Bank of the United States, multinationals, and the World Bank. The Ex-Im, a government agency that supports U.S. multinationals through subsidized loans, has given a preliminary commitment toward a \$100 million loan

guarantee to the British engineering firm Balfour Beatty to support the Ilisu hydroelectric project in Turkey. This project will destroy the homes of more than 78,000 people, mostly Kurdish refugees. Although the project will produce an environmental impact statement it is unlikely there will be public input since the Kurdish population is afraid to speak out against the government (Knight, 2000).

In addition to eco-racism in relation to future development, less financially sound countries bear the burden of exposure from past industrial activities. On December 12, 1991, Lawrence Summers, chief economist of the World Bank, argued in a memo to colleagues that toxic waste storage and disposal should be located in poor countries (Westra & Wenz, 1995). This is based on the theory that the measurement of the costs of health-impairing pollution depends on the foregone earnings from increased morbidity and mortality (Westra, 1993).

As advocates in the United States focus on our rights to a safe environment, we may be exporting environmental racism abroad through the sale of banned pesticides or toxic waste disposal exports (EPA, 2003). The United States has yet to sign the international treaty on Persistent Organic Pollutants (POPs) and allows the export of chemicals covered in the treaty including but not limited to chlordane, dieldrin, DDT, heptachlor, hexachlorobenzene, and toxaphene. Worldwide controls on POPs are essential because POPs migrate through the atmosphere and accumulate in the food chain. Despite the fact that most people believe that the produce they buy meets pesticide safety standards, a recent study that analyzed 14,923 computerized records from the Food and Drug Administration showed that pesticide violations are grossly underreported (Houlihan, Campbell, & Wiles, 2000). During the study period one-quarter of all the green peas examined contained illegal pesticides, as did 15.7% of the pears, 12.5% of the apple juice, 11.7% of all the green onions, 7.6% of the green beans, and 7.4% of the strawberries. The high violation rates from major suppliers, such as a 40.8% violation rate on green peas from Guatemala and 18.4% violation rate on strawberries from Mexico, may be partially due to the fact that the United States provides these countries with instructions on acceptable use for pesticides in English only. Furthermore, although inspections for harmful pesticide residues take place pursuant to the Food, Drug, and Cosmetic Act, a government accounting agency report says less than 1% of the imports are actually inspected (Firestone & Reed, 1993). If the food reaching U.S. borders contains these levels of pesticides, what are the levels within the importing countries? Are we exporting racism? Annual pesticide poisonings are said to be at least 1 million per year with upwards of 11,000 deaths each year worldwide.

As Rev. Benjamin Chavis (1993) explains in "Toxic Waste and Race," racism is more than just a personal attitude; it is the institutional form of that attitude. Both consciously and unconsciously, racism is enforced and maintained by the legal, cultural, religious, educational, and economic environmental institutions of societies. Many Africans have been encouraged to engage in a variety of export-driven economic activities that ultimately are environmentally detrimental. These activities include raising beef for exports, especially to European Union countries, on marginal land as in Botswana—an activity that also contributes to the expansion and deepening of the Kalahari Desert. And yet only a very tiny fraction of the population of Botswana benefits from beef exports (Kokole, 1995). Racism also exists in regards to imports. Ali Mahdi, a minister in Somali, signed a 20-year contract to accept toxic waste from Italy. During the second year of the contract a warehouse containing 81,200 liters of toxic chemical pesticides caught fire. The damaged chemical pesticide containers have reportedly leaked into a nearby dry riverbed that is used for the meager water supply of Hargeisa, capital of Somaliland (Adam, 1995). But before we look abroad, let us examine who benefits and who suffers from corporate decisions in the United States.

Tension between Culture and Power

The dispute between the Hopi, the Navajo, and the Peabody Western Coal Company in Arizona is a perfect case to illustrate how cultural values of indigenous societies are often forgotten in struggles with multinational corporations. The ways in which the Hopi get and use water are a major part of their identity, religious beliefs, ritual practices, and daily engagements (Whitely & Masayesva, 1998, p. 12). *Paahu*, "natural water" or "spring," is absolutely central in Hopi social and environmental thought. Every spring is a place of worship and hence a shrine (Fewkes, 1906, p. 346). No spring in the region is without evidence of many offerings to the deities of water. Sacred springs may be regarded as altars and the offerings as sacrifices; whole essence may be carried by the water (Hough, 1906, p. 163). So how does this view differ from a powerful multinational such as Peabody's coal-producing company, whose profit on coal sales was in excess of \$2 billion (Hanson Industries, 1996)? The Peabody Western Coal Company uses drinking-quality water to transport coal slurry to the Mohave Generating Station in Nevada. They are the only mine in the United States that transports coal by slurry. Was this decision based on economics, environmental racism, or other factors? Nevada and California residents to maintain a lifestyle rich with electronic conveniences such as Jacuzzis, microwaves, and heated pools use the power generated at the Mohave Generating Station from this water. Should one culture be sacrificed to feed another culture that is based on consumerism and wealth? The legal

mechanism available to the Hopi appears to have failed them in spite of the fact that there were petitions signed by several hundred Hopi citizens at public hearings, dissenting interpretations by independent geologists, an Environmental Objections-Insufficient information classification by EPA, and repeated refusals by the Hopi Tribal Council to sanction Peabody's mining lease (*Proposed permit application, Black Mesa-Kayenta Mine, 1990*).

Are the rules of the game the same if the players have different powers? Are all players equally represented? Many Americans mistakenly place a false sense of security with the Environmental Protection Agency, an agency grossly understaffed, under funded, and, until the passage of the Federal Facilities Compliance Act, with no regulatory control over Department of Defense or Department of Energy sites. In the face of scarce public resources, public expenditures cannot address all environmental and health issues (Bowen, 2001).

Also, the EPA was not designed to address environmental policies that result in unfair practices (Bullard, 1994). In the Hopi case, the EPA's review comments on the mine permit did not have enough impact to have the permit denied. The EPA's comment of the N-aquifer modeling was:

EPA believes that the available data do not support statements in the Draft Environmental Impact Statement that the cumulative effects of current and foreseeable mining and related operations (principally the coal transport slurry) are expected to result in only minor hydrological impacts. (*Proposed permit application, Black Mesa-Kayenta Mine, 1990, p. 267*)

An ironic alternative to the slurring of aquifer water has been proposed: the construction of another pipeline from Lake Powell that would provide water for domestic use by the Hopi and industrial use by Peabody. We begin by diverting water from one source, thus altering a simple way of life, transporting it across great distances only to return it again. The question remains, will the Hopi celebrate by placing prayer sticks near faucets, will traditional pilgrimages to springs merely follow the pipelines to motorized houseboats docked at Lake Powell?

This case brings to mind the inadequacy of the regulatory system in regard to its tendency to favor big business. Regulating agencies also tend to have a bias for "objective scientific" testimony in processes that are meant to give voice to concerned citizens. To further complicate matters, most citizens do not know about provisions in major laws that allow for public comment. The EPA does maintain a Web site, but without legal training a citizen begins with the disadvantage of not knowing how to access available information about the siting of landfills, the status of permit applications, or the

existence of environmental impact statements that document major federal regulations affecting the environment. Table 1 presents a list of applicable citations of U.S. environmental statutes and regulations.

Table 1 <i>Research Citations</i>			
Environmental Concerns	Laws	General Citation and (Public Comment Citation)	Resource Hotline Numbers Web Sites
Air discharges	Clean Air Act	40 CFR 50-80	www.epa.gov (databases)
Water discharges	Clean Water Act Safe Drinking Water Act	40 CFR 100-140 400-470 40 CFR 140-149	1-800-426-4791 1-202-382-5533 www.epa.gov
Industrial sites and abandoned waste sites	Resource Conservation & Recovery Act; Comprehensive Environmental Response, Compensation and Liability Act	40 CFR 240-280 40 CFR 300	1-800-424-9346 1-202-382-3000 www.epa.gov (National Priority List)
Industrial Facility Permit issues Toxic releases	Resource Conservation and Recovery Act; Emergency Planning & Community	40 CFR 240-280	www.epa.gov (envirofacts/enviromapper)
		Right to Know Act	
Government projects or Federally funded projects (e.g. logging permit)	National Environmental Protection Act	40 CFR 1500	Environmental Quality Council
Toxic Spills	Emergency Planning and Community Right to Know Act(Lists	40 CFR 355	1-800-424-8802 1-202-426-2675

	allowable toxic discharges by facilities in certain neighborhoods)		
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The first step is to know the system; the second step is to re-examine the foundation of our system and other systems around the world. Inequitable issues were brought to the attention of the EPA in 1990 by the Michigan Coalition (a group of social scientists, political activists, and biological investigators) (Bryant & Mohai, 1992). The EPA (1992) was shamed into conducting a study that revealed that:

1. There is a clear difference between racial groups in terms of disease and death rates; however, there is a general lack of data on environmental health effects by race and income. The notable exception is lead poisoning. Lead poisoning, while completely preventable, is one of the most common environmental health diseases in the United States. According to the Agency for Toxic Substances and Disease Registry's (ATSDR) report, 49% of African American inner-city children are exposed to dangerous levels of lead (which results in low attention spans, limited vocabulary, and behavior problems) compared to 16% of white inner-city children (*Nature and extent of lead poisoning in children in the United States, 1988*).
2. People of color and low-income populations experience higher than average exposure to air pollutants, hazardous waste facilities, contaminated fish, and farm pesticides in the workplace.
3. Data are not routinely collected on health risks posed by multiple industrial facilities, cumulative and synergistic effects, or multiple pathways of exposure.
4. American Indians are a unique ethnic group with a special relationship to the federal government and have distinct environmental problems. Tribes generally lack physical infrastructure, institutions, trained personnel, and resources necessary to protect their members.

President Clinton issued the Executive Order on Environmental Justice in 1994. This executive order focuses federal attention on the environmental and human health conditions in people of color and low-income populations with the goal of achieving equal environmental protection for all communities regardless of their race, income status, ethnicity, or culture. However, executive orders are mainly directives for government agencies, not the industrial facilities that are the culprits in many environmental justice disputes. No major legislation has been passed, with the exception of

state laws in Arkansas and Louisiana.

The EPA does provide financial assistance to communities involved in environmental justice cases. However, many of the organizations do not know how to access the funds. Information on this assistance can be obtained by contacting millard.margaret@epa.gov or www.epa.gov. The EPA has been criticized on their environmental justice record, however, they have limited authority. They are a regulatory agency, and as such, they administer laws set by Congress. People, through voting or issuing public comments, can impact the laws and control the siting of industrial plants and hazardous waste sites. If a new plant is being built in a community or a hazardous waste landfill is proposed, the owner or operator must apply for a Resource Conservation and Recovery Act Part B permit. This permit requires public notification and solicits community input. Concerned citizens can contact the EPA at the telephone numbers listed in Table 1 for more information. Furthermore, all toxic discharges from operating plants must be reported and this information can be accessed through EPA's Web site. An individual can find information about discharges or abandoned hazardous waste sites by simply typing in their zip code on the EPA's EnviroMapper (<http://maps.epa.gov/enviromapper/>). The EPA also employs a hazardous waste ombudsman in Washington, D.C., to respond to citizen grievances.

Race or Business as Usual

Racial and ethnic communities suffer the most severe environmental pollution (Bullard & Wright, 1987, p. 12). For example, air pollution levels in the Washington, D.C., metropolitan area were found to be higher in the poorer areas of the city and where the African American population lives. A similar situation exists in New York, Chicago, Denver, Los Angeles, and San Francisco (McCaull, 1976, p. 26; Gelobter, 1988). The question arises: Is it a case of racism or economic incentives? Corporations know that, on average, it is about six times more expensive to violate waste laws in white communities than in communities of color (Taylor, 1997, p. 48). If a company can operate in an area where fines, pollution controls, and penalties are based on existing conditions and property values, why would they not, from a purely economic view, locate in a poor neighborhood? Plus, the labor force is willing to accept higher risks and lower pay.

Sexism and Environmentalism

Discrimination is compounded when we consider economics, power, and gender issues. Similar discrimination practices can be seen in nearly every country in the world. Women across nations have devoted countless hours to the cause, formally through conferences like *Beyond Beijing* to informal

meetings in small villages. Women make up half the world's population but less than 5% of the world's heads of state, chief executives of major corporations, and top positions in international organizations (*Women, equity & sustainable development*, 1998). Yet women play a predominant role in environmental actions. As Vandana Shiva (1992) explains:

Women seem to realize that there is another world from which different values come, which is the ecological world. Women are able to maintain contact with that world even after the society, the economy, science, and technology have tried to make us think that the only economy that matters is the one in which we earn money and the only science and technology that matters is the one we have built (p. 84).

Over half of the environmental groups of color in 22 out of 39 jurisdictions in the United States had women leaders (Taylor, 1997, p. 58). Notable women that have been instrumental in the environmental justice movement include Dollie Burwell from Warren County (toxic waste dump), Linda Campell (who organized the Alabama environmental coalition against the largest U.S. toxic waste dump), and Shelela Cannon (Concerned Citizens of South Central Los Angeles). Scores of women were involved in the Kenya Environment and Energy Organization that promoted a program to use wood and charcoal stoves that reduce fuel. Authors such as Marianne LaVelle and Marcia Coyles (*Unequal Protection* and *The Racial Divide in Environmental Law*) provide an extensive analysis of the discriminatory impacts of environmental policies. For example, communities like the predominately African American Atgeld Gardens (a.k.a. "toxic donut") have 50 toxic sites within a six square mile area, yet the Hazardous Ranking System (HRS) does not take into account the combined effects of these sites on the 10,000 residents (Taylor, 1997, p. 47). Given that the EPA is underfunded and understaffed, rather than criticize the system, a solution could be to apply for an environmental justice grant or privately funded grant with community members, environmental academics, college environmental science or technology consultants, and computer models to revise the HRS, which is used to determine eligibility for superfund clean-up money. Communities have to use their resources, such as educational institutions, to assist the regulatory agencies. Service learning programs could be institutionalized so that students and faculty can receive credit for their environmental stewardship work. For example, in January 1995 the University of Pennsylvania offered a seminar to address the pervasive problem of the exposure of urban children to environmental lead (Giegengack et al., 1999). This project received funding from the EPA and the Kellogg Foundation.

Ecofeminism

Let us revisit the connections between women and environmental destruction. Environmental degradation affects women disproportionately because women's activities include the acquisition of water and fuel wood. As deforestation increases, women are forced to travel greater distances. In South Africa, women generally spend seven to nine hours per week on these chores, walking 12 to 38 miles per headload. Headloads as heavy 147 pounds have been recorded. This means less time for childcare, education, paid work, or other activities. In a country where women are not entitled to legal protection until menopause, it is questionable if their concerns are heard (Goodland, 1995).

Women's knowledge is ignored at great costs. When Chipko villagers in the Himalayans were asked about which trees should be planted as part of a reforestation plan the men immediately choose fruit trees. The women responded, "The men would take the fruits and sell them by the roadside. The cash would go to buy liquor and tobacco. We women prefer fuel and fodder trees" (Dankelman & Davidson, 1988).

Women cannot afford the illusion that it is possible to escape time and place. This is one reason for calling typically women's knowledge "expert knowledge" (Curtin, 1992). Women are linked more closely temporally and spatially to their surroundings. The link between women and the environment stems from experiencing the effects of domination is it of nature or of themselves (Merchant, 1980; Breton, 1998, p. 213; Hamilton, 1990; Adair, 1990).

Age and Environmental Discrimination

Another form of environmental discrimination not generally addressed is age discrimination. In many older American inner cities, industries locate in mixed zoning areas because older residents are less likely to protest. Older residents are less informed about how to address the health issues although they are a population at risk. Often they feel a strong connection to their neighborhoods because of many years that they have lived there.

Simple Steps towards Justice

Public education is a critical step in addressing environmental justice concerns. For example, these are simple solutions to the lead contamination problem:

- Use phosphates dishwasher powder that has proved useful in cleaning up lead dust.

- Exposed individuals should supplement their diets with iron and

calcium.

Pregnant women and children should not enter renovated homes for 24 hours.

Apply to free testing programs through local Department of Health or Medicaid offices.

Volunteer to repaint older low-income homes for the elderly or single mother households with small children.

Personal responsibility outside and within the home is important because certain actions have long-term consequences. For example, the period of time between an exposure and the development of chronic effects can range from 10 to 20 years. This becomes a problem in terms of environmental litigation. Twenty year olds often accept work not realizing that years later, when they want to start a family, they will not be able to. Although the analytic capability and technology is available to detect the health effects of minute concentrations of many chemicals, only 7,000 of the 5 million substances known have been tested for carcinogenicity or other deleterious effects, such as decreased fertility (Bowen, 2001). Rather than using less toxic alternatives, Americans often use household chemicals and pesticides on their lawns that can have adverse effects on health. The effects of these choices add up. In the case of many hazardous chemicals, the availability of data with which to measure the component of risk is rare (Bowen, 2001). Also, some community members (i.e. children) are not cognizant of risks. The lifelong impact of early childhood exposure to lead is difficult to quantify but its contemplation has led a generation of public health practitioners to agree that low-level lead poisoning is the single greatest environmental hazard that urban children face today and that hazard disproportionately threatens African American children (Giegengack et al., 1999).

We need to recognize how our moves affect others and try to understand our common concerns. We live in a country that represents 6% of the world's population and consumes 45% of its resources, including 60% of its energy resources (Hamilton, 1990, p. 63). According to environmental philosopher Eugene Hargrove (1995), one reason that environmental racism has been ignored is that that environmental ethics literature, for the most part, reflects environmentalists' concerns, which have not included concerns about human welfare. The environmental justice movement is meant to unite environmentalism and social justice by challenging the business-as-usual environmentalism that is generally practiced by the more privileged wildlife and conservation-oriented groups (Bullard, 1993). For years, the environmental movement operated without significant minority participation (Buttel & Flinn, 1974 ; Loew, Pinhey, & Grimes, 1980; Fox, 1985). Some white environmentalists dismiss this new sector of the environmental movement as radical extremists, while others have sought to make just

enough changes within their organizations to avoid charges of racism. Both groups need to identify the issues that keep them apart as well as the radical changes needed to bridge the distance (Bullard, 1993).

All environmentalists should strive to find common ground and build alliances that can gain political support. It is important to remember that people are concerned with their immediate surroundings or where their interests lie; a place where they feel a connection—perhaps a park they walk through or bring their children to watch birds. A quiet place where they reflect on their lives and remember:

The world can tell us everything we want to know. The only problem for the world is that it doesn't have a voice. But the world's indicators are there. They are always talking to us. -Iwjuvik Quitsak Tarkiasuk (cited in Poslums, 1993)

In conclusion, it is critical that more people utilize the environmental legal and scientific systems and, more importantly, exert their voice to impact environmental decision-making regardless of the personal, academic, or professional implications. We cannot change the past but we can change the future by seeing humans and the non-human world justly and by living simply. All humanity can have an impact through the process of setting an ethical environmental example in some capacity.

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