



**Environmental Justice is Dead! Long Live Environmental Justice!: An
Inquiry to the Evolution of “Mainstreamed” Environmental Justice**

**A Major Qualifying Project Report
submitted to the Faculty of the
WORCESTER POLYTECHNIC INSTITUTE
in partial fulfillment of the requirements for the
Degree of Bachelor of Science**

By Charles Hanlon

Project Advisor: Robert Krueger

April 29, 2010

This report represents the work of one or more WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its web site without editorial or peer review.

Abstract: This MQP was an inquiry into the formulation of environmental justice (EJ) policies at the state level in the United States. It included research concerning the beginnings of the EJ movement, along with research into the EJ policies of the U.S. Federal Governmental. The focus was using the State of New Jersey's EJ program as a case study of how EJ has been incorporated into environmental policies by state-level policymakers. In order to analyze the EJ policies of New Jersey, a set of EJ indicators was developed that consisted of areas of EJ concern and possible policy mechanisms that could be used to address those concerns.

Table of Contents

Abstract.....2

Table of Contents.....3

1.0 Introduction.....5

2.0Background.....9

2.1 Beginning of the Environmental Justice Movement.....9

2.2 “Toxic Wastes and Race”10

2.3 Unequal Environmental Protection.....11

2.4 Early Case Studies.....12

2.5 Environmental Racism.....14

2.6 Federal Environmental Justice Efforts.....14

2.6.1 Executive Order 12,898.....15

2.6.2 EPA Environmental Justice Strategy.....16

2.6.3 Current NEJAC Recommendations.....23

2.7 New Measurements of Environmental Inequities.....26

2.8 Early Possible Frameworks for Environmental Justice.....28

2.8.1 Basic Characteristics.....29

2.8.2 Grassroots Strategies for Environmental Justice.....30

2.9 City-Level Environmental Justice Policy.....31

2.10 Links Between Sustainability and Environmental Justice.....33

2.11 Potential for Just Sustainability in Urban Communities.....36

2.11.1 Characteristics of a Sustainable Society.....37

2.11.2 Potential Efforts toward Just Sustainability.....38

2.12 State Environmental Justice Policy.....39

2.12.1 States without Environmental Justice Policy.....40

2.12.2 Overview of State Implementation of Environmental Justice Policy.....41

2.12.3 Case of Recent Establishment of an Environmental Justice Program....41

2.12.4 Extensive State-Level Environmental Justice.....42

3.0 Methodology.....48

3.1 Stratification of State Policies.....48

3.2 Choice of State-Level Case Study.....49

3.3 Environmental Justice Policies.....50

3.4 Legislative History of Environmental Justice.....51

3.5 Analysis of Research Results.....52

3.6 Indicators for Analysis of Policies.....52

4.0 New Jersey.....55

4.1 General EJ Indicators for New Jersey.....55

4.1.1 Identification of EJ Communities/Issues.....56

4.1.2 State Policy Mechanisms.....59

4.1.3 Areas of EJ Concern Addressed.....	62
4.1.4 Agency Policies.....	63
4.1.5 Community Involvement.....	64
4.1.6 EPA Regional Policy Mechanisms.....	66
4.2 Indicators of Political Efficacy / Specific Targeting of Problems for New Jersey...	67
4.2.1 State Policy Mechanisms.....	67
4.2.2 Types of laws/regulations.....	68
5.0 Summary and Conclusions.....	71
References.....	75
Appendix A: Stratification of States.....	78
Appendix B: Environmental Justice Indicators.....	104
Appendix C: Definitions for the Environmental Justice Indicator.....	106
Appendix D: Environmental Justice Indicators – NJ.....	111

1.0 Introduction

The aim of this project was to examine environmental justice at the state-level and to see where state-level environmental justice actions could go in the future. Environmental justice is the idea that all communities, regardless of race or wealth, should be granted equal protection from environmental hazards and equal access to environmental benefits. Historically, minority and poor communities have been disproportionately exposed to hazardous waste sites, chemical manufacturing facilities, landfills, and other environmental hazards. More affluent communities have disproportionately gained environmental benefits. Many of the environmental inequities in the United States can be linked to the racial makeup of communities, with nonwhite communities paying the costs and white communities gaining the benefits. In response, the environmental justice movement formed in order to demand an end to environmental injustices.

The environmental justice movement in the United States was an extension of past civil rights struggles that was a response to the disparate impacts of environmental hazards to which minority communities and low-income communities had been subjected. The environmental justice movement began during the early 1980s because minority communities were much more frequently exposed to hazardous waste sites and pollution and were less likely to be protected from environmental harm (United Church of Christ, 1987, p.2). Groups, such as the United Church of Christ, found that environmental racism was a widespread problem throughout the United States. Environmental regulations were much more likely to be enforced in predominantly white communities and affluent communities than in predominantly nonwhite communities and poor communities. As a result, communities participated in direct activism against environmental injustice and tried to urge policymakers to make environmental justice a priority. In 1994, the first major public policy development for the environmental justice

movement occurred when President Bill Clinton signed Executive Order #12898, which ordered that all Federal Government agencies that perform activities that are related to the environment incorporate environmental justice principles into agency policies and ensure equal protection under environmental laws and regulations.

During the 1990s, state governments began to incorporate environmental justice principles into their environmental policies. For example, California has enacted several statutes that are specifically aimed at enforcing environmental justice principles. As of 2007, 42 state governments had addressed the issue of environmental justice in some way. The strength of state environmental justice policies varied greatly. Many states have only made mention of environmental justice as being an important issue without performing major actions for the purpose of enforcing EJ principles. Other states have enacted substantial statutory, regulatory, or policy actions in order to address environmental justice concerns in comprehensive ways. Some states recently enacted environmental justice policies that were relatively extensive, but were still in development. The purpose of this project was to closely examine a recently enacted state environmental justice program in order to see where it has gone so far and how far it could potentially go in the future.

In order to examine a specific state environmental justice program that was in development, I formulated this project's Methodology. First, I conducted a general, basic analysis of all state-level environmental justice programs. The programs were separated into categories based on how much they had incorporated environmental justice principles into their environmental programs. Then, one of the states that had a moderately developed environmental justice program was selected to serve as a case study. This state was New Jersey, which had an environmental justice program that had been initiated through an executive order in 2004. After

New Jersey was selected, I conducted research concerning all policy actions that have been conducted in New Jersey in order to address environmental justice issues. I then wrote a case study that outlined New Jersey's environmental justice program. In order to analyze the case, I developed a set of "EJ Indicators" that outlined areas of environmental justice concern and ways in which they could be addressed.

Through my research concerning the environmental justice policies of New Jersey, I found that, although New Jersey has addressed many of the areas of concern for the environmental justice movement, it has not made many strong policy actions in order to solve specific environmental justice problems. Most of New Jersey's environmental justice program has consisted of stating commitments to EJ principles, conducting studies, and making plans for future actions. It has not included regulations or statutes that were directly aimed at enforcing environmental justice principles. Though New Jersey still has a long way to go in making environmental justice a guiding principle in its environmental policies, it has made a relatively large amount of early progress toward that goal. New Jersey seems to be going in the right direction with respect to environmental justice.

The following project will first outline the development of environmental justice as a movement and an idea and how it has influenced national policy. It will then explain the methodology used in order to study environmental justice at the state level. It will then describe a case study of environmental justice's influence on state-level policies. Finally, it will outline conclusions about how environmental justice has affected the environmental policies of the state of New Jersey and where the environmental justice policies of New Jersey may go in the future. After years of local campaigns for environmental justice, the environmental justice movement has begun to have an effect on national and state environmental policies, and some states, such as

New Jersey, have begun to make environmental justice a priority within state-level environmental programs.

2.0 Background

Environmental justice began as a grassroots movement in the United States during the 1980s in communities that were subjected to environmental bads, such as hazardous waste sites, more frequently than other communities. These communities tended to have predominantly nonwhite populations. The environmental justice movement was based around communities trying to solve the environmental problems that they faced and resist the harmful effects of environmental racism. Eventually, environmental justice policy began to be made at the national level. States formulated state environmental justice programs. Some cities also began to pay attention to issues of environmental justice. There have been efforts to link sustainable development to environmental justice in order to create the paradigm of just sustainability. The following chapter will detail the formation of the environmental justice movement, its role in federal, state, and local policy, and its differences from previous environmental policy paradigms. It will also discuss possible strategies for furthering environmental justice and moving toward a movement for just sustainability.

2.1 Beginning of the Environmental Justice Movement

In the early 1980s, black, Hispanic, Asian, and Native American communities began to give greater attention to the disproportionate amount of environmental problems they had to face (United Church of Christ, 1987, p.2). In 1982, the residents of Warren County, North Carolina attempted to stop the establishment of a polychlorinated biphenyl disposal landfill in the county. The county's population was predominantly black and poor. The situation gained national attention and led to increased study and community action based around issues concerning race and the environment. The environmental movement had traditionally been based around people who were relatively affluent and usually white. Racial issues concerning the environment

resulted in more nonwhite people from working class or poor backgrounds becoming involved in environmental issues.

2.2 “Toxic Wastes and Race”

In order to determine the impact that race and socioeconomic status had on the locations of hazardous waste sites, the United Church of Christ Commission for Racial Justice compiled databases of the locations of hazardous waste sites and the racial compositions of the surrounding communities (United Church of Christ, 1987, p. 9). Communities were split into four different groups, which were based on the presence or lack of presence of hazardous waste sites within a five-digit zip code and the number of waste sites located within a five-digit zip code (p. 11). Communities with and without hazardous waste sites were then compared with respect to racial composition and socioeconomic status.

Communities with high nonwhite populations were found to be much more likely than predominantly white communities to contain hazardous waste sites (United Church of Christ, . 1987, p. 13). The mean minority percentage of community population for communities with one hazardous waste site was twice the mean minority percentage found in communities without hazardous waste sites. Mean minority percentage of population for communities with two or more hazardous waste sites was three times that of communities without waste sites. It was also found that race was a stronger predictor of the presence of a hazardous waste site in a community than household income, home value, number of uncontrolled toxic waste sites in an area, and amount of hazardous waste produced by industry. The study found that three out of five black and Hispanic people live in communities with uncontrolled toxic waste sites. High percentages of Asian and Native American populations also live in communities with toxic waste sites. Statistical analysis of the data found that the probability of these associations occurring by

chance is 1 in 10,000. Communities with the highest level of hazardous waste activity also were found to be very densely populated. This study was very important because it provided a rallying point for the environmental justice movement and clearly showed the existence of environmental racism in the United States.

2.3 Unequal Environmental Protection

An analysis of the enforcement of environmental laws in the United States found that penalties for polluters in predominantly white areas were much higher than penalties for polluters in minority areas (Lavelle & Coyle, 1992, p. 1). There were very large racial disparities in the sizes of penalties imposed under the Resource Conservation and Recovery Act for hazardous waste sites. Average penalties imposed in white areas were \$335,566, while average penalties imposed in minority areas were \$55,318. Average penalties varied slightly between poor and wealthy communities, with the average penalty in high income areas being \$109,606 and the average penalty for low income areas being \$113,491. This demonstrated how race was such a huge factor in the enforcement of environmental laws and how race was an even more important than socioeconomic status. Penalties under hazardous waste laws in areas with very high white populations were “about 500 percent higher than penalties with the greatest minority population” (p. 1). For offenses concerning air, water, and waste pollution, penalties were 46 percent higher in white communities than in minority communities. In most EPA regions, Superfund cleanups happened 12 to 42 percent later in minority communities than in white communities. Containment was used at sites in minority communities seven percent more frequently than at sites in mostly white areas, while permanent treatment was used 22 percent more frequently in white areas than in minority areas. Overall, minority areas were treated unfairly under the law and were less likely to be protected from environmental harm by the EPA.

Environmental racism had a large effect in how groups benefited from environmental protection policies.

2.4 Early Case Studies

In order to study the strategies used by predominantly black communities in the southern United States, and in order to counteract environmental racism and the main environmental concerns of those communities, household surveys were conducted in Alsen, Louisiana, Houston, Texas, Institute, West Virginia, West Dallas, Texas, and Emelle, Alabama (Bullard, 1990, p. 75). These case studies demonstrated how environmental issues were perceived within southern black communities. The survey had a sample of 523 people, most of whom were homeowners with lower- or middle-income. Responses concerning the most significant environmental hazard in each community were clearly based on the most obvious problems the communities faced (p.79). In Emelle, where the largest hazardous-waste dump in the United States was located, hazardous waste, chemical leaks, and the proximity of polluting industries were ranked highest. Respondents in West Dallas, where a lead smelter has been located for over 50 years, ranked air pollution, water pollution, and noise as the greatest hazards. In Alsen, nearby hazardous waste disposal facilities resulted in respondents being concerned with air pollution and hazardous waste. In Houston, air pollution from local industry was ranked highest. Respondents in Institute, which was located near a “chemical corridor”, were most concerned with air pollution, chemical leaks, and closeness of industry. All of these communities were greatly subjected to environmental hazards being sited near residences.

The surveys found that 75 percent of respondents thought that the fact that industrial facilities were located in their communities were unfair (Bullard, 1990, p. 81). A majority of respondents also thought that they had been targeted with the placement of environmental

hazards. Residents of Houston, Alsen, and West Dallas were the most likely to be angry about environmental inequities and to use litigation as a means of trying to remedy their situations. Out of the respondents, three-fourths believed that there was little chance that the environmental problems that they faced would be solved relatively soon. Out of the respondents who thought that their neighborhoods had been targeted, most thought they had been targeted because they were black. The poorest of the five communities, West Dallas and Emelle, were more likely to think poverty and the need for jobs were the main reasons for being targeted (p. 84). The surveys challenged the idea that poor minority communities were more likely to care about jobs than the environment, with two-thirds of respondents stating that environmental problems were more important than employment problems (p. 86). Most respondents also considered polluting industries to have not improved local employment opportunities. Overall, polluting industries were seen as being bad for local communities and as unfair to community residents for racial and economic reasons.

Though the majority of the survey respondents were members of local voluntary associations and organizations, only 16.3 percent were members of environmental groups (Bullard, 1990, p.89). This reflected the low minority membership in much of the mainstream environmental movement. Environmental group membership was highest in Alsen and lowest in West Dallas. Respondents were frequently members of churches, which helped demonstrate how churches played a pivotal role in the early environmental justice movement. Within the surveyed communities, already existing groups were the main means that residents used for organizing around environmental issues. Black environmental activism in general tended to be organized through non-environmental groups.

When respondents had tried to address environmental hazards, the most common form of

action was signing petitions in opposition to hazardous facilities (Bullard, 1990, p. 91). Slightly less than one-half had attended public hearings. The other most frequent response was having attended a meeting to discuss environmental issues in a home or church. Fund-raising activities for environmental action were most frequent in communities that attempted to use litigation to counter environmental problems. Overall, environmental actions within the communities surveyed were based on grassroots efforts that were separate from mainstream environmental organizations, which was characteristic of black environmental activism in general. The focus of efforts showed a greater concern for social justice and a greater focus on countering unfairness than in traditional environmentalism.

2.5 Environmental Racism

Environmental racism was defined “any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color” (Bullard, 1990, p. 98). As a result of environmental racism, whites have received a disproportionate share of the benefits of industrial development, while blacks and other minority groups have been subjected to a disproportionate share of the costs. Exposure to lead and lead poisoning has been much greater in black communities than in white communities for all socioeconomic statuses. Historically, black and Hispanic people were more likely to live in urban areas and be exposed to polluted air.

2.6 Federal Environmental Justice Efforts

The Environmental Protection Agency's Office of Environmental Equity, later known as the Office of Environmental Justice, was established in 1992 (Eady, 2003, p.169). The EPA formed the National Environmental Justice Advisory Council (NEJAC) in 1993 in order to advise the EPA administrator with respect to environmental justice issues. NEJAC included

many environmental justice stakeholders and was fairly successful with respect to gaining public input for environmental justice issues. NEJAC has provided a public forum for community activists and has been relatively successful at getting support from the environmental justice movement. It has been able to make policy recommendations, but there was no obligation for the EPA to implement NEJAC's recommendations. This flawed framework was to be adopted by several states, including Massachusetts.

2.6.1 Executive Order 12,898

In 1994, President Clinton issued Executive Order 12,898, which ordered that federal agencies involved in issues that affect environmental justice formulate a strategy and implement policies for the purpose of environmental justice (Office of Environmental Justice, 1995, p.1). The executive order stated that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States” (p.1). The EPA administrator was to “convene an inter-agency Federal Working Group on Environmental Justice” in order to formulate environmental justice policy for the Federal government. The Working Group was to include the Department of Defense, the Department of Health and Human Services , the Department of Housing and Urban Development, the Department of Labor, the Department of Agriculture, the Department of Transportation, the Department of Justice, the Department of the Interior, the Department of Commerce, the Department of Energy, the Environmental Protection Agency, the Office of Management and Budget, the Office of Science and Technology Policy, the Office of the Deputy Assistant to the President for Environmental Policy, the Office of the Assistant to the President for Domestic Policy, the National Economic

Council, the Council of Economic Advisers, and “such other Government officials as the President may designate”. The Working Groups responsibilities included providing guidance to Federal agencies with respect to determining disproportionate impacts and providing guidance for Federal agencies implementing environmental justice policies. It was also to assist in coordinating research by agencies researching disproportionate environmental impacts, to assist in data collection, and to examine existing data and studies on environmental justice. The Working Group was also given the responsibilities of holding public meetings and establishing models for environmental justice projects.

The order also outlined deadlines for actions on the part of agencies (Office of Environmental Justice, 1995, p. 2). Four months from the issuing of the order, all agencies had to “identify an internal administrative process for developing its environmental justice strategy” (p. 2). Within six months, each agency had to outline of its environmental justice strategy, and, within ten months, each agency had to submit its strategy to the Working Group. Within 12 months, the agencies had to finalize their strategies and identify specific projects that would address environmental justice issues, and, after two years, the agencies had to report on their progress. The Working also had to report on their progress to the President through the Office of the Deputy Assistant to the President for Environmental Policy and the Office of the Assistant to the President for Domestic Policy.

2.6.2 EPA Environmental Justice Strategy

In order to comply with Executive Order 12,898, the EPA issued its environmental justice strategy in 1995, which outlined the goals of environmental justice policy and how the EPA would meet the goals (US EPA, 1995, p. 3). The EPA outlined several basic principles in order to guide future environmental policy efforts. These were focusing on community involvement,

granting communities access to information on environmental justice efforts, and making sure that the EPA had a leadership role in environmental justice efforts and coordinated efforts with other Federal agencies (p. 4). After the issuance of the executive order, the EPA formed the environmental Justice Steering Committee and Policy Workgroup in order to formulate and implement environmental justice activities for the EPA. The EPA then formed the National Environmental Justice Advisory Council (NEJAC) in order to advise the EPA on environmental justice issues. Public meetings were held throughout the United States by the EPA National Goals Project in order to identify environmental justice issues and goals and gain public input on the problems. The final strategy was formulated using recommendations from NEJAC concerning the priorities of stakeholders in environmental justice issues.

. The EPA attempted to incorporate environmental justice into its overall environmental protection policies (US EPA, 1995, p. 5). In a strategic plan called “The New Generation of Environmental Protection”, the EPA stated that environmental justice was one of its seven guiding principles. In its community based environmental protection efforts, it worked with local communities to formulate strategies for obtaining a healthy environment. EPA enforcement functions were reorganized under the Office of Enforcement and Compliance Assurance with new compliance methods that would allow for greater incorporation of environmental justice. The Common Sense Initiative was implemented in order to gain more community involvement in public health and environmental problems. By incorporating environmental justice principles into the overall functions of the EPA, the EPA tried to make environmental justice one of its most important policy functions.

The EPA's strategy consisted of five main mission topics related to environmental justice (US EPA, 1995, p. 6). The first topic was public participation, accountability, partnerships,

outreach, and communication with stakeholders. As part of this topic, the EPA wanted to partner and communicate with governments at all levels, communities, businesses, and other relevant parties in order to address environmental justice issues. Under this topic, the EPA's first objective was to promote public input early in the decision-making process. The EPA wanted individuals and organizations involved in environmental justice issues to participate in policy-making. The second objective was to help in technical assistance for minority and low-income communities by administering grant programs that focused on small businesses, tribal governments, and community organizations. The third objective was to train EPA personnel to handle environmental justice issues and promote community participation. The training was to be based around the local needs of communities. The fourth objective was to develop a system for monitoring environmental justice programs in order to promote accountability amongst program management. The fifth objective was to promote public participation in siting decisions and in the permitting of hazardous waste facilities.

The second mission topic to be addressed by the EPA's Environmental Justice Strategy was the importance of health and environmental research (US EPA, 1995, p. 8). This topic was important to the EPA because it would allow the EPA to make informed decisions with respect to environmental justice issues. The first objective under this topic was to work with affected stakeholders and incorporate community-led research into the EPA's research strategy. The EPA planned to implement pilot projects with community involvement, assess socioeconomic issues, give grants to researchers investigating environmental justice, and having exchange programs between the EPA and environmental justice groups. The second objective was to base environmental justice efforts on sound scientific research that was relevant to environmental justice issues. This included finding and maintaining information about patterns of subsistence

with respect to fish and wildlife consumption and human exposure to environmental hazards. The EPA stated that it would assess the greatest environmental risks that exist for communities. The strategy stated that extensive health data needed to be gathered in order to properly address environmental justice concerns.

The third mission topic of the EPA for its Environmental Justice Strategy was data collection, analysis, and stakeholder access to public information (US EPA, 1995, p. 10). With public access to information, policies concerning environmental justice would be more likely to be objective and fair. The EPA would also be able to formulate more effective policy that more closely addressed the risks caused by environment hazards. The first objective for the EPA under this topic was to address the gaps in data that the EPA possessed about environmental justice issues by identifying the gaps and then filling them. The EPA decided to make an inventory of existing data systems in order to find out what other information was needed. The objective also included gathering new data that communities that were harmed by environmental thought should be collected. The EPA decided to coordinate their databases with the databases of other Federal agencies and with public health departments. They also decided to have stakeholders help devise methods for data collection and for combining and analyzing data. The second objective was to both improve the quality of the data used by the EPA and to reduce the burden on people with respect to reporting data. The EPA stated that it would work with Federal agencies and state and local governments in order to create mechanisms for the reporting of data in order to make the reporting of data easier and more accurate. The third objective was to improve data integration and analysis by promoting the use of information systems that would make the identification of at-risk communities more accurate. Improved analysis would allow for better comparison of environmental health risks amongst populations based on race, national

origin, and income. The fourth objective was to improve public access to information by having stakeholders help put together information systems and by producing educational materials concerning environmental justice issues. The EPA stated in its strategy that greater access to data and better collection of data would help the implementation of its environmental justice policies.

In the EPA's Environmental Justice Strategy, the fourth mission topic was Native American and Indigenous environmental protection (US EPA, 1995, p. 11). The EPA stated that working with tribal governments and with indigenous organizations was important to specifically address environmental justice issues that were particularly important to Native American communities. The objective for the EPA was to improve the health and environmental conditions of Native American communities. Methods for doing this included education about environmental justice, providing legal, financial, and technical assistance to tribal environmental programs, and helping to develop improved tribal-EPA agreements and programs. In order to keep policies consistent and to respect tribal sovereignty, the Office of Environmental Justice, the Environmental Justice Coordinators, the American Indian Environmental Office, the Office of Enforcement and Compliance Assurance, and the Indian Coordinators would work together to coordinate their activities. Environmental justice policies for tribal lands were also to take cultural uses of natural resources into account. The EPA also planned to work with tribal governments in order to properly address indigenous grassroots environmental justice concerns and promote participation. The EPA wanted to incorporate the specific concerns of Native Americans into its environmental justice strategy.

The fifth topic that the EPA outlined in its Environmental Justice Strategy was enforcement, compliance, assurance, and regulatory review (US EPA, 1995, p. 13). In order to implement environmental justice policies, the EPA attempted to make environmental justice

issues part of its enforcement framework for environmental regulations and to incorporate environmental justice concerns into its analysis of regulatory compliance. The first objective of this topic was to revise policy documents in order to include environmental justice concerns and to strategically enforce environmental laws in order to meet environmental justice goals. When enforcing statutes, the EPA would identify populations and communities that were affected by environmental hazards disproportionately. Standards of compliance would be shaped to reflect the needs of particularly at-risk communities. Educational programs would also be used to teach communities about statutory enforcement. The second objective was to use its authority under the National Environmental Policy Act and Clean Act to review the spatial distribution of environmental risks in order to mitigate them. The EPA would help Federal officials review NEPA and CAA actions and hold workshops in order to determine the impact of environmental justice. The third objective was to ensure non-discrimination in implementing environmental protection policies. The strategy included training of EPA personnel for environmental justice and implementing oversight for state and local programs that received EPA funding. The fourth objective was to make environmental justice a part of the EPA regulatory process by working with other agencies, states, local governments, and tribal governments on environmental justice problems.

In order to help the implementation of environmental justice projects and give examples for grassroots efforts, the EPA has formulated Environmental Justice Model Projects (US EPA, 1995, p. 15). One of these projects was the Brownfields Economic Redevelopment Pilots. This project was formulated in a partnership with the Departments of Housing and Urban Development, Energy, Labor, and Commerce. It was aimed at the promotion of job training and economic development in order help in encouraging the cleanup and redevelopment of

abandoned industrial facilities. EPA has attempted to have communities participate in the redevelopment of sites. The EPA wanted to establish about 50 demonstration projects in order to assess and clean brownfields and promote redevelopment. Through the projects, the EPA hoped to increase communication between communities affected by environmental justice and the EPA. Public forums were set up in order to get the input of affected communities.

Public health pilots have also been initiated in partnership with the Department of Health and Human Services to deal with the health effects of hazardous waste sites (US EPA, 1995, p. 16). The Medical Assistance plan was developed in order to implement policies related to the health concerns of communities. The first phase of the plan was assessing community health needs and community capacity for meeting those health needs. The second phase was to do things such as providing technical assistance to health care providers, providing medical testing for problems related to hazardous waste sites, providing environmental health training for health care providers, and referring people to specialists when needed. This project was aimed at helping to alleviate the health effects on environmental injustice by increasing access to health services.

A third project the EPA has formulated as part of its environmental justice strategy is the Southeast Chicago Environmental Initiative (US EPA, 1995, p. 16). In southeast Chicago, there were both a high concentration of poor and working class neighborhoods and a high concentration of waste disposal sites and heavy industries. One predominantly African American housing community, Altgeld Gardens, was surrounded by a steel mill, a paint factory, a sewage treatment plant, a freeway, incinerators, and other environmental hazards. EPA Region 5 developed the program in order to provide a framework for improving local environmental conditions. One action was for the Agency for Toxic Substances and Disease Registry to

conduct health assessments within the community. Another was for the Department of Housing and Urban Development to develop projects for the removal of lead-based paint. The EPA, Illinois EPA, and Chicago Department of Environment also worked together to develop more stringent enforcement of environmental protection laws and ensure greater compliance with EPA regulations.

The Mississippi Delta Project was developed in order to address the high concentration of environmental hazards that exist in Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee along the Mississippi River (US EPA, 1995, p. 17). In this region, there was a large concentration of waste sites, transportation routes, petrochemical industries, and heavy industries. Agencies such as the EPA, the Occupational Safety and Health Administration, and the Center for Disease Control, worked together to formulate the project. The goals of the project were to identify major environmental hazards, evaluate health impacts, increase access to health care for people exposed to environmental hazards, and partner with academic institutions in order to increase community environmental awareness. In 1995, this was the largest project specific to a region to study the effects of environmental hazards on the health of low-income and minority communities.

2.6.3 Current NEJAC Recommendations

In 2008, NEJAC issued a list of recommendations to the EPA concerning future EPA environmental justice policies and actions (National Environmental Justice Advisory Council, 2008, p. 1). NEJAC's recommendations concerned the EPA's proposed establishment of a new program for environmental justice through State Environmental Justice Cooperative Agreements. The new program would update the interactions between the EPA and states with respect to environmental justice concerns. NEJAC saw EPA proposals as an opportunity for states, local

governments, and the EPA to work together to solve environmental justice problems and become more active in community concerns. The first recommendation was that EPA efforts should target states that have shown more initiative with respect to environmental justice efforts. The EPA proposed giving five grants for addressing environmental justice issues, and NEJAC stated that the grants should go toward supporting real results at the community level. The states selected should be able to deliver real results with respect to environmental justice issues. The second recommendation was that states should have to demonstrate that they will be able to use grant money in order to raise more funds and other resources to address environmental justice issues. Funds should also be used to aid already existing community projects. Funds should, according to NEJAC, be put toward collaborative projects with the potential to achieve measurable results. When possible, they should involve multiple state agencies, and any relevant agency support should be encouraged. Projects should involve local environmental justice organizations and maximize involvement from any other possible stakeholders. Grants should be focused on approaches that involve teams of government and community-based leaders that collaborate to plan projects.

In order for states to receive EPA grants, the EPA should require deliverables with respect to cooperative agreements (National Environmental Justice Advisory Council, 2008, p. 3). NEJAC stated that local projects should produce documentation concerning what did and did not work in local projects so that results could be replicated elsewhere and more successful projects could be formulated in the future. Documentation should be widely available to communities so that results of projects could be used in local environmental justice initiatives. Community-level experts should be hired and paid in order to help in the connection of environmental justice projects with communities. NEJAC also recommended the consideration

of Native American tribes as being recipients for environmental justice cooperative agreements. State programs that have already engaged tribes should be considered likely recipients of grants. NEJAC stated that the EPA should give support to efforts to train local planners and zoning officials with respect to environmental justice issues. This would allow for more effective development of collaborative projects concerning environmental justice issues. Local projects could serve as a way to demonstrate to local officials how environmental justice issues and land use planning meet. Training using the input of affected communities could help improve the effectiveness of future environmental justice efforts. According to NEJAC, universities had the potential to be active in local environmental justice efforts. Universities could potentially contain expertise that could improve local projects and a potential labor pool for environmental justice efforts. Forums for debate on environmental justice issues could be provided by universities.

National nonprofits could be used by the EPA in order to improve potential environmental justice projects (National Environmental Justice Advisory Council, 2008, p. 4). National organizations could help raise funds for environmental justice efforts and help publicize projects and the potential improvements that could be made by projects. New collaborative projects could be better maintained with the aid of nonprofits. Training the media to report accurately on environmental justice issues could also help increase the effectiveness of environmental justice efforts. The EPA would also need to coordinate programs between all of the heads of regional EPA environmental justice efforts. No matter where grants are awarded, all EPA regions would need to coordinate their environmental justice efforts in order to create better environmental justice policies. NEJAC also stated that the EPA should encourage collaboration on environmental justice issues between states in order to develop effective policies and to generate

substantial results. States could learn from each other in order to be more successful with respect to local environmental justice policies. Limited resources for implementing projects could be used more effectively with the use of interstate collaboration. Finally, NEJAC recommended that the grants that the EPA awards be more than the proposed \$160,000 grants. NEJAC stated that programs based only on these funds would barely make a difference with respect to environmental justice. Strategic use of the grants would be needed in order to make them in any way effective. NEJAC concluded that the issuing of grants by the EPA was an important function of the EPA with respect to its environmental justice policy, but that more funding was needed to properly address environmental justice issues.

2.7 New Measurements of Environmental Inequities

In order to more accurately analyze how frequently hazardous waste sites and other environmental problems were located in minority communities, studies were done using distance-based methods for location instead of zip code and census-based methods (Bullard, Mohai, Saha, & Wright, 2007, p. 39). This new method was used in an update of the study “Toxic Wastes and Race”. For this new study, hazardous waste sites were located and the neighborhoods studied as being host neighborhoods were the areas located within a certain radius around the hazardous waste sites. The areas used were one kilometer, one to three kilometers, three to five kilometers, and more than five kilometers away from the hazardous waste site. The demographic characteristics of these areas were then found using census data from the 1990 census.

The results supported previous findings that hazardous waste sites were more likely to be located in areas with high nonwhite populations than areas with predominantly white populations. More than five kilometers away from hazardous waste sites, only 22.2 percent of

the population was nonwhite. Between three to five kilometers away from hazardous waste sites, the proportion of the population that was nonwhite rose to 35.7 percent. Between one to three kilometers away, the percentage rose again to 46.1 percent. Within one kilometer of hazardous waste sites, the percentage was highest, at 47.7 percent. Using previous methods, the proportion of populations living near hazardous waste sites appeared to be less than the proportions found using the distance-based method.

Another study was conducted using distance-based methods and census data from the 2000 census (Bullard, Mohai, Saha, & Wright, 2007, p. 52). This study found that nine million people, or about 3.3 percent of the United States population, live within 3 kilometers of the 413 hazardous waste facilities that are located in the United States. Out of that number, 5.1 million people are Black, Hispanic, Asian/Pacific Islander, or Native American and live in neighborhoods that contain one or more hazardous waste site. Neighborhoods that contain hazardous waste sites have an average population density of 870 people per square kilometer, while areas without hazardous waste sites have an average population density of 30 people per square kilometer. Eighty-three percent of hazardous waste sites were located in urban areas. Fifty-six percent of populations within three kilometers of hazardous waste facilities were people of color, while 30 percent of populations in areas that did not host hazardous waste facilities were people of color. Poverty rates in host neighborhoods were 1.5 times the poverty rates found in non-host neighborhoods. Mean incomes were also 15 percent lower near hazardous waste sites than in other areas, and home values were lower in areas with hazardous waste sites than areas without them. Eighteen percent of residents of host neighborhoods had four-year college degrees, while twenty-five percent of residents of non-host neighborhoods had college degrees. The results were statistically significant at a level of 0.001, which means that there was a 1 in

1000 chance that the results were caused by random chance.

For neighborhoods with clustered hazardous waste facilities, the percentage of the population that was people of color was higher than neighborhoods with one facility (Bullard, Mohai, Saha, & Wright, 2007, p. 54). While neighborhoods with non-clustered facilities were 51 percent people of color, neighborhoods with clustered facilities were 69 percent people of color. Also, the proportion of the population that was African American or Hispanic in neighborhoods with clustered facilities was higher than in neighborhoods with one facility. Near clustered facilities, poverty rates were 22 percent, while, near a single facility, poverty rates were 17 percent. Household incomes were also 10 percent lower near clustered facilities than near single facilities. Home values were also 14 percent lower near clustered facilities.

Twenty years after the original “Toxic Wastes and Race” study, the racial makeup of populations closest to hazardous waste facilities remained the relatively the same (Bullard, Mohai, Saha, & Wright, 2007, p. 63). Race was still a robust predictor of whether a hazardous waste site would be located in a neighborhood. As in 1987, people of low socioeconomic status and people of color were much more likely to live near hazardous waste facilities. The racial disparities were found to exist throughout the United States. Race was also still a stronger predictor of the location of hazardous waste sites than other factors, such as socioeconomic status. Despite efforts over twenty years, the environmental justice movement and environmental justice policies have not remedied racial disparities that exist in the siting of commercial hazardous waste facilities.

2.8 Early Possible Frameworks for Environmental Justice

In order to put a framework of environmental justice into practice, attention has been devoted to three broad categories of equity (Bullard, 1990, p. 116). The environmental justice

movement has attempted to push for procedural equity, which would be a guarantee that rules and regulations apply to all communities and that rules not be enforced in a discriminatory manner. All decisions concerning environmental problems would be open and democratic if procedural equity were in place. Geographic equity, which refers to the location and configuration of communities and hazardous waste sites, has also been a focus for the environmental justice movement. Social equity has been important for assessing how factors such as race, ethnicity, culture, and class affect environmental decision-making. Focusing on social equity has led to attempts to reduce the inequitable impact of environmental hazards on different social groups. Environmental justice would require that all three types of equity be achieved.

2.8.1 Basic Characteristics

As a framework, environmental justice has several basic characteristics that guide it as a movement. First is the belief that all individuals have a basic right to protection from the degradation of the environment (Bullard, 1990, p. 119). Principles of civil rights protection would need to be incorporated into environmental policies to counter the unfair effects of environmental hazards on people on the basis of race and class. A model of public health for prevention would also need to be adopted that focuses on preventing harm before it occurs. Action to counter adverse health effects caused by pollution would need to occur before the adverse health effects begin to be visible. The burden of proof would also need to be shifted from people who are harmed by environmental injustice to the polluters responsible for the harm. Instead of people needing to prove that they are the victims of discrimination, polluters would need to prove that they are not being discriminatory and harmful to communities. Communities being harmed by environmental injustice often do not have the financial resources necessary to

defend themselves. A framework for environmental justice would rely on impact and statistical differences to demonstrate discrimination instead of trying to prove discriminatory intent, which is often very difficult to do. In order to achieve environmental justice, the movement would have to address disproportionate impact through the use of targeted action and resources (p. 121). Communities that are subjected to the greatest burden of environmental problems would have the most resources devoted to them to remedy the problems. These principles provide a basic framework for a national strategy for the environmental justice movement.

2.8.2 Grassroots Strategies for Environmental Justice

Strategies in the environmental justice movement have focused on grassroots community mobilization in communities that face environmental problems. Groups needed to resist threats of job loss from polluters and to challenge the trade-off between economic opportunities and environmental risks (Bullard, 1990, p.129). Groups for environmental justice needed to be part of the communities in which they are active. The basis for environmental justice came from a desire for social justice instead of simply trying to protect the natural environment from degradation. For the environmental justice movement to be successful, it had to have a diverse base of support, including people of color, low-income people, and working class people, unlike the traditional environmental movement, which consisted mainly of relatively affluent white people. Diversity of people in the environmental movement was important for the environmental justice movement in order to have credibility and be effective. Greater involvement by members of minority groups in mainstream environmental organizations would help create a more broad-based environmental movement that would be more responsive to issues of environmental justice.

Organizing neighborhoods around environmental justice issues and developing

communication networks was seen as being an important strategy for the environmental justice movement (Bullard, 1990, p. 137). Environmental activities needed to be linked across classes in order to strengthen responses to environmental issues. Organizing also needed to be done across the political spectrum. Programs for the training of organizers were needed in order to build the strength of small environmental justice groups and to make their actions more effective. Organizations also needed to be linked more closely so that they more effectively worked together toward common goals. With more effective spread of information, groups would be able to learn more easily of victories and difficulties of other groups, which could make future activism more effective. Communication can help build up community strength and help grassroots organizations expand. The impact of affluent areas keeping out environmental hazards could be more easily exposed by poor neighborhoods that are the victims of environmental hazards. Communication networks can also make community activists more confident in the environmental justice movement. Goals of social justice could be made more important within the environmental movement and there could be more cooperation between organizations. The working class and poor can also gain knowledge that they have a stake in the environmental movement, which will make them more likely to participate and will strengthen action in adversely affected areas. For the environmental justice movement to grow and be successful, it needs to be inclusive, to be participatory, and to be part of the communities that it attempts to help.

2.9 City-Level Environmental Justice Policy

In 2002, Kee Warner conducted a study to examine the extent to which environmental justice has been incorporated into the sustainability policies of urban areas. The study focused on the 77 cities in the United States that had a population of over 200,000 people as of 1990 (Warner, 2002, p. 37). Internet searches were done using the phrases “[city name] sustainability

sustainable development” and “[city name] community indicators” in order to identify the websites of local sustainability efforts. Twenty-six web sites were found that dealt with 33 cities. Other searches expanded the number of sites to 40. Next, the sustainability websites were searched for references to environmental justice. Eight sites dealing with environmental justice in sustainability efforts were found for seven cities. Out of those site, only five contained substantial amounts of information about environmental justice.

The five cities that incorporated environmental justice into local sustainability efforts were Albuquerque, New Mexico, Austin, Texas, Cleveland, Ohio, San Francisco, California, and Seattle, Washington(Warner, 2002, p. 38). The incorporation of environmental justice into sustainability efforts were analyzed on the basis of educational content of websites, policy statements, and implementation content. The extent to which these categories were addressed on websites were used as measures of commitment to environmental justice in urban sustainability efforts. Out of the five cities, Seattle incorporated environmental justice the least, and the website only contained one policy statement concerning environmental justice. In Albuquerque, the city website had incorporated material from the Southwest Organizing Project and contained information about environmental justice in general, but it did not develop community indicators concerning environmental justice or link it directly to community sustainability (p.40). The website for Austin mentioned environmental justice as part of its “smart growth initiative”. The website provided information about the city's support for community education, cleanups, and other environmental justice initiatives, but it did not fully outline its plan for implementing sustainability efforts that included environmental justice. The website for Cleveland mainly provided educational information about environmental justice, and it explicitly linked environmental justice with sustainability. The website did not have information about whether or

not environmental justice was being officially incorporated into local government policy. The website for San Francisco contained the most comprehensive information that linked environmental justice to sustainability efforts, and the local government had been incorporating environmental justice into policy since 1993. Specific goals and community indicators were included concerning the implementation of environmental justice efforts. The incorporation of environmental justice into policy had been consistent since they had first been incorporated. This study demonstrated that cities in the United States rarely used environmental justice as a part of local policy. The few cities that did incorporate environmental justice into policy rarely did to a very large extent. The study findings suggested that environment justice still has not been incorporated into local sustainability efforts to a great enough extent.

2.10 Links Between Sustainability and Environmental Justice

The concepts of environmental justice and sustainability originated in very different contexts, but in order to make societies sustainable, links have been needed (Agyeman & Warner, 2002, p. 10). Both sustainable patterns of living and just distribution of environmental problems and benefits are needed. Environmental justice originated as a grassroots movement to resist the racial disparities that existed with respect to the placement of environmental hazards. It was related to the civil rights movement and was a demand for equal protection under environmental laws. It was an attempt to remedy the effects of environmental racism on minority communities in the United States and decrease the disproportionate risk faced by people of color from hazardous waste sites. Communities organized themselves in order to resist locally unwanted land uses. The movement was based mainly on a local scale in the beginning, and it expanded through events such as the 1991 People of Color Environmental leadership Summit and the issuing of Executive Order 12898 by President Clinton. The environmental justice movement

redefined the priorities of environmentalism from being focused on only the natural environment to be focused on issues of equity and justice. It brought together perspectives that had often been ignored by traditional environmental organizations and broadened the demographics that were active in issues of environmental protection. The environmental justice movement originated in local efforts and expanded into a broader framework.

Sustainability had its roots as more of a broad framework that was debated on an international scale (Agyeman & Warner, 2002, p. 10). Goals of sustainability were set before they were translated into local efforts for sustainability. The Brundtland Commission defined sustainability as meeting present needs without limiting the ability of future generations to meet their needs. Local governments incorporated sustainability into local environmental efforts and decision-making processes. Local Agenda 21 set a framework for implementing the social economic, and environmental concerns of sustainable development at a local scale. As of February 2002, 6,416 local governments throughout the world had become committed to implementing Local Agenda 21 or had already begun implementation. In the United States, the framework of sustainability has been adopted by many cities, but it has often failed to address the concerns of the environmental justice movement. The sustainability movement still contained some of the problems, such as lack of concern for equity issues, that had existed in traditional environmentalism. In order to form a more effective environmental movement, the ideas of environmental justice and sustainability needed to be combined into a new paradigm for environmental policy and action.

By combining the concern for equal treatment for poor and minority communities with the concern for the big picture of sustainable development, a framework for just sustainability could be formulated (Agyeman & Warner, 2002, p. 14). Three areas in which sustainability and

environmental justice could interact were “establishing a framework for just sustainability, organizing for social change, and developing tools to guide public policy”(p.14). In the UK, a report called “Equity and the Environment: Guidelines for Green and Socially Just Government” combined concerns of social justice and sustainability to form a framework for policy that could be used to implement just sustainability. It outlined specific indicators needed for the implementation of just sustainability policies and the policy tools that could be used for implementation.

In Scotland, the Friends of the Earth Scotland (FoES) have formed a campaign for social change that combined the concerns of environmental justice and sustainable development (Agyeman & Warner, 2002, p. 16). The campaign was able to get Dundee Energy Recycling Ltd to voluntarily agree to higher emission standards than required by law. The agreement also allowed the local community to negotiate a more comprehensive agreement with the company in the future. FoES also developed a course in Environmental Justice for providing community-based education and support for community projects. The program provided weekend classes in practical skills related to environmental justice. The program was established to help community members to organize sustainability and environmental justice efforts more effectively and to help community development.

The environmental justice movement, which began in the United State in response to specific racial inequalities, has spread to other parts of the world and has become applied to other disadvantaged groups, such as the poor, women, and children (Agyeman & Warner, 2002, p. 18). Actions for environmental justice have occurred throughout the world in countries such as Nigeria, South Africa, India, Australia, and, as already mentioned, the UK. The same inequitable hazardous waste siting that has occurred in the United States based on race has happened

throughout the world. Also, similar struggles for equitable housing and against unwanted land uses occur throughout the world. The spreading of concepts of environmental justice throughout the world helped link it more closely to sustainability because it allowed the environmental justice movement to have a broader outlook than it did when it focused on local struggles. By linking environmental justice and sustainability, some campaigns have been able to recognize how injustices caused inequalities across generations, and a recognition of the need to care about local rights and a global outlook on issues has been formulated.

Just sustainability could potentially play a large role in urban development efforts (Agyeman & Warner, 2002, p. 20). Many environmental justice concerns have been at the metropolitan and regional level, and have needed to be addressed beyond current local jurisdictional levels. Policies have been needed that deal with how development can become both more sustainable and more just within urban areas. In the United States, local activists have begun to address the issue of how development of new housing and shopping centers has affected issues of equity and social justice. By trying to more strictly control new development projects, local communities have been able to make the effects of projects more beneficial and equitable and have been able to reduce harmful impacts. Urban planners have begun to incorporate social concerns into urban planning, but often have not fully incorporated environmental justice into planning. Using concepts of environmental justice more widely in urban development projects has the potential to make development more equitable and decrease the environmental harms faced by disadvantaged communities.

2.11 Potential for Just Sustainability in Urban Communities

In efforts for sustainability and environmental justice, there has been large amounts of concern for the conditions of urban environments (Agyeman & Evans, 2004, p. 38). Urban

sustainability efforts often have focused on livability standards and economic impacts of sustainability. Urban areas have increasingly become centers for population growth, which demonstrated their importance for environmental justice and sustainability efforts. Previous efforts for sustainability in cities have often placed little emphasis on social justice and concerns for economic equity. Sustainability efforts in the United States and other parts of the world have included ecotaxes to shift tax burdens to pollution and excess use of resources, and eliminating subsidies for energy and agriculture. The use of efficient transportation systems, the financing of affordable housing, and the encouragement of renewable energy have also been parts of sustainable development efforts.

2.11.1 Characteristics of a Sustainable Society

In order to establish sustainable communities and an overall sustainable society, numerous environmental, social, and economic standards would need to be met (Agyeman & Evans, 2004, p. 41). Natural resources would need to be used efficiently and waste would need to be minimized. Pollution would be limited to a point at which it would not damage the natural environment, and the diversity of nature would need to be protected. To meet social needs, places and buildings would need to be created or improved in order to meet functional and aesthetic needs. Overall, residences would need to meet basic human needs. Local community and identity would need to be strengthened and preserved, as would cultural identity. Environments would have to be made safe and enjoyable for humans and would need to be beneficial for human health. Prevention of disease in health care would need to be a priority. Any person would need to be ensured access to affordable food, water, housing, and energy. Access to knowledge and necessary skills would need to be maximized for everybody within a sustainable community. Local needs would need to be met to the greatest extent possible. All of

the community would need to be involved in community decision making and would need to determine the impact of decisions. In order to be economically successful, a community would need to ensure access to satisfying work that would not damage any level of the environment and would help create an active local economy. Value would have to be given to unpaid work within the community. Cultural and recreational opportunities would need to be available to all members of the community. Goods, services, and other economic resources would need to be promoted in ways that would minimize environmental impacts and meet the needs of the community. When intersecting environmental, social equity, and economic standards have been met, establishment of sustainable local communities and a sustainable society could be made possible.

2.11.2 Potential Efforts toward Just Sustainability

In order to create just sustainability in urban areas, current sustainability efforts would need to be examined in order to find connections to environmental justice (Agyeman & Evans, 2004, p. 7). One area that has the potential to help establish just sustainability is the area of land use planning. In the past, zoning has often led to low-income communities and minority communities being subjected to a disproportionate share of environmental hazards. Despite this, proper land use planning could help alleviate past problems. Recent developments in the field of urban planning have promoted more efficient land use and reuse of former industrial sites in urban development. More efficient land use would help reduce the problem of urban sprawl. Recent efforts have also attempted to increase public participation in urban development plans. Community needs would need to continue to play a larger role in planning in urban communities in order to promote just sustainability. Community organizations have formed in order to bring community planning into a more sustainable direction.

In Oakland, California, the organization Urban Ecology has attempted to promote programs that will help incorporate both environmental justice and sustainability into land use planning (Agyeman & Evans, 2008, p. 42). Low-income urban areas have been aided by the Community Design Program, which provides assistance in community development efforts. Urban Ecology has helped communities develop plans for local resource use and for meeting current and long-term community needs. The organization also has promoted access to transit systems and the building of affordable housing. The Sustainable Cities Program has promoted greater sustainability in urban development and the adoption of the principles of smart growth in suburban areas.

2.12 State Environmental Justice Policy

As of 2007, forty-two states and the District of Columbia had adopted some kind of environmental justice program or policy (American Bar Association & Public Law Research Institute, 2007, p. 3). The first state to adopt a formal environmental justice policy was New Hampshire in 1993. Since then, most states have created statutes, policies, executive orders, programs, or personnel positions in order to address environmental justice issues. Recent trends in state-level policy have been toward more of a comprehensive focus on environmental justice in all branches of state governments. State legislatures have recently passed laws in states, such as California, that have been aimed at establishing comprehensive environmental justice statutes that make environmental justice a priority in state environmental policy. Executive branch environmental justice authorities have more frequently established environmental justice advisory boards similar to NEJAC at the Federal level. State courts have been more willing to recognize claims based on issues of environmental justice and have upheld regulations that are aimed at addressing environmental justice issues. The level at which states have integrated

environmental justice in state policies has varied greatly among states. The following will discuss the extents to which environmental justice has played a role in state policy.

2.12.1 States without Environmental Justice Policy

As of 2007, eight states lack formal environmental policies, statutes, and programs, though this does not necessarily mean that environmental justice issues have not been addressed in these states (American Bar Association & Public Law Research Institute, 2007, p. 3). The states that do not have formal environmental justice policies are Iowa, Kansas, Maine, Nebraska, Nevada, North Dakota, Oklahoma, and South Dakota. Out of these states, Iowa, Nevada, North Dakota, and Oklahoma both had no formal environmental justice policies and did not address environmental justice issues. Despite having no formal environmental justice policy, Kansas has attempted to redevelop brownfields and to gather information that would help in the redevelopment of brownfields, which is an issue addressed by Federal environmental justice policy. In Maine, there is no formal policy, but the Department of Environmental Protection has trained staff with respect to “the meaning of fairness and disparate impacts in the environmental regulatory process” (p. 49). The Nebraska Department of Environmental Quality has attempted to make minority, low-income, and non-English speaking communities more aware of permitting processes despite not having formal environmental justice policies. The South Dakota Department of Environment and Natural Resources monitors environmental justice issues in conjunction with the EPA and the Environmental Counsel of States without having formal environmental justice policies. The South Dakota Department of Agriculture has also entered into a performance partnership agreement with the EPA and named environmental justice and community-based environmental protection as top priorities. Only four states have made absolutely no attempts to incorporate environment justice principles into state government

policies.

2.12.2 Overview of State Implementation of Environmental Justice Policy

In order to establish environmental justice as part of state environmental policy frameworks, states have used several types of authorities and initiatives. These include statutes, executive orders, regulations, policies, establishment of environmental justice staff, environmental justice studies, and the negotiation of a performance partnership agreements with the US EPA (American Bar Association & Public Law Research Institute, 2007, p. 6). In the US, eight states have statutes that expressly address environmental justice. Thirteen states have statutes that do not expressly state their purpose as achieving environmental justice, but do have an effect that addresses environmental justice concerns. Seven states have executive orders that address environmental justice. Two states have environmental justice policies that were issued by state governments as a whole. Thirteen states have environmental policies that were issued by state environmental protection agencies. Fourteen states have staffs specifically tasked with addressing environmental justice issues. Nine states have conducted studies concerning environmental justice issues. Nineteen states have entered into performance partnership agreements with the US EPA. Among the 42 states that have some sort of environmental justice program or plan, there are numerous combinations of statutes, executive orders, policies, and other tools that have been utilized to address environmental justice issues. Some states may have statutes that are very far-reaching, while other states may have many tools in place that have not been fully utilized. Following are examples of how different states have enacted environmental justice programs.

2.12.3 Case of Recent Establishment of an Environmental Justice Program

In 2005, an Environmental Justice Executive Order was issued in New Mexico in order to

establish environmental justice as a major policy goal in New Mexico. The order stated that all cabinet-level departments in New Mexico would consider minority and low-income communities in all environmental policy decisions, distribute public health and environmental information in all any appropriate language, and provide opportunities for public participation in environmental decision-making. It also established an Environmental Justice Task Force to make recommendations for the furthering of environmental justice goals. The New Mexico Environmental Department has issued regulations that require special permit requirements for solid waste facilities in environmental justice communities. The regulations also shifted the burden of proof to permit seekers, as opposed to surrounding communities. New Mexico environmental justice policy has placed a large emphasis on creating channels of communication between communities and state agencies in order to address environmental issues. Listening sessions were held in order to gain public input. Methods for establishing collaboration between state agencies and community representatives could possibly be formulated by the proposed State Environmental Justice External Coordination Working Group. The case of New Mexico demonstrates the initial stages of establishing state-level environmental justice programs and policies.

2.12.4 Extensive State-Level Environmental Justice

California

Currently, California has one of the most comprehensive approaches to environmental justice policies and programs. The state's environmental justice policy started in 1999 with the passage of SB 115, which was a statute that put the California Office of Planning and Research (OPR) in charge of state environmental justice policies and programs (American Bar Association & Public Law Research Institute, 2007, p. 18). In 2001, the OPR began to educate state

personnel about environmental justice issues through workshops. Since 2005, the OPR has been reassessing its coordinator position for environmental justice and has stopped its environmental justice program. Despite this, the California Environmental Protection Agency (CalEPA) has carried out the actions specified in SB 115. CalEPA was required to design a mission for its policies and programs that was in accordance with environmental justice principles. All agencies under the authority of CalEPA have also been required to make environmental justice a part of their programs and policies. SB 89 required CalEPA to form a Working Group to identify the gaps in current California state laws, policies, and regulations and decide how they could be reworked in order to contain principles of environmental justice. The Advisory Committee on Environmental Justice, which was convened by CalEPA, formulated recommendations in order to give guidance to the Working Group. The Working Group, along with the Advisory Committee on Environmental Justice and other stakeholders, formulated an EJ Strategy in order to set the specific environmental justice goals of California state agencies, and then designed the EJ Action Plan in order to help in the development of tools for addressing environmental justice priorities. It was designed in order to concentrate on short-term projects in order to meet environmental justice goals.

California has enacted several other statutes that were meant to target more specific environmental justice concerns (American Bar Association & Public Law Research Institute, 2007, p. 20). The statute AB 1390 required air districts to allocate at least half of the \$48 million General Fund for diesel emission reduction toward reducing diesel emissions in environmental justice communities. AB 1553 required the OPR to set guidelines for agencies to address environmental justice issues in local planning. SB 32 authorized the investigation of hazardous waste cleanup sites by local governments and the development of a document to guide

local communities that attempt to investigate sites and make remediation decisions. SB 828 created deadlines for environmental justice strategies developed by state agencies in California. AB 2312 established the Environmental Justice Small Grant Program in order to give grants to community groups interested in environmental justice issues. SB 1542 required regulators to consider minority and low-income communities in landfill siting decisions. AB 1497 required solid waste facilities to receive regulatory approval before making changes to a facility and required that public hearings would be used in order allow the community to voice environmental justice concerns. Notice of the hearing would need to be readily accessible to all community members. In California, statutes have been used extensively for the integration of environmental justice principles into government policy.

In order to address environmental justice issues, California has also established several policies and programs. The California Air Resources Board (CARB) published a report that stated its intention to integrate environmental justice concerns into all policies, programs, and regulations (American Bar Association & Public Law Research Institute, 2007, p. 24). CARB has attempted to increase access to information for low-income and minority communities in order to make communities more engaged in environmental decisions. CARB has also issued a handbook on how to reduce community exposure to air pollution and how to prevent the unfair siting of air pollution sources. CalEPA has put public forums in place in order to increase public participation in the formulation and implementation of environmental justice policies. The California Department of Transportation has provided state, regional, local, and community planners with guidance with respect to practicing environmental justice principles in transportation planning. California's environmental justice legislation and policy are an example of a recently established environmental justice program that extensively addresses environmental

justice issues and demonstrates what states can do for environmental justice in a short period of time.

New York

New York has extensively addressed environmental justice issues mainly through the use of agency policy. New York has enacted one statute that addresses environmental justice issues by governing the remediation and redevelopment of brownfield sites (American Bar Association & Public Law Research Institute, 2007, p. 70). This law was enforced through the New York State Department of Environmental Conservation (DEC) and required the DEC to take environmental justice issues into account in its decisions. The DEC was required to attempt to prevent the disproportionate concentration of industrial sites in minority and low-income communities.

The New York DEC issued its environmental justice policy in 2003 in order to bring environmental justice concerns into permitting processes (American Bar Association & Public Law Research Institute, 2007, p. 70). It designated environmental justice communities and how to reduce disproportionate impact of environmental impacts. The policy also increased public participation in the permitting process. People applying for industrial permits needed to produce understandable information for environmental justice communities during the permitting process. In 2005, the DEC issued two reports that concerned major environmental justice issues. The first outlined how state agencies should assess disproportionate impacts of environmental hazards on low-income and minority communities. It detailed six methods for analysis and how to properly apply them to environmental justice communities. The second report examined how health data could be incorporated into environmental permitting processes. As of 2007, environmental justice has become a more significant part of New York's environmental protection policy.

In 1999, New York began to establish environmental justice programs in New York's permitting process (American Bar Association & Public Law Research Institute, 2007, p. 72). The DEC established the Office of Environmental Justice in October 1999, along with the Environmental Justice Advisory Group, in order to formulate environmental justice policies for New York. Recommendations from the Advisory Group included identifying communities affected disproportionately by proposed permitting actions, making full assessments of permitting actions, and extending periods for public comment. The Environmental Justice Hotline was established in order to provide information on environmental justice issues. The DEC also had many of its pamphlets translated into Spanish in order to promote greater participation from predominantly Spanish-speaking communities. The DEC has also created a website that allows for interactive searching of maps of facilities relevant to environmental issues. New York environmental justice policy has focused on gaining more public participation in policy decisions and making environmental permitting decisions more open to affected communities.

Massachusetts

In Massachusetts, environmental justice issues at the state government level are addressed through policies and programs, but there are no environmental justice statutes in Massachusetts (American Bar Association & Public Law Research Institute, 2007, p. 54). The Massachusetts Executive Office of Environmental Affairs (MEOEA) established its Environmental Justice Policy in 2002. According to the policy, environmental justice communities were to be prioritized with respect to greater control of air emissions and industrial facilities, inspections and enforcement actions, and cleanup of hazardous waste sites. The policy also attempted to make the permitting process faster for companies that want to redevelop brownfields. It also planned

to give “bonus credit” to municipalities that focus on environmental justice issues.

As of 2007, Massachusetts had several programs and services aimed at addressing environmental justice issues. MEOEA planned to compile an environmental justice mailing list in order to notify communities about environmental issues and to compile a list of alternative media outlets for use in alerting communities about environmental justice issues. The Environmental Justice Geographic Information System was used to identify and map all environmental justice populations in Massachusetts so that projects could be reviewed by the public. MEOEA has also tried to perform outreach specifically to Native American communities. Massachusetts also took environmental justice into account in its solid waste management strategy for the years 2000 to 2010. Proposed regulations of waste facilities included considerations of EJ populations. Emphasis has also been placed on air quality issues in urban areas where environmental justice populations tend to live. The Massachusetts Department of Environmental Protection has also allowed violators of regulations to reduce penalties by implementing beneficial environmental projects. In these decisions, environmental justice principles were seen as major goals.

3.0 Methodology

The main goal of this project was to examine how environmental justice policies have evolved on the state level within the United States. Research focused on how environmental justice concerns have been incorporated into state policies and to what extent they were planned to be incorporated in the future. In order to meet this goal, four main objectives have been developed. The first was to develop an index in order to stratify the states with respect to how extensive their environmental justice policies were. The second was to select one state, New Jersey, as a case study that served as the focus for research. The third was to research existing policies within this state. The fourth was to research the legislative history of environmental justice policies and statutes in order to see how environmental justice policies were influenced by different interests and what considerations were put into their formulation. To analyze the data, I developed a set of environmental justice indicators. In order to meet these objectives and the ultimate goal of this project, the following Methodology was developed.

3.1 Stratification of State Policies

In order to stratify the 50 states and the District of Columbia with respect to how much they have incorporated environmental justice into policies, I used the chart from the *Environmental Justice for All* report (American Bar Association & Public Law Research Institute, 2007, p. 8). This chart was not complete because it did not use categories such as the presence of advisory councils and did not make note of a lot of the information that was included in the body of the report. The categories that I used to stratify the states were “Expressly EJ Statute”, “EJ Effect Statute”, “Executive Order”, “State Policy”, “EPA Policy”, “Other Policy”, “Staff”, “Study”, “PPA”, “Court Case”, and “Advisory Council/ Community Involvement”. These categories were used because they were fairly good basic indicators for how much

environmental justice has been incorporated into state policies. Each state was scored on a scale of 0 to 3 for each of these categories based on “Potential/Realized EJ Effect”. A score of 0 corresponded to “None”, a score of 1 meant “In Development”, a score of 2 meant “Moderate”, and a score of 3 meant “Extensive”. This scoring was used in order to serve as a simple indicator of state environmental justice policies and was not meant to serve as a detailed analysis of policies. For each state, the scores for all categories were added up to get a number that would serve as a guide to stratification.

For each state, the scores for each category were recorded in a spreadsheet. Notes on what kind of policy or statute existed were also made, such as “anti-concentration law” or “transportation policy”. The total score for each state was also recorded on the spreadsheet. The lowest possible score was 0, and the highest possible score was 33. To categorize the states, a score of 0-5 meant little to no incorporation of EJ, a score of 6-15 meant a moderate incorporation of EJ, and scores of 16 and above meant a relatively extensive incorporation of EJ (For the results of the stratification, see Appendix A). This scale came about after the stratification was performed in order to compare the states to each other and was not used to compare them to a predetermined standard. By doing this, the states were organized into categories that could be used for the selection of appropriate case studies of environmental justice policies.

3.2 Choice of State-Level Case Study

In order to select a case study to be used in this research study, the stratification performed in section 3.1 was used. I decided that one state would be selected as a case study, with it being an example of a state with a middle-of-the-road incorporation of environmental justice into state-level policies. Based on the stratification, 20 states had little to no

incorporation of EJ. None of these states were considered as case studies. Twenty-six had a moderate incorporation of EJ. Out of these states, New Jersey was selected as a case study. This was due to the fact that New Jersey has a relatively recently developed EJ policy and served as a good example of recent developments of state-level EJ policy. Looking at New Jersey in more depth allowed for a greater understanding of recent attempts to address EJ concerns. Five states were found to have extensive environmental justice policies. These were, with their scores, California, 23, Maryland, 18, Massachusetts, 20, New York, 16, and Pennsylvania, 16. New Jersey was selected as an appropriate case study in order to explore the evolution of state-level environmental justice policies in the United States and examine how policymakers planned to incorporate environmental justice into future policies.

3.3 Environmental Justice Policies

In order to gain an understanding of the environmental justice policies of New Jersey, I researched current and past policy statements of state agencies that handle environmental justice issues. For New Jersey, I researched the policies of the New Jersey Department of Environmental Protection, along with the EJ policies of EPA Region 2. Research was directed toward current policy statements, past policy statements, and proposals of future policies. Initial research was done using agency websites in order to find policy statements. Other agencies at the state level that were involved in environmental justice policy were also researched. The effects of past policies were examined in order to determine their effectiveness in addressing the concerns of EJ communities and EJ activist groups. Studies about environmental justice policies in New Jersey were also used in order to analyze past environmental justice policies and to assess the possible effects of future policies.

The main focus of policy research was how policies evolved within the agencies that have

formulated and implemented them. I looked at what the original policies were, what influenced their formulation, and how they have changed over time. Research examined which aspects of environmental justice have received large amounts of attention in policies and which aspects have not. I also examined how the relative focus on different aspects of environmental justice has changed over time. The changes found in EJ policy over time were used to identify a pattern to how the state being examined have incorporated environmental justice concerns into their policies. I also looked for the reasons why some interests have been incorporated and others have not. I determined the extent to which agencies have followed through with respect to environmental justice policy decisions. Examining state policies gave insight into how New Jersey has viewed environmental justice issues and how they have decided to bring environmental justice concerns into their policies.

3.4 Legislative History of Environmental Justice

In order to understand state-level actions in New Jersey concerning environmental justice issues, it was necessary to identify how state legislatures have addressed environmental justice through statutory methods. By looking at the legislative history, I was able to find the reasons why legislation that existed was enacted and why certain statutory approaches have been chosen. Along with researching enacted legislation, I researched pending legislation and past legislation that was proposed but failed to be enacted. By researching proposed EJ legislation, I determined the direction in which EJ laws were moving in New Jersey and determined whether environmental justice was becoming a greater legislative priority. In order to find reasons why EJ bills have been proposed, I researched the legislators that proposed them and examined what could have influenced their legislative interests. Overall, I found how EJ legislation has been shaped over time and how it seemed it would change in the future.

3.5 Analysis of Research Results

After all the research had been completed, the results of the research were analyzed in order to construct a narrative for the evolution of EJ policies in New Jersey. The extent to which EJ laws have been enforced and policies have been implemented were assessed. I compared the policies of state agencies with the recommendations of grassroots EJ groups in order to see how much government officials have incorporated the concerns of the environmental justice movement into policy decisions. The ways in which EJ policies in New Jersey have developed were outlined in order to show how EJ concerns have been incorporated into state-level policies. I also assessed the effectiveness of the environmental justice program in New Jersey and analyzed the ways in which new policies were being formulated. Analysis was mainly a qualitative assessment of what the government of New Jersey has done in order to address environmental justice concerns and what they planned to do in the future.

3.6 Indicators for Analysis of Policies

In order to analyze how much environmental justice policies have addressed environmental justice concerns, I developed a set of indicators that was used to identify how seriously EJ concerns have been addressed. The basis for the framework of the indicators was the “Taking Sustainable Cities Seriously Index”, which consisted of an extensive list of government and nonprofit actions and programs related to sustainability (Portney, 2003, p. 65). Elements of the index were grouped into categories such as “Sustainable Indicators project” and “pollution prevention and reduction efforts”. The index was applied to 24 cities in the United States. The index awarded one point for each sustainability element present in a city, and the range of possible scores was 0 to 34. These scores were then used to rank how seriously the cities have addressed issues of sustainability. Using this framework, I developed a set of

indicators for environmental justice in order to analyze the EJ policies of New Jersey.

The environmental justice indicators that I developed in order to analyze the policies of New Jersey included areas of environmental justice concern, possible policy mechanisms used to address concerns, and other things relevant to formulating environmental justice policies (See Appendix B for the indicators and Appendix C for indicator definitions). In a previous study (Warner, 2002, p. 39), the environmental justice policies of 77 cities were examined. Indicators from the three categories of “Educational Content”, “Policy Statements”, and “Implementation Content” were used to analyze how extensive city-level environmental justice policies were. In order to analyze the two state-level case studies, I developed a broader set of indicators for environmental justice policy. The categories into which I organized indicators were “Identification of EJ Communities/Issues”, “State Policy Mechanisms”, “Areas of EJ Concerns Addressed”, “Types of Laws/Regulations”, “Agency Policies”, “Community Involvement”, and “EPA Regional Policy Mechanisms”. In total, there were 61 items in the set of indicators on which New Jersey was rated. For the overall set of indicators, each state received one point for each item that applied to the state's policy. The maximum possible score was 61, and the lowest possible score was zero. The set of indicators was an extensive, though not exhaustive, inventory of the issues that environmental justice entails and the policy methods that could be used to address EJ issues. In the context of this set of indicators, a score of 61 corresponded with a state addressing environmental justice issues to an extremely large extent.

These 61 indicators were then split into two general categories, which were “General EJ Indicators” and “Indicators of Political Efficacy / Specific Targeting of Problems”. Of the 61 indicators, 47 were placed in “General EJ Indicators” and 14 in “Indicators of Political Efficacy / Specific Targeting of Problems”. Scores in the two general categories were also noted, with the

maximum possible scores the categories being 47 and 14, respectively, and the lowest possible scores being zero for both. For analysis of the extent to which EJ has been incorporated into state-level policies, “Indicators of Political Efficacy / Specific Targeting of Problems” were much more important because they indicated that the states had actively tried to solve EJ problems, instead of simply acknowledging that EJ issues existed. Most of the indicators demonstrated that states knew about the issues, but they did not show that anything had substantively been done about them.

4.0 New Jersey

The State of New Jersey currently has a state-level environmental justice policy that has not been fully formulated has not utilized the the most stringent policy tools available for enforcing EJ principles, such as statutes and regulations. When the previously mentioned set of Environmental Justice Indicators were applied to New Jersey, New Jersey's overall score was a 37 out of a possible score of 61 (See Appendix D for New Jersey's scores). New state policies have addressed most of the main areas of environmental justice concern, 7 out of 10, but have not put in place any laws or regulations that specifically address environmental justice. For the general EJ indicators, New Jersey scored a 34 out of 47. For indicators of political efficacy or specific targeting of problems, New Jersey scored a 3 out of 14. With respect to this set of indicators, this meant that New Jersey's state-level environmental justice policies have consisted mainly of stating principles, issuing reports, conducting research, and formulating action plans, but have not taken many specific, measurable actions that aim to remedy environmental injustice. For a state with EJ policies that began in 2004 with an executive order by Governor James McGreevey, New Jersey has made a very good initial effort, and it seemed that New Jersey would continue to formulate environmental justice policies that would help alleviate the inequitable adverse effects of pollution of low-income communities and communities of color.

4.1 General EJ Indicators for New Jersey

In order to analyze the environmental justice policy of New Jersey, a set of General EJ Indicators were used first. With respect to the General Indicators, New Jersey scored a 34 out of 47. These indicators were based on the ways in which policymakers in New Jersey have articulated EJ principles and goals. They are also based on how agencies have gathered information and how agencies have allowed for public participation in the EJ policy process. In

this set of indicators, these items indicated addressing EJ concerns at a basic level and did not necessarily indicate that concrete policy actions had been taken by agencies. They indicated the understanding of EJ concerns by policymakers and demonstrated that EJ policy was in its initial stages. The General Indicators demonstrated that New Jersey was beginning to formulate its EJ policy and had set the principles that would be used for future actions with respect to EJ issues and concerns.

4.1.1 Identification of EJ Communities/Issues

New Jersey used the EPA definition of environmental justice, which was “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies” (NJDEP EJ Program, 2009). New Jersey defined EJ communities as low-income communities and communities of color that were subjected to disparate environmental hazards. In order to address EJ issues within New Jersey, basic EJ principles were outlined in New Jersey's Executive Order # 96. The first principle stated that New Jersey was committed to equal protection of all citizens under the law, to the existence of a healthful environment, and to giving citizens chances for input into governmental decision-making (NJDEP EJ Program, 2004, p.1). According to Executive Order #96, communities of color and low-income communities have tended to be subjected to higher densities of contaminated sites than other communities, and this led to higher impacts on the environment and public health. To support this, the order cited studies by the Centers for

Disease Control and Prevention that have shown that increases in childhood asthma rates have been caused by poor air quality and that the increases have been far greater for black and Hispanic communities. The Federal government had recognized the importance of environmental justice with the issuance of Executive Order 12898 and the formation of NEJAC, which meant environmental inequity should be addressed. In the order, Governor McGreevey stated that New Jersey was committed to making sure that all communities of color and low-income communities, regardless of race, color, ethnicity, income, or education level, have access to government decision-making and fair treatment. In the order, Governor McGreevey also stated that the government of New Jersey was committed to protecting human health, protecting the environment, empowering the public through involvement in the government, and disseminating necessary information to all communities. As part of its EJ principles, the government of New Jersey stated that it would make urban and suburban centers more attractive and make communities more livable in ways that followed the State Development and Redevelopment Plan and smart growth principles. In its first major policy action, New Jersey outlined its principles with respect to environmental justice and connected them to previous state policies.

Since the beginning of New Jersey's EJ program in 2004, New Jersey's Department of Environmental protection has found that several communities were EJ communities through studies concerning claims of disparate impacts. In 2004, the Trembley Point Alliance submitted EJ claims for Linden, New Jersey, and New Jersey's EJ Task Force found that the claims did fall within the scope of New Jersey's EJ policies (New Jersey EJ Task Force, 2005, p. 1). Linden had been subjected to the construction of many hazardous projects, such as chemical facilities, and wanted issues concerning air and water pollution to be addressed. The West Ward Neighborhood

in Newark also submitted EJ claims in 2004, which the EJ Task Force approved. Developers had not been following proper safety measures during demolitions, and community residents were concerned over site remediation. The Ringwood Neighborhood Action Association submitted its EJ concerns to the EJ Task Force in 2004, and a study concerning the claim showed that concerns over mining sites came within the scope of New Jersey's EJ policies. In 2006, the EJ Task Force approved the claims of the Long Branch Concerned Citizens Coalition that chemical pollution in the city of Long Branch constituted legitimate EJ concerns that should be addressed by the EJ Program. The EJ Task Force stated that claims of citizens in Roselle that the local use of pesticides and other chemicals constituted legitimate EJ issues, but also stated that they were under Federal jurisdiction and could not be addressed by the EJ Program. Jersey City also submitted EJ claims to the EJ Task Force that were rejected.

A major study of disparate environmental hazards that was initiated in 2002, before the official start of New Jersey's EJ program, was conducted in the neighborhood of Camden Waterfront South in Camden New Jersey. For many years, the community Camden Waterfront South had contained both housing and large industrial sites (EJ Task Force, 2006, p. 10). Poverty and negative industrial impacts have greatly affected the community. Between 1990 and 2000, the population of the community decreased by 27 percent. In 2002, the Camden Revitalization Act was enacted in order to redevelop Camden and counteract the high poverty rates and housing vacancies in the city. The poverty level of Camden Waterfront South was four times the poverty rate for the rest of New Jersey, and most of the residents were of a racial or ethnic minority. Inadequate access to health care had also been a problem for the community. Thirty-one percent of housing units were vacant, contributing to urban blight. Environmental hazards included closeness to industrial truck traffic, pesticide use, ozone levels, diesel exhaust from trucks, air

pollution from Philadelphia, proximity to urban ports, and proximity to a busy highway.

In 2009, the Environmental Justice Advisory Council of New Jersey issued a study concerning cumulative impacts in EJ communities (EJ Advisory Council, 2009, p. 5). The study looked at ways in order to measure cumulative impacts and at way that existing state legal structures could be used by the New Jersey Department of Environmental Protection to address them. In the study, the EJ Advisory Council made several recommendations. First, they suggested that the DEP adopt a simple model for identifying EJ communities. Next, the recommended that they conduct greater analysis of EJ issues within identified EJ communities and perform more actions, such as site remediations and enforcement sweeps, in order to reduce environmental burdens. The EJ Advisory Council suggested that statewide air pollution should be reduced with a focus on EJ Communities and that agencies should target more resources toward EJ concerns. Finally, the EJ Advisory Council recommended that municipal officials, citizens, and workers should have more involvement in EJ policymaking decisions and become more empowered to address issues. The EJ Advisory Council found that the EJ Program needed to continue to expand in order to properly address EJ issues.

4.1.2 State Policy Mechanisms

The environmental justice policy of New Jersey began with Governor James McGreevey's signing of Executive Order #96 on February 19, 2004 (NJDEP EJ Program, 2004, p.1). Before the signing of the Executive Order, New Jersey had not directly incorporated environmental justice principles into its environmental policies. The Executive Order created a policy framework that included the establishment of an Environmental Justice Advisory Council, an Environment Justice Task Force, and an Environmental Justice Petition Process. The EJ Advisory Council and EJ Petition Process both had the aim of facilitating community

involvement in New Jersey's EJ policies and actions. The EJ Advisory Council allowed for the involvement of established community groups in making recommendations to the EJ Task Force. The EJ Petition Process allowed for community members to present their views to the EJ Task Force to that community EJ concerns could be addressed through an EJ Action Plan. The Executive Order expired five years after its issuance, but it was reconstituted by Governor Jon Corzine through Executive Order #131, which was issued on February 5, 2009. Neither of the Executive Orders granted a private right of action for the enforcement of any of the Order's provisions or the implementation of provisions of any Action Plans. The Executive Orders only affected the internal actions of executive branch agencies in New Jersey.

The Executive Order also created New Jersey's Environmental Justice Task Force, which was to serve as an inter-agency commission that would handle EJ issues (NJDEP EJ Program, 2004, p. 3). The Environmental Justice Task Force was formed by the Commissioner of Department of Environmental Protection (DEP) and the Commissioner of Department of Health and Senior Services (DHSS) in order to organize interagency actions. The Task Force included members from the Office of Counsel to the Governor, the Attorney General's office, and the Departments of Environmental Protection, Human Services, Community Affairs, Health and Senior Services, Agriculture, Transportation, and Education. The purpose of the Task Force was to serve as an advisory body in order to make recommendations to state agencies with respect to EJ issues within existing regulatory and statutory authority. The Task Force was also ordered to expand to other state agencies when needed in order to address the concerns of affected communities. The Commissioner of DEP was ordered to reconstitute the Environmental Justice Advisory Council within the DEP in order to make recommendations to the Commissioner and the EJ Task Force. The EJ Program of New Jersey had an Environmental Justice Coordinator,

with the most recent EJ Coordinator being Maria Franco-Spera.

The main aim of the Executive Order was to incorporate environmental justice principles into the actions of New Jersey executive agencies. First, the Executive Order stated its objective that “all Executive Branch departments, agencies, boards, commissions and other bodies involved in decisions that may affect environmental quality and public health shall provide meaningful opportunities for involvement to all people regardless of race, color, ethnicity, religion, income, or education level” (NJDEP, 2004, p. 2). Another stated objective was that “programs and policies to protect and promote protection of human health and the environment shall be reviewed periodically to ensure that program implementation and dissemination of information meet the needs of low-income and communities of color, and seek to address disproportionate exposure to environmental hazards” (p. 2). An objective for the Department of Environmental Protection and the Department of Health and Senior Service was to communicate public health and environmental information through both English-language and Spanish-language websites. The DEP was also to use public health and environmental data in order to identify industrial facilities and commercial facilities that already existed or were proposed in communities of color and low-income communities and target actions for compliance, enforcement, remediation, permitting, and and siting of facilities to address EJ concerns. The DEP, the DHSS, and the Department of Agriculture were to improve the development and issuance of fish consumption advisories and inform the public more effectively with respect to fishing issues because of the greater reliance on fishing by low-income communities and communities of color. Then, the DEP and Department of Transportation were to develop a strategy for addressing fine particulate pollution from stationary and mobile diesel emissions sources in affected communities.

4.1.3 Areas of EJ Concern Addressed

New Jersey's state-level environmental justice policies addressed many of the major areas of environmental justice concern, including, hazardous waste site concentration, air pollution, water pollution, transportation, location of manufacturing sites, equality in regulatory enforcement, and the location of landfills. Many of these issues were addressed in the Action Plan that was formulated for the neighborhood of Camden Waterfront South (EJ Task Force, 2006, p. 4). In order to remedy some of the EJ issues for Camden Waterfront South, the NJDEP started the Air Toxics Pilot Project in 2002. The project focused on reducing pollution from manufacturing and industrial sources and diesel trucks. In order to reduce exposure and prevent air pollution, community members and organizations drafted projects that could be implemented by companies, government agencies, and other groups. The Camden County Health Department also received a \$20,000 grant from the NJDEP to collect information on air emissions and to conduct compliance inspections. Several other projects, such as an Odor Abatement Team, a Bucket Brigade Project for collecting air samples, and the New Jersey Atmospheric Deposition Network Project, have been implemented in order to address air pollution issues in the community.

Other projects have been aimed at improving water quality, site remediation, and transportation problems. The NJDEP tested water at several locations throughout Camden in order to test for lead and other contaminants. Automatic flushers for drinking fountains were installed in public schools in order to minimize lead and copper in drinking water. Another project was aimed at replacing lead service lines with copper lines. The USEPA and state agencies have also started to reduce the contaminant levels in the well fields that supply drinking water to Camden. The Action Plan for Camden included recommendations for greater and more

equitable remediation of Superfund sites and more frequent updates for lists of known contaminated sites. The New Jersey Department of Transportation has proposed studies to assess transportation problems in Camden in order to address the disproportionate impacts of the locations of transportation routes and traffic.

The Action Plan for Long Branch addressed many of the same issues that were addressed by the Camden Waterfront South Action Plan. The Action Plan included plans to sample the water in places such as Troutmans Creek in order to address water pollution (New Jersey Environmental Justice Task Force, 2009, p. 17). The Action Plan also included sampling soil in contaminated areas in order to help site remediation. The plan stressed the need to include community members in the policy process and the need for community participation. The Action Plan outlined assessments of natural resources in Long Branch, such as the fish and water resources. The Action Plan also required assessments of the health effects of contaminated sites in Long Branch. Other accepted EJ petitions illustrated what EJ concerns have been addressed within New Jersey's EJ Program. The petition for Linden showed that the New Jersey DEP acknowledged the problems of chemical manufacturing locations and air pollution in EJ communities. The petition for Newark addressed issues of site remediation and possible airborne lead and asbestos pollution. The Ringwood petition showed the recognition of landfill and Superfund site locations as EJ concerns.

4.1.4 Agency Policies

According to Executive Order, all state-level government agencies in New Jersey that handle issues related to the environment or public health needed to incorporate environment justice principles into their policies (NJDEP, 2004, p. 2). Agencies such as the Department of Environmental Protection, the Department of Health and Senior Services, and the Department of

Transportation had members within the Environment Justice Task Force and were required to help formulate state EJ policies. Agencies have made information about the EJ Program readily available to the public, as directed by Executive Order #96. The website for New Jersey's Environmental Justice Programs included documents such as EJ petitions and the EJ executive order, as well as information about the various projects that have been conducted by the program. It also includes the minutes from meetings of the EJ Advisory Council and links to EJ information from the EPA and other agencies involved with EJ issues.

The New Jersey EJ Program has conducted several projects in order to promote environmental. One was the Cool Cities Urban Forest Initiative, which was aimed at planting trees in urban areas (New Jersey EJ Program, 2004). In order to plant 3,000 trees in Trenton and Paterson, the DEP gained a commitment of \$2 million. The project was part of an effort to improve living conditions in urban areas. The DEP has also used fish consumption advisories in order to help reduce the consumption of contaminated fish in EJ communities. The Camden Waterfront South Air Toxics Pilot Project was aimed at addressing the many air pollution issues in Camden. These projects were part of New Jersey's efforts to reduce the effects of environmental injustice.

4.1.5 Community Involvement

In order to connect policymakers to EJ communities, the government of New Jersey formed the Environmental Justice Advisory Council. The EJ Advisory Council consisted of 15 individuals and met quarterly (NJDEP, 2004, p.3). Annually, a chairperson was selected from within its membership, and the Advisory Council was to have a minimum of one third of its members come from grassroots or faith-based community organizations. Other members have been taken from the academic public health community, statewide environmental, civil right, and

public health organizations, large and small businesses and industries, municipal and county governments, and labor organizations.

The main way in which communities could be involved in the EJ policy process of New Jersey was the EJ petition process (NJDEP, 2004, p. 3). Under New Jersey's EJ Executive Order, any community could file a petition with the EJ Task Force asserting that the community was subject to disproportionate adverse exposure to health risks and environmental hazards or to disproportionate adverse effects from public health or environmental laws. To file a petition, the petition had to first be signed by at least 50 residents or workers within a community, with at least 25 of the signers being residents in the affected community. The Task Force would then identify communities from petitions filed using the criteria of the Task Force, taking into account the constraints to the resources of agencies. Selected communities would then be able to meet with the Task Force to have their concerns heard. If the communities wanted a public meeting, the Commissioners of the DEP and DHSS would establish one so that the Task Force could hear and evaluate the claims of petitioners. If claims fell within the jurisdiction of a specific agency, a senior management representative from the agency would be included within the Task Force. When communities were selected, the Task Force would develop an Action Plan for each community with the input of citizens within each community and local and county governments. The Action Plans would address the environmental, social, and economic factors that contributed to environmental justice concerns. The Action Plan would clearly outline the steps to be taken in selected communities in order to reduce existing environmental burdens or reduce additional burdens through resource allocation, discretion in the enforcement of regulations, and developing new standards and protections. The Action Plan would be developed with the help of the EJ Advisory Council. It would include deliverables for the community, the timeframe for

implementation, justifications for the use of financial and other resources, and availability of resources for the plan. It would also need to be designed in a way that fit the statutory and regulatory powers of New Jersey government departments. After the Action Plan was formulated, it would be presented to the relevant departments, along with a recommendation for its implementation. After the departments decided to implement the Action Plans, the Task Force would monitor the progress of the plans and make recommendations necessary to help implementation. The departments would need to implement the plans to the greatest extent possible within statutory and resource constraints. For each Action Plan, DEP and DHSS would jointly develop a strategy to address significant environmental and public health risks within the selected communities by performing chronic disease surveillance, health monitoring, gathering of data, public participation, and community-level education about health risks. The Task Force would also develop recommendations for legislative and regulatory changes for achieving the goals of the Executive Order and Action Plans. Finally, the Task Force would prepare and release a report on the status of all action plans within 18 months of establishing the Task Force.

4.1.6 EPA Regional Policy Mechanisms

As part of EPA Region 2, New Jersey has been affected by the EPA's regional EJ policies. Region 2 had an Environmental Justice Coordinator and an Environmental Justice Assistant (EPA Region 2, 2010). Region 2 environmental justice policies followed the original Federal Executive Order 12898, which directed Federal agencies to incorporate environmental justice principles into Federal environmental policies. Region 2's policies included increasing public involvement in environmental decision-making, assessing disparate impacts on communities, and ensure equal enforcement of laws and regulations. In order to enforce environmental justice principles, the Region was to identify possible EJ case, implement EJ in the enforcement

process, initiate enforcement actions, and attempt to use supplementary environmental projects . The Region was supposed to identify and remediate Superfund sites in EJ communities. The Region 2 EJ policies demonstrated how Federal EJ policies affect New Jersey.

4.2 Indicators of Political Efficacy / Specific Targeting of Problems for New Jersey

New Jersey had recently formulated its EJ policies, so most EJ actions by the state government of New Jersey were in their initial planning stages. State agencies conducted studies about disparate impacts of environmental hazards and identified EJ communities, but comprehensive statutes and regulations for the enforcement of EJ principles have not yet been implemented. The strongest policy mechanisms, for the most part, have not been utilized. So far, enforcement of EJ principles has been in the form of using previously-existing environmental policies in order to intentionally aid EJ communities. Regulations and statutes that were general in nature have been used in order to target EJ communities and reduce disparate environmental impacts.

4.2.1 State Policy Mechanisms

Though the environmental justice policies of New Jersey do not receive funding through specific legislative appropriations, EJ policies have been funding through use of the general funding of state agencies. For example, in order to fund the Camden Waterfront South Action Plan, the Camden State Economic Recovery Board pledged to develop a funding strategy that would provide funding for economic development portions of the Action Plan (EJ Task Force, 206, p. 72). The ERB approved of \$5 million in funding for repairing homes throughout Camden. The New Jersey Department of Transportation has estimated that its parts of the Action Plan will eventually cost \$7.5 million. As of the issuance of the Action Plan, the NJDOT had spent \$117,000.00. Between 2002 and 2006, the NJDEP spent over \$71 million in Camden for

the improvement of environmental infrastructure and for the remediation of contaminated sites. The NJDEP has also conducted enforcement sweeps to enforce environmental regulations in Camden.

Enforcement sweeps aimed at enforcing EJ principles and reducing disproportionate impacts on EJ communities have been also used in other New Jersey cities, such as Paterson (NJDEP, 2004, p. 1). The sweeps in Paterson started with outreach to regulated businesses in order to notify operations that the sweep would occur. Then, a large-scale sweep of regulated facilities was conducted in order to enforce existing environmental regulations. The sweeps were aimed at gaining greater compliance to environmental regulations and reducing the impacts of exposure to hazards within EJ communities. Though the regulations being enforced were not specifically meant to enforce environmental justice, they were used in a targeted way in order to have an EJ effect.

4.2.2 Types of laws/regulations

The NJDEP's Brownfield Development Area (BDA) Initiative was aimed at helping communities that were affected by multiple brownfields to develop remediation and reuse plans (NJDEP, 2005, p. 1). The initiative included participation by community groups, residents, technical experts, property owners, and potentially responsible parties. The NJDEP planned to work with the New Jersey Economic Development Authority and the New Jersey Department of Community Affairs, Office of Smart Growth, in order to help revitalize communities. To apply for BDA designation for a contaminated site, an affected community needed to form a Steering Committee to represent it and to see that the project would be completed. Applicants needed to describe the BDA, discuss boundaries for it, and designate the brownfields that would be addressed. The applications also needed to include evidence of support from community

members and organizations. The applications needed to include discussion of what the community would like to do with respect to brownfields, such as plans for reuse. The NJDEP selected BDA projects on an annual basis using criteria such as level of community support and participation, environmental benefits, and redevelopment benefits. If an application was accepted, the NJDEP would designate the site as a BDA and allow it to participate in the initiative.

Under the BDA Initiative, the Office of Brownfield Reuse and representatives from New Jersey state agencies would first hold an Initial Meeting with the Steering Committee and representatives from the municipality for the presentation of overall goals for the BDA project (NJDEP, 2005, p. 2). The NJDEP would then discuss its role in the project and assign a BDA Project Manager who would have responsibility for all brownfield sites within the designated BDA. The Project Manager would then make recommendations for Preliminary Assessment and Site Investigation of the brownfield sites in order to formulate plans for remediation and reuse. In the Initial Meeting, a Memorandum of Understanding (MOU) would be executed in order to form an agreement between the Steering Committee, the municipality, and the NJDEP on what the responsibilities of involved parties were. The MOU would be effective for one year, with the potential for renewal.

The BDA planning process consisted of five steps (NJDEP, 2005, p.3). The first was to obtain initial environmental and ownership information on the brownfields located within the designated BDA. Environmental information would include known site contamination, permitted land uses, current land uses, and planned land uses. The second step was to conduct a preliminary planning meeting. The meeting would be held by the NJDEP, state planning experts, and the Steering Committee and would have the purpose of formulating ideas for remediation

and reuse of the brownfields. It would be the initial step in the development of a full plan. The meeting would also include an outline of the regulatory process involved and redevelopment options. The third step would be to convene a Baseline Resources Identification Meeting in order to identify what resources were available for use in the BDA project. The fourth step was for the Steering Committee to create the remediation and reuse plan that included input from both public and private parties. The Project Manager would then devise an investigation and remediation schedule. The fifth step in the planning process was to conduct a Strategic Plan Meeting, during which the Steering Committee would meet with technical and planning advisors in order to establish timelines for the Remediation and Reuse Plan. The meeting would also include any departments and agencies that would be involved in implementing the plan. After the meeting, the BDA Project Manager would assist the Steering Committee in implementing the plan and ensuring its successful completion.

5.0 Summary and Conclusions

In New Jersey, substantial early efforts have been made to make environmental justice a guiding principle within the state's environmental policies. The executive order that initiated the environmental justice program in New Jersey required that all New Jersey agencies that were involved in environmental and public health issues incorporate environmental justice principles into their policies. It formed New Jersey's Environmental Justice Task Force in order to coordinate the EJ activities of various New Jersey state agencies. The executive order also established New Jersey's Environmental Justice Advisory Council in order to make recommendations to the Task Force with respect to possible EJ policies and projects. It also encouraged community involvement because the Advisory Council was required to contain representatives from community groups that were involved in the EJ movement. The executive order also established New Jersey's Environmental Justice Petition Process, which allowed communities to participate in the EJ policy process by allowing them to request that their communities be designated as EJ communities. By gaining this designation, communities were able to have EJ Action Plans formulated for the communities and have environmental injustices addressed. New Jersey had issued several EJ Action Plans that outlined how government agencies would address EJ concerns within communities.

Despite the progress that New Jersey had made with respect to environmental justice, New Jersey's environmental justice program was in its early planning stages and had not realized many of its goals. Most actions by New Jersey to address EJ concerns have been to conduct studies and establish plans for future actions. Few actions had been completed in ways that solved specific EJ problems. Currently, New Jersey had no statutes that required an end to practices, such as the concentration of hazardous waste sites, that led to disproportionate

exposure to environmental hazards by nonwhite and poor communities. The government of New Jersey did not enact any regulations that prevented discriminatory pollution or zoning that resulted in large amounts of chemical manufacturing facilities in EJ communities. Major, statewide projects that targeted the existence of environmental racism were not apart of New Jersey's EJ program. Most projects were small and confined to a few locations. Plans had been made to address large-scale problems in several local communities, but the plans had not yet been fully enacted, and the executive order that allowed for the Action Plans did not allow for private individuals to sue for agency inaction. The main policy action with respect to environmental justice in New Jersey only directly affected the internal actions of executive governmental agencies and did not require specific actions from private actors, such as corporate polluters. Overall, New Jersey had not enacted any major actions that specifically addressed and alleviated EJ concerns and had not used the strongest available policy mechanisms, laws and regulations, in order to address EJ concerns.

The developing Environmental Justice Program in New Jersey could be seen as a sign of EJ concerns gaining greater prominence in environmental policy decision-making at the state level. Thirty years ago, environmental justice was only the aim of a few local communities that were struggling against the disproportionate impact of environmental hazards. There were no state governments that addressed or acknowledged the presence of inequalities in the ways in which environmental hazards were distributed. After several years of pressure from the EJ movement, the Federal government acknowledged the existence of environmental injustice with the issuance of Executive Order 12898, which required that Federal agencies incorporate EJ into their environmental policies. As of 2007, 42 out of 50 state governments had addressed environmental justice concerns in some way, and a few, such as California, have established

relatively extensive statutory frameworks in order to address EJ concerns. New Jersey was one of many states that had been developing relatively new environmental justice policies. New Jersey was only in the beginning stages of its EJ policy, but it had already set up a framework for relatively extensive community involvement in formulating and enacting EJ policies and projects. Few substantive actions had been taken, but more could be taken in the future. In order to ensure that the governments of New Jersey and other states continue to expand their EJ programs and make their EJ programs more effective, continued involvement from communities will be necessary.

The EJ movement began as a grassroots movement against environmental injustice, and in order for it to survive and expand, it needs to continue to be coordinated through grassroots activism. State governments will most likely not continue to see environmental justice as a relevant issue unless there is extensive pressure from people who are affected by environmental injustice to make it a priority. Depending on governmental officials to enact social change on their own initiative will most likely not work. The Civil Rights Movement, which inspired the EJ movement, gained its achievements through local, grassroots struggles for equality, not by doing nothing but waiting for government policymakers to decide that social equality was politically relevant and worth addressing. The major social changes in the United States that resulted in increased equality and justice came about as a result of extensive demands and actions by the people who had been victims of inequality and injustice. For continued expansion of EJ programs, extensive involvement from the EJ movement will need to continue.

New Jersey has an EJ program that is in its initial stages, and for it to progress, extensive community involvement in the formulation of policies needs to continue. The New Jersey EJ Program has recognized this through the establishment of the EJ Advisory Council and EJ

Petition Process. The EJ movement started in communities, and it needs to continue in communities if environmental justice is ever going to be achieved. Any progress in public EJ policy has been the result of extensive pressure from the EJ movement, and the continuance of the EJ movement will be needed to make EJ policies more effective. The case of New Jersey's EJ Program shows that EJ principles are having more of an influence on state-level policies, but, in order for environmental justice to be achieved, community groups will need to continue to demand an end to discriminatory environmental practices and for equal protection under environmental laws.

References

- Agyeman, J. (2005). *Sustainable Communities and the Challenge of Environmental Justice*. New York: NYU Press.
- Agyeman, J., and Evans, B. (2004). "Just Sustainability": The Merging Discourse of Environmental Justice in Britain? *Geographic Journal*, Vol. 170 No. 2, pp. 155-164.
- Agyeman, J., and Warner, K. (2002). Putting "Just Sustainability" into Place: From Paradigm to Policy to Practice. *Policy and Management Review*, Vol. 2 No. 1, pp. 8-40.
- American Bar Association and Public Law Research Institute. (2007). *Environmental Justice for All: A Fifty State Survey of Legislation, Policies and Cases*, 3rd Ed. San Francisco: Public Law Research Institute. Retrieved from http://www.uchastings.edu/site_files/plri/EJ2007.pdf
- Bullard, R.D. (1990). *Dumping in Dixie: Race, Class, and Environmental Quality*. Boulder: Westview Press.
- Bullard, R., Mohai, P., Saha, R., and Wright, B. (2007). *Toxic Waste and Race at Twenty 1987-2007*. United Church of Christ Justice & Witness Ministries.
- Eady, V. (2003). Environmental Justice in State Policy Decisions. In J. Agyeman, B. Bullard, and B. Evans (Eds.), *Just Sustainabilities* (pp. 168-181). London: Earthscan.
- EJ Advisory Council. (2009). *A Preliminary Screening Method to Estimate Cumulative Environmental Impacts*. Trenton, NJ: New Jersey Department of Environmental Protection.
- EJ Task Force. (2006). *Camden Waterfront South Report Jan. 2002-Dec. 2005 and Action Plan*. Trenton, NJ: New Jersey Department of Environmental Protection.
- EPA Region 2. (2010). *Environmental Justice*. New York City: US EPA Region 2.
- Lavelle, M., and Coyle, M. (eds.) (1992). Unequal Protection: The Racial Divide in Environmental Law. *National Law Journal*. Vol. 15 (Special Supplement) 52-54.
- National Environmental Justice Advisory Council. (2008). *Draft Letter to EPA*. Washington, D.C.: Office of Environmental Justice. Retrieved from <http://www.epa.gov/oecaerth/resources/publications/ej/nejac/state-ejac-letter-101508.pdf>.
- New Jersey EJ Program. (2004). *Cool Cities*. Trenton, NJ: New Jersey Department of Environmental Protection.

- New Jersey EJ Task Force. (2006). Long Branch Action Plan. Trenton, NJ: New Jersey Department of Environmental Protection.
- New Jersey EJ Task Force. (2005). Statement of Findings Jersey City, Hudson County Cross Harbor Freight Movement Project Petition June 15, 2005 . Trenton, NJ: New Jersey Department of Environmental Protection .
- New Jersey EJ Task Force. (2005). Statement of Findings Linden, Union County Tremley Point Petition June 15, 2005. Trenton, NJ: New Jersey Department of Environmental Protection .
- New Jersey EJ Task Force. (2005). Statement of Findings Newark, Essex County Pabst Brewery Site Petition June 15, 2005 . Trenton, NJ: New Jersey Department of Environmental Protection .
- New Jersey EJ Task Force. (2005). Statement of Findings Ringwood, Passaic County Ringwood Mines/Landfill Former Superfund Site Petition June 15, 2005 . Trenton, NJ: New Jersey Department of Environmental Protection .
- New Jersey EJ Task Force. (2005). Statement of Findings Roselle, Union County Rahway Valley and Staten Island Railroad Petition June 15, 2005 . Trenton, NJ: New Jersey Department of Environmental Protection .
- NJDEP. (2005). Brief Synopsis of NJDEP's Brownfield Development Area Initiative. Trenton, NJ: New Jersey Department of Environmental Protection.
- NJDEP EJ Program. (2004). Environmental Justice Executive Order (EO 96). Trenton, NJ: New Jersey Department of Environmental Protection.
- NJDEP EJ Program. (2009). Environmental Protection through Public Involvement. Trenton, NJ: New Jersey Department of Environmental Protection.
- NJDEP EJ Program. (2009). Executive Order #131. Trenton, NJ: New Jersey Department of Environmental Protection.
- NJDEP EJ Program. (2004). Paterson Compliance and Enforcement Sweep. Trenton, NJ: New Jersey Department of Environmental Protection.
- Office of Environmental Justice (1995). *Environmental Justice Strategy: Executive Order 12,898*, Pub. No. EPA-200-R-95-002, EPA, Washington, DC.
- Portney, K.E. (2003). *Taking Sustainable Cities Seriously*. Cambridge, MA: The MIT Press.
- United Church of Christ Commission for Racial Justice (1987) Toxic Waste and Race in the United States. New York, NY. United Church of Christ Commission for Racial Justice.

U.S. Environmental Protection Agency (1995) The EPA's Environmental Justice Strategy. Washington, D.C.: Environmental Protection Agency. Retrieved from www.epa.gov/compliance/resources/policies/ej/ej_strategy_1995.pdf.

Warner, K. (2002). Linking Local Sustainability Initiatives with Environmental Justice. *Local Environment*. Vol. 7, pp. 35-47.

Appendix A: Stratification of States

State:	<u>Potential/Realized EJ Effect</u>			
Alabama	None	In Development	Moderate	Extensive
Expressly EJ Statute: Hazardous Waste Anti-Concentration Law			*	
EJ Effect Statute	*			
Executive Order: Commission on Environmental Initiatives			*	
State Policy: In Development		*		
EPA Policy	*			
Other Policy: Use of EJ in transportation planning			*	
Staff	*			
Study	*			
PPA	*			
Court Case: Ruling Against EJ Concerns				
Advisory Council/Community Involvement: Commission on Environmental Initiatives; imp*				

State:	<u>Potential/Realized EJ Effect</u>			
Alaska	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: Landfill Location Calculator			*	
State:	<u>Potential/Realized EJ Effect</u>			
Arizona	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
Other Policy: Title VI specialist for transportation planning			*	
Staff	*			
EJ Effect Statute: Notification of permitting decisions to local communities			*	
Study	*			
Executive Order	*			
PPA	*			
State Policy: Protection of poor and minority communities from disparate impacts			*	
Court Case	*			
EPA Policy	*			
Advisory Council/Community Involvement				
Other Policy	4 *			
Staff			*	
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement:Community Advisory Boards, water quality				*

9

State:	<u>Potential/Realized EJ Effect</u>			
Arkansas	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute: siting of solid waste disposal			*	
Executive Order	*			
State Policy				
EPA Policy: Brownfield grants			*	
Other Policy	*			
Staff: Three staff members			*	
Study	*			
PPA: Expressed 4 EJ goals in partnership with EPA			*	
Court Case: Ruling Against EJ Concerns				
Advisory Council/Community Involvement:community outreach and input programs				*

State:	<u>Potential/Realized EJ Effect</u>		
California	None	In Development	Moderate Extensive
Expressly EJ Statute: Several statutes specifically addressing EJ Concerns			*
EJ Effect Statute: Several, such as Hazardous Waste Permitting Requirements			*
Executive Order	*		
State Policy: Working Group, Definition of goals, integration of principles			*
EPA Policy	*		
Other Policy: CARB policies			*
Staff			*
Study			*
PPA	*		
Court Case: Ruling in favor EJ Concerns		*	
Advisory Council/Community Involvement: CARB community outreach, etc.			*

23

State:	<u>Potential/Realized EJ Effect</u>		
Colorado	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute	*		
Executive Order	*		
State Policy: Reduction of fines for implementing beneficial projects		*	
EPA Policy: PPA programs		*	
Other Policy: Supplemental Environmental Projects		*	
Staff	*		
Study	*		
PPA			*
Court Case	*		
Advisory Council/Community Involvement: Northeast Denver Environmental Initiative			*

11

State:	Potential/Realized EJ Effect			
Connecticut	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: EJ Program				*
EPA Policy: Supplemental Environmental Projects			*	
Other Policy	*			
Staff: Environmental Justice Administrator, EJ investigators			*	
Study	*			
PPA			*	
Court Case: Dismissal of EJ Complaint	*			
Advisory Council/Community Involvement: Neighborhood Environmental Project			*	

11

State:	Potential/Realized EJ Effect			
Delaware	None	In Development	Moderate	Extensive
Expressly EJ Statute: Community Ombudsman			*	
EJ Effect Statute: Community Environmental Performance Fund			*	
Executive Order	*			
State Policy: Increasing Information on EJ in communities			*	
EPA Policy	*			
Other Policy	*			
Staff			*	
Study: Recommendations for community involvement			*	
PPA	*			
Court Case	*			
Advisory Council/Community Involvement: Community Involvement Advisory Council				*

13

State:	Potential/Realized EJ Effect			
District of Columbia	None	In Development	Moderate	Extensive
Expressly EJ Statute: Solid Waste Facilities			*	
EJ Effect Statute	*			
Executive Order	*			
State Policy: EJ Program			*	
EPA Policy: Compliance of auto repair shops			*	
Other Policy	*			
Staff: EJ Coordinator			*	
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement				

8

State:	Potential/Realized EJ Effect			
Florida	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute: Brownfield redevelopment			*	
Executive Order	*			
State Policy: research in EJ issues and community outreach			*	
EPA Policy				
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case: Inconclusive ruling	*			
Advisory Council/Community Involvement: Community Envir. Health Advisory Council				

6

State:	<u>Potential/Realized EJ Effect</u>			
Georgia	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute: Anti-Concentration Law			*	
Executive Order	*			
State Policy: EJ as part of transportation program			*	
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement				
	4			

State:	<u>Potential/Realized EJ Effect</u>			
Hawaii	None	In Development	Moderate	Extensive
Expressly EJ Statute: Attempt at incorporating EJ into state programs and funding study*				
EJ Effect Statute	*			
Executive Order	*			
State Policy: EJ in metropolitan planning			*	
EPA Policy	*			
Other Policy: Transportation			*	
Staff				
Study		*		
PPA	*			
Court Case	*			
Advisory Council/Community Involvement				
	7			

State:	<u>Potential/Realized EJ Effect</u>			
Idaho	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: Community involvement			*	
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement: Airshed and Watershed Advisory groups			*	

4

State:	<u>Potential/Realized EJ Effect</u>			
Illinois	None	In Development	Moderate	Extensive
Expressly EJ Statute: Open Dumping law			*	
EJ Effect Statute	*			
Executive Order	*			
State Policy: Interim EJ Policy			*	
EPA Policy: Interim EJ Policy			*	
Other Policy	*			
Staff: EJ Officer			*	
Study	*			
PPA			*	
Court Case	*			
Advisory Council/Community Involvement: EJ Advisory Group			*	

12

State:	Potential/Realized EJ Effect			
Indiana	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: EJ Strategic plan			*	
EPA Policy: Equal access, equal treatment, etc.			*	
Other Policy	*			
Staff			*	
Study	*			
PPA			*	
Court Case	*			
Advisory Council/Community Involvement: Guide to Citizen Participation			*	

10

State:	Potential/Realized EJ Effect			
Iowa	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement*				

0

State:	Potential/Realized EJ Effect		
Kansas	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute	*		
Executive Order	*		
State Policy: Brownfields Assessment			*
EPA Policy	*		
Other Policy	*		
Staff	*		
Study	*		
PPA	*		
Court Case	*		
Advisory Council/Community Involvement			
	2		

State:	Potential/Realized EJ Effect		
Kentucky	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute: Hazardous Waste Permitting			*
Executive Order	*		
State Policy	*		
EPA Policy: EPA partnership			*
Other Policy	*		
Staff	*		
Study	*		
PPA	*		
Court Case	*		
Advisory Council/Community Involvement			
	4		

State:	Potential/Realized EJ Effect			
Louisiana	None	In Development	Moderate	Extensive
Expressly EJ Statute: EJ study			*	
EJ Effect Statute	*			
Executive Order: EJ in Mississippi River corridor			*	
State Policy: Community Industries Relation program			*	
EPA Policy	*			
Other Policy	*			
Staff	*			
Study: EJ Approach			*	
PPA	*			
Court Case: Ruling against EJ claim	*			
Advisory Council/Community Involvement: Involvement in EJ programs generally			*	

10

State:	Potential/Realized EJ Effect			
Maine	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: EJ training		*		
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement				

1

State:	Potential/Realized EJ Effect			
Maryland	None	In Development	Moderate	Extensive
Expressly EJ Statute: MACEJ bill			*	
EJ Effect Statute	*			
Executive Order: Formation of Commission			*	
State Policy: Public outreach, guidelines,				*
EPA Policy: PPA programs			*	
Other Policy: Department of Transportation		*		
Staff	*			
Study: Study into community involvement and EJ issues				*
PPA			*	
Court Case	*			
Advisory Council/Community Involvement: MACEJ				*

18

State:	Potential/Realized EJ Effect			
Massachusetts	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order			*	
State Policy: Prioritizing EJ communities, etc.				*
EPA Policy: MassDEP EJ projects				*
Other Policy: Transportation planning				*
Staff			*	
Study: EJ plans			*	
PPA			*	
Court Case: Ruled against EJ concern	*			
Advisory Council/Community Involvement: MEJAC, Indigenous peoples outreach				*

20

State:	Potential/Realized EJ Effect		
Michigan	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute	*		
Executive Order	*		
State Policy	*		
EPA Policy	*		
Other Policy	*		
Staff			*
Study			*
PPA	*		
Court Case	*		
Advisory Council/Community Involvement: EJ Work Group			*

6

State:	Potential/Realized EJ Effect		
Minnesota	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute	*		
Executive Order	*		
State Policy: Alliances with EJ communities, etc.			*
EPA Policy	*		
Other Policy	*		
Staff	*		
Study	*		
PPA			*
Court Case	*		
Advisory Council/Community Involvement: Sustainable Communities Network			*

7

State:	Potential/Realized EJ Effect		
Mississippi	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute: Anti-Concentration Law		*	
Executive Order	*		
State Policy	*		
EPA Policy	*		
Other Policy	*		
Staff	*		
Study	*		
PPA	*		
Court Case: Ruled against EJ concern	*		
Advisory Council/Community Involvement			

2

State:	Potential/Realized EJ Effect		
Missouri	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute	*		
Executive Order	*		
State Policy	*		
EPA Policy: EJ Strategy		*	
Other Policy	*		
Staff	*		
Study	*		
PPA		*	
Court Case	*		
Advisory Council/Community Involvement			

4

State:	Potential/Realized EJ Effect			
Montana	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute: Major Facilities Siting			*	
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA			*	
Court Case	*			
Advisory Council/Community Involvement				

4

State:	Potential/Realized EJ Effect			
Nebraska	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement: Community information on*				

0

State:	Potential/Realized EJ Effect		
	None	In Development	Moderate Extensive
Nevada			
Expressly EJ Statute	*		
EJ Effect Statute	*		
Executive Order	*		
State Policy	*		
EPA Policy	*		
Other Policy	*		
Staff	*		
Study	*		
PPA	*		
Court Case	*		
Advisory Council/Community Involvement			

0

State:	Potential/Realized EJ Effect		
	None	In Development	Moderate Extensive
New Hampshire			
Expressly EJ Statute	*		
EJ Effect Statute	*		
Executive Order	*		
State Policy	*		
EPA Policy: Incorporation of EJ into agenda			*
Other Policy	*		
Staff	*		
Study	*		
PPA			*
Court Case	*		
Advisory Council/Community Involvement			

4

State:	Potential/Realized EJ Effect			
New Jersey	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order: EJ Task Force				*
State Policy: Tree planting, etc.				*
EPA Policy	*			
Other Policy	*			
Staff			*	
Study	*			
PPA			*	
Court Case	*			
Advisory Council/Community Involvement: EJ Advisory Council				*

13

State:	Potential/Realized EJ Effect			
New Mexico	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order: All departments and boards must incorporate EJ				*
State Policy: Collaboration strategies				*
EPA Policy	*			
Other Policy	*			
Staff			*	
Study: Report on EJ			*	
PPA	*			
Court Case: Ruling in favor of EJ concerns			*	
Advisory Council/Community Involvement: Listening sessions, other community outreach				*

15

State:	<u>Potential/Realized EJ Effect</u>		
New York	None	In Development	Moderate Extensive
Expressly EJ Statute: EJ brownfield law		*	
EJ Effect Statute	*		
Executive Order	*		
State Policy: Multilingual activities, community outreach			*
EPA Policy: Permitting process, etc.			*
Other Policy	*		
Staff		*	
Study: Several EJ reports			*
PPA	*		
Court Case: rulings against EJ claims*			
Advisory Council/Community Involvement: Environmental Justice Advisory Group			*

16

State:	<u>Potential/Realized EJ Effect</u>		
North Carolina	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute: Solid waste permitting		*	
Executive Order	*		
State Policy	*		
EPA Policy: Mediation of EJ disputes		*	
Other Policy	*		
Staff		*	
Study	*		
PPA	*		
Court Case	*		
Advisory Council/Community Involvement: Community complaint procedures		*	

8

State:	Potential/Realized EJ Effect			
North Dakota	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement				
	0			

State:	Potential/Realized EJ Effect			
Ohio	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute: Solid waste facilities			*	
Executive Order	*			
State Policy: EJ part of normal decision-making			*	
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case: Ruling Against EJ Concerns				
Advisory Council/Community Involvement: Partnering with EJ Communities				*
	7			

State:	<u>Potential/Realized EJ Effect</u>			
Oklahoma	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement				
	0			

State:	<u>Potential/Realized EJ Effect</u>			
Oregon	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order: Creation of advisory board			*	
State Policy: Supplemental Environmental Projects			*	
EPA Policy: Internal EJ incorporation			*	
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement: Now defunct advisory group			*	
	8			

State:	<u>Potential/Realized EJ Effect</u>			
Pennsylvania	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: EJ Work Group			*	
EPA Policy: Public participation				*
Other Policy	*			
Staff			*	
Study: Work Group report			*	
PPA			*	
Court Case: Ruling in favor of EJ concerns			*	
Advisory Council/Community Involvement: EJ Advisory Board				*

16

State:	<u>Potential/Realized EJ Effect</u>			
Rhode Island	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute: Remediation Law			*	
Executive Order	*			
State Policy: Green space programs			*	
EPA Policy; Policy draft with public input			*	
Other Policy	*			
Staff	*			
Study: Environmental Equity report			*	
PPA			*	
Court Case: Ruling in favor of EJ concerns			*	
Advisory Council/Community Involvement: Public participation in policy drafting			*	

14

State:	Potential/Realized EJ Effect			
South Carolina	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff: EJ Coordinator			*	
Study: Siting study and enforcement study			*	
PPA	*			
Court Case	*			
Advisory Council/Community Involvement: Encouragement of public participation			*	

6

State:	Potential/Realized EJ Effect			
South Dakota	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA			*	
Court Case	*			
Advisory Council/Community Involvement*				

2

State:	Potential/Realized EJ Effect			
Tennessee	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: Staff trainings			*	
EPA Policy	*			
Other Policy	*			
Staff			*	
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement: Community outreach		*		

5

State:	Potential/Realized EJ Effect			
Texas	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order: EJ principles in water programs			*	
State Policy: Environmental equity program			*	
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement State and Tribal Environmental Advisory Board			*	

6

State:	Potential/Realized EJ Effect			
Utah	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA			*	
Court Case	*			
Advisory Council/Community Involvement*				

2

State:	Potential/Realized EJ Effect			
Vermont	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy		*		
EPA Policy	*			
Other Policy	*			
Staff	*			
Study	*			
PPA	*			
Court Case	*			
Advisory Council/Community Involvement*				

1

State:	Potential/Realized EJ Effect			
Virginia	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute: Waste Management notice and comment			*	
Executive Order	*			
State Policy: Supplemental Envir. Projects			*	
EPA Policy	*			
Other Policy	*			
Staff	*			
Study: siting and waste facilities			*	
PPA			*	
Court Case	*			
Advisory Council/Community Involvement				

8

State:	Potential/Realized EJ Effect			
Washington	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order: Regulation to communicate with impacted communities			*	
State Policy: Board of Health			*	
EPA Policy: EJ Program			*	
Other Policy	*			
Staff			*	
Study	*			
PPA			*	
Court Case	*			
Advisory Council/Community Involvement				

10

State:	Potential/Realized EJ Effect			
West Virginia	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy	*			
EPA Policy: Envir. Equity policy			*	
Other Policy	*			
Staff			*	
Study	*			
PPA	*			
Court Case: Ruling in favor of EJ concerns			*	
Advisory Council/Community Involvement				

6

State:	Potential/Realized EJ Effect			
Wisconsin	None	In Development	Moderate	Extensive
Expressly EJ Statute	*			
EJ Effect Statute	*			
Executive Order	*			
State Policy: loans for remediation			*	
EPA Policy	*			
Other Policy: DOT EJ concerns			*	
Staff	*			
Study: EJ report			*	
PPA	*			
Court Case	*			
Advisory Council/Community Involvement				

6

State:	Potential/Realized EJ Effect		
Wyoming	None	In Development	Moderate Extensive
Expressly EJ Statute	*		
EJ Effect Statute: Socioeconomics in siting		*	
Executive Order	*		
State Policy	*		
EPA Policy	*		
Other Policy	*		
Staff	*		
Study	*		
PPA	*		
Court Case	*		
Advisory Council/Community Involvement			

Appendix B: Environmental Justice Indicators

1. General EJ Indicators

Identification of EJ Communities/Issues

1. Definition of EJ community
2. Study of disparate environmental impacts
3. Mapping of EJ communities
4. Notification of EJ communities
5. Development of EJ indicators
6. Assessment of EJ issues
7. Statements of EJ principles

State Policy Mechanisms

1. EJ Executive order
2. Definition of EJ objectives
3. EJ Office
4. EJ Staff
5. EJ Officers
6. EJ Commission
7. Development of EJ benchmarks
8. Tax incentives

Areas of EJ Concern Addressed

1. Hazardous waste site concentration
2. Location of chemical manufacturing facilities
3. Air pollution
4. Water pollution
5. Superfund sites
6. Transportation
7. Equality in enforcement of regulations
8. Landfill location
9. Household lead exposure
10. Response time to environmental hazards

Agency Policies

1. Transportation planning
2. Reduction of fines for beneficial projects
3. EJ information availability
4. EJ incorporation
5. EJ research
6. EJ in city planning
7. EJ strategies
8. EJ guidelines
9. EJ projects

Community Involvement

1. EJ Advisory Council
2. Extensive community input in decision making
3. Outreach programs
4. Dissemination of EJ findings
5. NGO involvement
6. Grassroots EJ group involvement
7. Community land trusts
8. Public hearings

EPA Regional Policy Mechanisms

1. EJ Coordinators
2. EJ funding
3. EJ Policy
4. Performance Partnership Agreement
5. EJ effect in enforcement

2. Indicators of Political Efficacy / Specific Targeting of Problems

State Policy Mechanisms

1. EJ Funding
2. EJ Regulations
3. EJ Enforcement

Types of laws/regulations

1. Anti-concentration laws
2. Brownfield redevelopment
3. Targeted emissions reductions
4. Public health laws
5. Landfill siting laws
6. Hazardous waste siting
7. Powerplant siting laws
8. Notification laws
9. Solid waste disposal
10. Zoning for EJ purposes
11. Superfund site remediation

Appendix C: Definitions for the Environmental Justice Indicators

1. General EJ Indicators

Identification of EJ Communities/Issues

1. Definition of EJ community – The state policymaker has defined both what environmental justice was and which characteristics were to be used to define a neighborhood or community as having been subjected to environmental injustice.
2. Study of disparate environmental impacts – A study has been conducted by policymakers that has looked at how environmental hazards have disproportionately impacted certain communities.
3. Mapping of EJ communities – Policymakers have constructed maps that show areas that have been affected by environmental injustice and have noted relevant information about communities such as race and socioeconomic status.
4. Notification of EJ communities – Policymakers have made an effort to notify designated EJ communities of EJ issues and their effects on communities.
5. Development of EJ indicators – Policymakers have formulated indicators for identifying the presence of EJ issues within a community and identifying whether problems have been alleviated.
6. Assessment of EJ issues – Policymakers have assessed how EJ issues have affected communities and how they could be addressed.
7. Statements of EJ principles – Policymakers have outlined basic principles of environmental justice in order to guide environmental justice policies.

State Policy Mechanisms

1. EJ Executive order – The state executive branch has issued an order to incorporate environmental justice concerns into state-level environmental decision-making.
2. Definition of EJ objectives – Objectives to be met through EJ policies have been set in order to focus and guide EJ efforts and outline what the state sought to accomplish.
3. EJ Office – The state government has established an office with the mission of addressing EJ issues, and that office has continued to exist.
4. EJ Staff – A paid staff has been formed with expertise in environmental justice issues and with the mission of addressing EJ concerns.
5. EJ Officers – At least one public official has been designated as an environmental justice

officer and has been given the specific task of coordinating state EJ efforts.

6. EJ Commission – The state government has established an agency specifically tasked with enforcing EJ rules.
7. Development of EJ benchmarks – The state government has set benchmarks that will show how successful state EJ policies have been when they have been met.
8. Tax incentives – The state government has set tax incentives that have promoted the alleviation of designated EJ problems.

Areas of EJ Concern Addressed

1. Hazardous waste site concentration – Policymakers have acknowledged the disproportionate number of hazardous waste sites in minority and poor neighborhoods.
2. Location of chemical manufacturing facilities – Policymakers have acknowledged the placement of chemical manufacturing facilities as a symptom of environmental injustice.
3. Air pollution – Policymakers have acknowledged the disproportionate impact of air pollution on EJ communities.
4. Water pollution – Policymakers have stated that water pollution has disproportionately affected EJ communities.
5. Superfund sites – Policymakers have recognized the disproportionate impact of Superfund sites on EJ communities.
6. Transportation – Policymakers have addressed the impacts of locations of major transportation routes and other transportation policies on EJ communities.
7. Equality in enforcement of regulations – Policymakers have addressed the fact that EJ communities have been much less likely to benefit from the enforcement of environmental regulations and have expressed a desire to remedy the problem.
8. Landfill location – Policymakers have addressed the disproportionate number of landfills located in EJ communities.
9. Household lead exposure – Policymakers have acknowledged the increased exposure rate for lead in low-income and minority communities.
10. Response time to environmental hazards – Policymakers have acknowledged that agencies have had longer response times to environmental hazards located in EJ communities than hazards in more affluent communities.

Agency Policies

1. Transportation planning – State transportation departments have formulated policies in order to address EJ concerns.
2. Reduction of fines for beneficial projects – Regulatory agencies have offered reductions in fines for violators that implement environmental projects that are beneficial for EJ communities.
3. EJ information availability – Agencies have made information about EJ issues readily available for residents of EJ communities.
4. EJ incorporation – Agencies have stated intentions to incorporate EJ concerns into all levels of agency decision-making, where applicable.
5. EJ research – Agencies have conducted research concerning how EJ issues could be affected by agency policies.
6. EJ in city planning – Agencies in charge of city planning have made a definite effort to incorporate EJ concerns into decision-making.
7. EJ strategies – Agencies have formulated strategies in order to address EJ issues and concerns.
8. EJ guidelines – Agencies have established guidelines to be met in order to incorporate EJ concerns into decision-making.
9. EJ projects – Agencies have implemented projects that specifically address environmental justice issues.

Community Involvement

1. EJ Advisory Council – An advisory council or committee has been established in order to voice concerns concerning EJ issues and to make recommendations for how policymakers could address and solve EJ problems. Advisory councils included members from community organizations.
2. Extensive community input in decision making – Policymakers have publicized EJ decision-making and have actively sought input from members of EJ communities in order to formulate EJ policies.
3. Outreach programs – Programs have been established that aim to promote community involvement in EJ policymaking.
4. Dissemination of EJ findings – Findings that agencies have made concerning EJ issues have been spread throughout communities in order to notify communities about EJ issues and to show what could be done to address the issues.

5. NGO involvement – Government agencies have brought NGOs focused on EJ issues into the policymaking process in order to increase community input and involvement and to gain a greater understanding of EJ issues.
6. Grassroots EJ group involvement – Policymakers have actively sought the support and input of grassroots EJ organizations and have actively supported grassroots EJ efforts.
7. Community land trusts – The state has established community land trusts in order to manage the redevelopment of brownfields and manage other development of community land.
8. Public hearings – Agencies have held open public hearings when EJ policies and regulations have been formulated and have actively promoted the hearings in EJ communities.

EPA Regional Policy Mechanisms

1. EJ Coordinators – The EPA has designated officers to act as coordinators for EJ efforts for EPA Regions.
2. EJ funding – The EPA Region has designated funding for EPA EJ efforts in order to aid state level EJ policies
3. EJ Policy – The EPA Region has formulated policies that specifically address EJ concerns and seek to solve EJ problems.
4. Performance Partnership Agreement – The EPA has entered into a Performance Partnership Agreement with the state in order to address EJ issues.
5. EJ effect in enforcement – The EPA Region has enforced EPA regulations for the purpose of addressing EJ concerns.

2. Indicators of Political Efficacy / Specific Targeting of Problems

State Policy Mechanisms

1. EJ Funding – The state government has specifically allocated funding in order to address EJ issues.
2. EJ Regulations – Executive agencies have formulated and implemented regulations for the purpose of addressing EJ concerns and furthering EJ objectives.
3. EJ Enforcement – Laws, regulations, and other EJ-related rules have been enforced by appropriate agencies to a significant degree.

Types of laws/regulations

1. Anti-concentration laws – Laws or regulations have been implemented in order to limit the concentration of hazardous waste sites in EJ communities.
2. Brownfield redevelopment – Laws or regulations that address the redevelopment of brownfields in order to aid EJ communities have been implemented.
3. Targeted emissions reductions – Emissions laws or regulations have been implemented in order to alleviate air pollution problems for EJ communities.
4. Public health laws – Public health laws or regulations have been enacted that were aimed at addressing EJ concerns.
5. Landfill siting laws – Laws or regulations have been enacted that limited the number of landfills that could be located in or near EJ communities.
6. Hazardous waste siting – Laws or regulations have limited the number of hazardous waste sites that could be placed in EJ communities.
7. Power plant siting laws – Siting laws or regulations have limited the placement of power plants in EJ communities.
8. Notification laws – Laws or regulations have required notification of residents of EJ communities about the placement of environmental hazards within communities.
9. Solid waste disposal – Laws or regulations have been enacted in order to limit solid waste disposal in EJ communities.
10. Zoning for EJ purposes – Zoning laws or regulations have specifically incorporated EJ concerns and have been aimed at alleviating EJ problems.
11. Superfund site remediation – Laws or regulations have been enacted with the purpose of implementing Superfund site remediation in EJ communities.

Appendix D: Environmental Justice Indicators - NJ

1. General EJ Indicators

Identification of EJ Communities/Issues

- | | |
|---|---|
| 1. Definition of EJ community | Y |
| 2. Study of disparate environmental impacts | Y |
| 3. Mapping of EJ communities | Y |
| 4. Notification of EJ communities | Y |
| 5. Development of EJ indicators | N |
| 6. Assessment of EJ issues | Y |
| 7. Statements of EJ principles | Y |

State Policy Mechanisms

- | | |
|---------------------------------|---|
| 1. EJ Executive order | Y |
| 2. Definition of EJ objectives | Y |
| 3. EJ Office | N |
| 4. EJ Staff | N |
| 5. EJ Officers | Y |
| 6. EJ Commission | Y |
| 7. Development of EJ benchmarks | N |
| 8. Tax incentives | N |

Areas of EJ Concern Addressed

- | | |
|--|---|
| 1. Hazardous waste site concentration | Y |
| 2. Location of chemical manufacturing facilities | Y |
| 3. Air pollution | Y |
| 4. Water pollution | Y |
| 5. Superfund sites | Y |
| 6. Transportation | Y |
| 7. Equality in enforcement of regulations | Y |
| 8. Landfill location | Y |
| 9. Household lead exposure | N |
| 10. Response time to environmental hazards | N |

Agency Policies

- | | |
|---|---|
| 1. Transportation planning | Y |
| 2. Reduction of fines for beneficial projects | N |
| 3. EJ information availability | Y |
| 4. EJ incorporation | Y |
| 5. EJ research | Y |
| 6. EJ in city planning | N |
| 7. EJ strategies | Y |
| 8. EJ guidelines | N |
| 9. EJ projects | Y |

Community Involvement

- | | |
|---|---|
| 1. EJ Advisory Council | Y |
| 2. Extensive community input in decision making | Y |
| 3. Outreach programs | Y |
| 4. Dissemination of EJ findings | Y |
| 5. NGO involvement | Y |
| 6. Grassroots EJ group involvement | Y |
| 7. Community land trusts | N |
| 8. Public hearings | Y |

EPA Regional Policy Mechanisms

- | | |
|--------------------------------------|---|
| 1. EJ Coordinators | Y |
| 2. EJ funding | N |
| 3. EJ Policy | Y |
| 4. Performance Partnership Agreement | N |
| 5. EJ effect in enforcement | Y |

2. Indicators of Political Efficacy / Specific Targeting of Problems

State Policy Mechanisms

- | | |
|-------------------|---|
| 1. EJ Funding | Y |
| 2. EJ Regulations | N |
| 3. EJ Enforcement | Y |

Types of laws/regulations

- | | |
|----------------------------------|---|
| 1. Anti-concentration laws | N |
| 2. Brownfield redevelopment | Y |
| 3. Targeted emissions reductions | N |
| 4. Public health laws | N |
| 5. Landfill siting laws | N |
| 6. Hazardous waste siting | N |
| 7. Powerplant siting laws | N |
| 8. Notification laws | N |
| 9. Solid waste disposal | N |
| 10. Zoning for EJ purposes | N |
| 11. Superfund site remediation | N |

Overall: 37/61

1. 34/47
2. 3/14