



Section 6. Sociology

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THE ENVIRONMENTAL JUSTICE MOVEMENT: AN ANALYSIS OF ITS HUMAN FOCUS AND DYNAMIC PATTERN

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Abstract

As global warming and climate crises become more pressing issues, an increasing number of studies have begun to focus on the intersection of environmental problems and social justice, or what is more commonly known as “environmental justice.” The present paper offers an overview of this form of justice by first illustrating the history of the environmental justice movement from a small strand of the Civil Rights Movement to an independent and comprehensive grassroots social movement. Thereafter, the paper discusses the major participants of the movement and presents the overall pattern and how grassroots efforts interact with legislative, juridical, and administrative sectors of the government. This part of the paper draws upon major cases of environmental justice from the cities of Oakland, Richmond, and Hinkley in California and Flint, Michigan. Finally, the paper describes some of the challenges that the movement has faced in connecting environmental hazards to racism and minority communities and suggests potential directions for future movements such as inter-regional efforts and more emphasis upon other climate-related problems.

Keywords: *environmental justice, racial inequalities, global warming, government policies, urban, United States*

Introduction

Terry Gonzalez-Cano, a Latina mother who lives in Vernon, Los Angeles, used to encourage her children to play outside. But now she feels an overwhelming sense of regret and depression about what she has done. She laments, “I felt like I was the worst mother in the world. I felt that I had killed my children” (Guardian News and Media, 2021, para.4).

The significant change in her attitude originated from the news six years ago. In June 2015, the California Department of Toxic Substances Control tested the lead content of the soil on her property. Ten months later, the tests revealed the following results: the content of the soil was significantly higher than California’s standard acceptable level. “When I found out, I couldn’t breathe,” Terry

recalled (Guardian News and Media, para.4). This result also led Terry and many other residents to wonder if that same toxic soil would be found in other neighborhoods in Los Angeles. Vernon sits to the immediate south of downtown LA and forms one of the more densely populated areas. The neighborhood also includes many impoverished workers and minority populations. “Because we’re working-class and Latino, we’re not a priority” (Guardian News and Media, para.11). In fact, Terry’s doubts weren’t groundless: a large number of similar pollution cases have increased in recent decades and they are all related to one type of injustice that brings together demographics, race, class, and environment: environmental justice.

The United States Environmental Protection Agency (EPA) defines environmental justice as “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” (Environmental Protection Agency, n.d.). This includes people’s opportunity to make decisions about the activities that might influence their health and living environment. Environment, in this circumstance, would be understood as covering a broad context that includes “where we live, where we work, where we play, and where we learn” (Cole & Foster, 2001). The value of this part of the definition is that it does not reduce the environment to where people live but also addresses their movements in daily life, which would encompass work, leisure and other activities. Studying environmental justice is beneficial for us not only because it can enhance overall health conditions, but also because it can improve and ensure social equality and justice, thereby establishing a more harmonious society. As a result, an increasing number of studies are focusing upon the subject of environmental justice and its various manifestations around the globe (Banzhaf et al., 2019; Carrión et al., 2022; Chowkwanyun, 2023; idem, 2022; Harrison, 2019).

This essay will examine environmental justice as a movement by focusing upon its integrated history, the characteristics of its participants, the patterns associated with its development, and the limitations and scope

of the movement. The first section will describe some of the more significant historical events connected to the movement in order to explain how the movements gradually developed from an adjunct of the civil right movement to a movement integrating anti-toxic and justice concerns. Thereafter, the second and third sections will examine the role and contribution of its different participants and then explain how they interact with each other in order to form a regular pattern of grassroots work and interaction with governmental channels. Subsequently, the fourth section will analyze the challenges that the movement has faced in getting courts to recognize the racist aspects of the environmental injustices and the difficulties that overly bureaucratic aspects of the government pose to the movement. The last section will situate the movement against the emerging climate change crisis in order to point out potential areas where the environmental justice movement might collaborate with climate change activists to form larger inter-regional partnerships.

History of Environmental Justice

In order to provide a more robust definition of environmental justice, it is necessary to trace the movement’s roots and early history. Rather than representing a linear development, the movement has been a continuous process that kept absorbing the legacies of different events in the civil rights and environmental movements. This means that we could view the movement as a river in which “no one tributary made the river the force that it is today” (Cole et al., 2001). The metaphor of a river with many tributaries helps to form a picture of what the history of the environmental justice movement has looked like in the past few decades. Although some scholars dispute whether we should view the proposal of “environmental racism” by the Warren County protesters as the start of the movement, many trace the movement’s origins to the protesting campaigns of the Black Americans, which were mainly composed of the Civil Right Movement during the 1950s and 1960s. Initially, the protesters mainly focused on fundamental human rights that enabled people to survive in modern society: desegregation, voting rights, and equal employment and education opportunities. After

fighting through sit-ins, marching, and establishing local and even national organizations, the movement achieved some significant progress. As a result, President Eisenhower signed the Civil Right Act of 1957 which protected black Americans' voting rights and President Lyndon B. Johnson signed the Civil Right Act of 1964 which guaranteed employment for all (Morris, 1999).

Increasingly, leaders such as Martin Luther King Jr. directed some of their attention to a relatively minor but also important thing: environmental rights. In 1968, King Jr. went to Memphis to seek support for the garbage workers who were unpaid and exposed to dangerous working conditions. Such dangerous working conditions included the risk of being crushed by trucks (King Institute, 2018). Before he could complete his environmental justice mission, however, he was assassinated. After 1968, no prominent nation-level movements involving environmental justice occurred. But this does not mean that injustice ceased: discrimination and injustice continued to occur. In Houston, for example, more than 80 percent of garbage landfills and incinerators functioned in mostly Black neighborhoods up until the late 1970s. Their efforts were limited: although they could impact the city's and state's waste facility site regulations, they could not shut off the equipment directly (Bullard & Borgmann, 2007).

In 1978, the anti-toxic movement became one of the tributaries of the early environmental justice movement. The serious chemical leakage of the Love Canal ignited public concern and brought environmental justice issues to national headlines (Mah, 2020). The Love Canal is located in New York and abuts the Niagara Falls Industrial Corridor, which is predominantly occupied by chemical industries. Starting from 1953, the inappropriate processing mode of toxic chemical waste generated by Hooker Chemical Corporation caused serious health problems for the residents, mostly the working class. The health problems included miscarriages, birth defects, and illnesses. As a result, the residents campaigned hard for the government's investigation under the leadership of a local mother named Lois Gibbs. In August, 1978, the government declared an emergency and evacuated the residents (Mah, 2020). However, this was not the end of the

story. A group known as the Citizens Clearing House for Hazardous Waste (CCHW), which was founded by former residents of Love Canal, has assisted grassroots activists nationwide and worked with more than 7,000 local groups. Under several national umbrella organizations including CCHW, the anti-toxic movements were more organized and thus were able to make more sophisticated and systematic actions. Through this case, we can identify that in comparison to the Civil Rights Movement anti-toxic movements have chiefly tackled the toxic substances disposal and regulations issue rather than racial discrimination toward minority people.

Although isolated at first, the anti-toxic movements were further integrated with social justice movements in the 1980s since three of five Black and Hispanic Americans live in communities with uncontrolled toxic waste sites (United Church of Christ, 1987). Warren County, North Carolina, a region which is mainly composed of Black communities, was selected and became the final resting place for highly toxic PCB waste. Led by local church officials and Rev. Benjamin Chavis, a civil rights activist, the residents fought against the illegal dumping behavior bravely, and more than 500 people were arrested. The protests led the United Church of Christ to publish the 1987 "Toxic Wastes and Race in the U.S." report. The study first established a relationship between the disproportionate distribution of toxic substances all around the nation and minority populations. In the following years, similar protests continued to happen. Starting in 1989, Citizens Against Nuclear Trash (CANT) struggled hard to prevent Louisiana Energy Services company's plan of setting up its uranium enrichment plant in a mostly Black rural community. Finally, in 1998, after eight years of perseverance, CANT defeated the company in court (Louisiana Energy Services, n.d.). This grassroots work shows that in the 1980s there was an emerging trend toward grassroots communities becoming more united and expanding their influence.

Characteristics of the major participants

Investigating the early history of the movement helps to provide a clearer understanding of the major participants in the movement as

well as their different contributions. Whereas the grassroots forces often lay the foundation of the movements by asking for improvements because they are the most directly impacted by injustices, the government's involvement mainly arrives in the form of regulations. Academics also play an important role in the movement by collecting data and synthesizing that data into authoritative reports and other types of studies.

Grassroots organizations are mostly composed of local residents who face the immediate hazards of environmental problems such as the leakage of toxic chemical waste (Chen et al., 2012; Bullard & Johnson, 2000). Their resident-based identity and their geographical proximity to communities, as a result, form an important component of their duties and give them several advantages. First, they have authenticity and credibility, which stem from their close ties to the community members. As a result, through reciprocity, trust and cooperation, the grassroots organizations are able to thrive in the local communities (Oers & Boon & Moors, 2018). In other words, they are considered trustworthy for representing the demands of local residents. In order to secure the safety of local populations, the basic requirement for one's survival and development, grassroots organizations have to stand out and express their thoughts to the government and take immediate action. Moreover, the organizations are typically smaller and decentralized, compared to the large and complicated governmental bureaucracies. Many of them are not ambitious in aggrandizing their power. Instead, they choose to serve the community and provide benefits locally (Ornetzeder & Rohrer, 2013). This enables them to make decisions quickly and to respond with considerable flexibility to emerging issues.

Due to the enormous number of communities with working class or minority people, the influence of grassroots movements has expanded quickly. A 2022 Gallup poll found that 46 percent of Americans identified as either "working" or lower class. The American Community Survey, which was published about the same time, provided data showing that Black, Hispanic, and other workers of color constitute 45 percent of the working class. These polls suggest that if grassroots

forces were to unite together, their numerical superiority would make their influence spread rapidly all around the nation, and the government would directly receive the demands and requests from local residents (Center for American Progress, n.d.).

Abundant evidence has proven that the most enduring characteristic of the environmental justice movement is its reliance upon grassroots activism. For instance, West Harlem Environmental Action (WE ACT), a community-based organization run by people of color, can directly validate this point. West Harlem is located adjacent to the Hudson River, which historically saw a lot of industrial activities and was negatively affected by transportation infrastructure like highways and elevated train lines. WE ACT was committed to driving community-led political change to guarantee that individuals of color and those with low-income have the opportunity to participate in environmental policy making. In March 1988, three community leaders considered that there was serious environmental racism in their West Harlem Neighborhood and as a result they decided to establish the organization. They conducted activities from grassroots perspectives, zealously contacting different institutions and groups. In 1997, WE ACT launched a major public awareness raising program named "Dump Dirty Diesel" and urged the Metropolitan Transportation Authority only to invest in fuel buses. In 2009, the organization invited over 400 environmental justice advocates and community leaders and convened a two-day conference to discuss the topic of climate change (Ink, 2021). They effectively urged improvements, including the passage of policies and regulations, and spread the importance of environmental justice to the general public. These case studies show how the grassroots organizations often take active measures, including public advocacy, litigations, and cooperations with officials and other grassroots organizations in order to struggle for legitimate rights. These organizations point out the potential problems, urging the government to tackle them and thus harness the initiative and become the main face and force of the movement.

The government, which is considered the one of the most authoritative institutions

among these forces, recognizes the demands of local communities and formally responds to them by adopting regulations, setting standards, and issuing licenses. All of the appeals for environmental justice become legitimate only after the approval and confirmation from the government. In February 1994, President Bill Clinton issued Executive Order 12898, which directed federal agencies to reduce adverse health effects on minority and low-income populations (National Archives, n.d.). The order intended to provide minority communities with educational and participation opportunities. On a practical level, it authorized the creation of an Interagency Working Group on environmental justice, and encouraged the research coordination between different governmental institutions (Buckhoy, 2015). Additionally, the accessory Presidential Memorandum emphasized certain provisions of extant law (National Archives, n.d.). This administrative action was a pioneering step and helped to foster the spread of environmental equality (Environmental Protection Agency, n.d.).

One of the more significant government agencies to arrive out of Clinton's Executive Order was the Federal Emergency Department, or FEMA as it is more commonly known. This agency was created to oversee whether or not companies were conforming to the requirements of the order. It identified common FEMA-funded project types that may generate environmental justice concerns, including debris hauling and burning, in order to evaluate their potential impacts (Fema.gov, n.d.). On January 27, 2021, President Joe Biden issued Executive Order 14008, which established the Justice40 Initiative: 40% of the overall benefits of certain Federal investments should flow to disadvantaged communities. This unprecedented national commitment to environmental justice transformed hundreds of Federal programs and helped compensate for decades of underinvestment in disadvantaged communities (The United States Government, 2023). Chronologically, from encouragement to investment, the government keeps reinforcing institutions related to environmental justice.

The role that academics play also complements governmental work by raising public awareness through books, publications, and

conference participation. Dr. Robert Bullard, who is often considered as the father of environmental justice, studied Houston land-use patterns and found the disproportionate effect of garbage dumps on Black Americans in the late 1980s. He kept publishing academic work which covered the topics of sustainable development, environmental racism, urban land use, etc ("Biography. Dr. Robert Bullard," n.d.).

In 1990, a group of professors who have devoted their research to the pursuit of environmental justice wrote letters to the Secretary of Health and Human Services and William Reilly, the head of the EPA, presenting their discoveries of the disproportionate impacts of pollution. This group came to be known as the Michigan group and after they met with Reilly later that same year the Office of Environmental Equity (renamed as the Office of Environmental Justice in 1993) was created. The mission of this office was to build partnerships with community advocates in order to "protect overburdened and underserved communities from the harm caused by environmental crimes, pollution, and climate change" (United States Department of Justice, 2023). The case of the creation of this office thus shows that conscientious professors who are concerned about the future of environmental justice can use their research to advocate for improvements and bring changes to governmental structures.

Methods and Patterns

Surveying the history and major participants of the environmental justice movement allows one to see the different methods and approaches that undergird a variety of environmental justice movements. These movements in turn showcase how different participants collaborate and work to eliminate environmental injustice. After respectively discussing the role each participant plays in the environmental justice movement, it is important to note that they are interwoven in their activism. They actively interact with each other and form a regular pattern as they develop. Grassroots movements, which form the foundation of every action related to environmental justice, seek support from powerful institutions to legitimize their demands and the fruits of their hard work.

In the United States, authoritative power is divided into three distinctive parts: administrative, judiciary, and legislative. Grassroots work, thus, tends to campaign around these three forms of power. The hope then is that these authoritative powers will respond to their demands, pay further attention to the problems, and also use any legitimate means to tackle the issue. In this way, while the environmental justice movement proceeds from the ground up with much energy, there remains hope that these efforts will result in the powers at the top working toward fixing problems on the ground. The value of examining this chain or the patterns of the movement is found in how it strives to verify the existence of racism as an important component of environmental injustice.

Administrative System

We might begin with the case of air pollution in downtown Oakland because it vividly presents the pattern of the administrative system. It also closely connects to our daily life and frequently plays an important role in the environmental justice movements. As an important trade center and economic engine, Oakland is a city which is located on the east side of San Francisco Bay, California. However, such a prosperous region also faced disproportionate air pollution. A 2022 study found that in West and Downtown Oakland, where people of color composed 70 percent of the population, has a considerably higher rate of childhood asthma due to air pollution than its neighborhood with the majority of the population white (Southland et al., 2021). Specifically, Richmond communities, where more than 80 percent of residents are people of color, suffered twice the rate of childhood asthma as their neighbor countywide (Guardian News and Media, 2019). This disproportionate distribution of exposure and illness-causing rate violates the “fair treatment” part of the EPA definition of environmental justice.

Chevron, an energy industry company, was tightly rooted in the soil of California for over a century and contributed at least 10% of the city’s budget through property taxes and fees. In more recent years, the leakage accidents and air pollution became increasingly serious, requiring immediate remediations. Under this circumstance, activists

formed the Richmond Progressive Alliance (RPA) in 2003. The RPA ran a list for city government in 2004, who vowed to take on Chevron as soon as they won the office. Gayle McLaughlin, the RPA co-founder, won a seat on the city council and served two terms as a mayor. After the 2012 fire in Chevron factories, Richmond sued the company for the first time in history, under the leadership of McLaughlin (CSB, n.d.). Despite the fact that Chevron spent an enormous amount of money to oppose the EPA and salvaged its reputations, the RPA won a supermajority in the city council and limited the expansion of the company’s refinery.

However, the story didn’t end there. In 2013, the Levin-Richmond Terminal Corporation, another energy industry company, began to export coals through Richmond. Because of the inflammability of coals, trains transported them without cover. As a result, the dust spread along the train lines, causing serious air pollution to the communities. In 2015, the Richmond city council passed a resolution requesting managers to regulate the transportation of coal and pet coke (“Council meeting – 5/19/2015,” n.d.). In 2019, the council voted on a proposal, gradually stopping the storage and handling of coal and prohibiting the expansion of new facilities (Domingo, 2022).

In conclusion, we can see in this case that grassroots organizations are able to directly interact with the government through democratic elections and petitions. In this way, the government may be influenced by and in some cases eventually become composed of grassroots activists, who authentically reflect the demands of residents conducting appropriate actions.

Judicial System

While the Environmental Justice Movement most often uses administrative methods to achieve certain ends, it also relies heavily on the judicial system. This method may be seen most clearly in the lawsuit that was brought against the local government of Flint, Michigan. As a leading manufacturer of carriages and automobiles, Flint has long been a traditional industrial center. While high-tech industries emerged and flourished, mainly alongside the west coast, Flint gradually lost its important role and eventually experienced

a dramatic downturn (Encyclopædia Britannica, n.d.). The current population has plummeted to 100,000 people, a majority of which are African-American (“Flint. Flint – Place Explorer – Data Commons,” n.d.).

Nearly half of the residents in Flint now also live in a situation of poverty. This means that the population that remains in the city today is experiencing the long-term effects of the industrialization of the city in the second half of the 20th century. However, the pollution originated from the industrial age brought it with high potential risk, both to the environment and public health. In order to save money, the local government decided to give up treating water and directly pumping water from the Flint River from 2014. Inadequate water treatment and testing system, thus, led to abysmal water conditions: foul smelling, discoloration, and metamorphism. Although the residents had complained about the water quality and protested about the condition, most of their requests were completely ignored by the officials.

At this time, academics intervened: a study conducted by researchers at Virginia Tech revealed that the lead levels of water registered above the federal action level and that corrective action should be taken. What is worse, Flint pediatrician Mona Hanna-Attisha showcased that the children’s blood-lead level nearly doubled since 2014, indicating that the long-term negative impact on children’s further developments. Immediately after the release of the testing results, local residents joined the Natural Resources Defense Council (NRDC) and other groups and petitioned the EPA to launch an emergency federal response to the problem. But the EPA failed to take any actions.

As a result, in 2016, an army of citizens and local groups sued the city and state officials and the lawsuit worked. A federal judge ordered the implementation of bottled-water delivery to every home. A settlement was also reached that resulted in the replacement of the lead pipes with state’s funding and guaranteed further funding for continued health programs. Michigan Attorney General Bill Schuette investigated relevant personnels and charged 15 people as “criminally responsible for causing or contributing to the crisis,” including Nick Lyon, the director of Michigan’s

Department of Health and Human Services (MDHHS) (Denchak, 2018). As a result, the irresponsible governors paid for their mismanagement and inappropriate behaviors.

Erin Brockovich vs. Pacific Gas and Electric Company, another example, perfectly illustrates the scenario of grassroots suing companies. Erin Brockovich is a divorced, unemployed single mother who lived in Hinkley, a small southern California community in the Mojave Desert. The residents there are predominantly working class, along with a high proportion of minority residents. Since the foundation of a natural gas station in Mojave Desert in 1996, the company Pacific Gas and Electric has used hexavalent chromium, a toxic chemical, to prevent rust. Without proper management, the toxic substances contaminated the water supply of the residents of Hinkley. Annoyed by the serious diseases, Erin Brockovich became a leading force of building a case against the company. Finally in 1996, the case was settled for 333 million dollars, which is the largest payment in a direct-action law (Genecov, 2022; ABC News Network, n.d.)

These two examples illustrate that court-centered approaches often are composed of two main strategies: the residents of the city sue both the government as well as the private companies responsible for waste management. If the government cannot effectively respond to their requests or the companies fail to negotiate peacefully with them, the residents will defend their survival and health right through legitimate lawsuits.

Legislation System

Whereas the judicial method may result in a one-time payout or compensation for damage, more permanent measures often arrive through a legislative approach. Only through this method, environmental justice can be established under the protection of laws and regulations, which is also the ultimate goal of the movement. As we saw in the introduction, the creation of agencies like the EPA leads to the defining of justice movements in governmental language. This then serves to promote a top-down concern.

Through negotiation and collaboration, the grassroots organizations are able to influence the legislative process and help improve the regulatory system. WE ACT, which I have mentioned in the characteristic section,

illustrates this method. Located in New York City, this grassroots organization frequently interacts with the government department. From the scope of the state, it prompted the signature of the legislation they developed with other organizations and officials about prohibiting the use of trichloroethylene (TCE), a widely used toxic chemical that can damage different organs. Additionally, it announced the passage of New York City legislation, prohibiting the use of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in food packaging. PFAS, a human-made chemical, cannot be naturally degraded and as a result, keeps accumulating in people's bodies. Excessive exposure to this substance will generate a series of health concerns, including organ disruptions, reproductive and developmental disorders, and low infant birth rate. Furthermore, a 2019 study published in the *Journal of exposure science & environmental epidemiology* showed that among African-Americans, frequent consumption of prepared foods was associated with higher levels of four PFASs (Boronow et al., 2019). This research reinforced the idea that PFAS exposure is influenced by products and varied by races, inspiring and motivating the grassroots organization to take immediate actions. Being supported by New York State Governor Andrew Cuomo and other governmental officials, the legislation was signed and passed. This bill, as a result, promoted environmental justice, provided the anti-toxic actions with a legal ground, and stimulated companies to manufacture environmentally friendly products (Ink, 2021).

Beside grassroots promoting the passage of environmental justice laws, there is another rarer scenario: the local public health crisis is so serious that the government has to take immediate actions. Donora air smog in 1948 and the passage of the Clean Air Act, is a classical example. Donora, an industrial borough with a majority of African American population, is located in Washington County, Pennsylvania, along the Monongahela River. Two major industrial plants, including the American Steel and Wire plant and the Donora Zinc Work, continuously polluted the local resources. At first, the smog which occurred in 1948 was not a surprising phenomenon for the residents. However, in a few days after the

smog was overed, 20 had died in Donora and Webster, with an additional 1440 cases of serious diseases. Immediately afterward, the United States Public Health Service (USPHS) investigated the smog, discovering that the first major contributing factor was the pollution emitted by the plants. Subsequently, the *American Journal of Public Health* published an editorial in 1950, pointing out the higher death rate of non-Whites than Whites in Donora as well as the influence of poor housing quality (Jacobs et al, 2018). In addition, stimulated by another public health crisis, the notorious killer fog crisis in London in 1952, the Congress passed the Air Pollution Control Act, recognizing pollution as a problem. A few years after Lyndon B. Johnson signed the 1963 Clean Air Act, the first federal law to set standards for air quality and control, Donora steel mills closed because of various worker strikes and the passage of the Act. In December 1970, furthermore, Richard Nixon signed a stricter Clean Air Act, preventing another similar incident to happen again. Indeed, the emissions of toxic lead in the US have dropped 98 percent, which was a significant success (Peterman, n.d.). Supported by the strict laws and regulations, environmental injustice is reduced and the grassroots are able to defend their environmental interests through lawsuits and other legitimate means.

In general, through these case studies, we can observe a clear chain of progress: the grassroots encounter or discover the problem, the academics confirm the problem, the non-profit organizations bring the problem into the public eye, and the authority recognizes and solves the problem. Racism and class difference, which are the fundamental motivation and the constant topic for environmental justice movements, determines their enormous social influence. Different stakeholders communicated with each other, forming a dynamic equilibrium and improving the current inequalities.

Scope and Limitations

Part of understanding the current state of environmental justice involves paying close attention to both the different limitations and setbacks that the movement has faced and the evolving scope of it when using the methods described in the previous

section. As the following section describes, the main setbacks that the movement has experienced revolve around the challenge of connecting pollution to racism in both judicial and administrative efforts. This means that the movement continues to evolve as efforts build to draw more attention to the harm that pollution does to specific demographics. Moreover, as academics and more grassroots movements conduct new research highlighting additional disparities, the scope of the movement broadens and brings into its efforts national efforts and policies. Since the movement has not operated as a top-down organization or plan, evaluating its successes becomes a challenge. Deciding whether or not the movement has improved environmental qualities must be measured with considerable nuance and in a way that addresses the constant developments inherent in new discoveries and new research (Pulido, 2017).

While environmental justice movements gradually developed through a regular pattern, which means that they are systematic, their limitations are non-negligible. When we return to the water crisis of Flint, Michigan, we can see how the movement always involves gradual progress alongside specific setbacks. Although the citizens were successful in suing governmental officials and obtaining compensation, they did not achieve all of their goals. Initially, the case *Waid v. Snyder* was one of many similar lawsuits after the abysmal Flint water pollution was exposed to the public. On June 27, 2017, this case consolidated the other ten pending class action cases related to the water crisis. The residents, or plaintiffs, amended their complaints and added a few clauses including equal protection claims involving racial and wealth discrimination and a 42 U.S.C. § 1985(3) racial animus claim. However, the Judge Judith E. Levy found that the equal protection claim is invalid because the plaintiffs “did not allege that the defendants controlled both water supplies”. Furthermore, she pointed out that the racial animus claim also could not be approved since “the plaintiffs consisted of all water users in Flint rather than those of a particular race”. Finally, there are few remaining valid claims, including bodily integrity against various city and state officials, Monell liability against the City

of Flint, and professional negligence against two private defendants: nothing about racial discrimination (Civil Rights Litigation Clearinghouse, n.d.).

In this case study, we can observe that the residents of Flint have attempted to link the polluted water supply to racism, but the court failed to recognize that a racist component could be attached to the claim. As environmental pollution affected a specific region instead of only a single race, it is possible that the respondent companies or institutions used this condition to evade their responsibilities and refuse to admit the racial and class aspects of the litigation. But we should always remember the fact that many predominantly minority communities are located in industrial areas with worse environmental conditions, as the United Church of Christ study revealed. Moreover, the EPA’s definition also directed that “all people regardless of race, national origin, or income” should be fairly treated and involved in environmental activities (Environmental Protection Agency, n.d.). As a consequence, it is irresponsible to exclude regional pollution events out of the category of racism.

The setbacks over the challenge of wedding racism to environmental pollution are also felt in the administrative realm. Richmond, another community made up mostly of people of color, has also faced a similar problem as Flint. The city council conducted a meeting discussing the topic of preventing coal pollution. During this meeting, the council adopted the resolution of “supporting increased local, state, and federal regulation of the storage and handling of coal and petroleum coke”. Admittedly, this is a success that boosts the health security of residents, but it did not proclaim the existence of environmental racism although the leader of the grassroots organization knew there was. Thus, they improved the situation but did not stress the presence of environmental injustice (“Council meeting – 5/19/2015,” n.d.).

Beyond the setbacks that the judicial and administrative approaches have faced, the complexity of the EPA’s bureaucracy creates further limitations to the movement. Although the president issued Executive Order 12898, there is a long and complex rule-making process, involving considerable

developments of alternatives, collection of scientific information as well as public comment, and review by multiple offices in the agency and administration (Noonan, 2015). Researchers also suggested that the large strands of the movement gradually developed a less than oppositional nature: activists cooperated with the state and even became part of it, influenced by the bureaucracy and failed to make meaningful changes. This made the movement weaker and impeded the resolution of more significant problems (Carter, 2016).

While addressing these issues, environmental justice movements have to change accordingly under the backdrop of global warming. Specifically, the unevenly distributed heat burden is becoming increasingly prominent. Using tract-level temperature data, national studies have found that the minority and low-income neighborhoods are more likely to experience extreme heat and soaring temperatures. Moreover, studies discovered that governmental policies and programs also catalyze the maldistribution. For instance, a 2014 research conducted by John and Geoffrey pointed out that Portland Program, a voluntary tree planting program, had environmental implications because the program tended to be more successful in areas of higher socioeconomic status (Donovan & Mills, 2014). Another study in New York City also observed that additional trees tended to be planted in areas with fewer non-white residents (Garrison, 2021).

Fortunately, the fissure between the environmental justice movements and the climate changes is shrinking, although it remains significant. Since climate problems are considered to be national or global problems, local grassroots organizations seem unlikely to directly solve them. However, environmental activists have started to look beyond the scope and consider the national potential of their work. As a trend, the interconnection and collaboration among grassroots organizations may be even more pronounced (Chowkwanyun, 2023). Moreover, significant actions as well have facilitated the integration between climate issues and the movement. The Inflation Reduction Act, passed in 2022, provided \$2.8 billion in block grants to community organizations participating in envi-

ronmental justice movements and \$27 billion Greenhouse Gas Reduction Fund, including \$15 million aimed at improving infrastructure in “low-income and disadvantaged communities” (Harvard Law School, n.d.). Consequently, we might observe an increasing amount of environmental justice movements addressing climate problems in the near future.

Conclusion

The global average temperature for July 2023 was the highest on record for any month, with around 1.5 °C temperatures warmer than the average for 1850–1900 (World Meteorological Organization, 2023). The surging temperature and serious climate conditions have led to intensive heat-related death. For instance, Phoenix and its suburbs set a record with 31 consecutive days of 110-degree-Fahrenheit weather in 2023 summer, breaking the record set in 1974 (The Associated Press, 2023). As of July 15, at least 18 people had died of heat-related causes in metro Phoenix, and another 69 suspected heat deaths remain under investigation (Boehm, n.d.). In fact, extreme heat events now exceed hurricanes, lightning, tornadoes, floods, and earthquakes as weather-related causes of human mortality (George & McGeehin, 2008). As a result, excessive heat events emerged along with other environmental problems such as water, soil, and air pollution and have resulted in uneven distribution of environmental injustice. More alarmingly, extreme heat events are no longer limited to specific regions but are impacting many areas around the world. Consequently, the scope of the environmental justice movement continues to expand as new disparities are revealed by nature’s reaction to human activities and connects more closely to our daily lives. When we think back about the image of tributaries flowing together into a larger movement, we can see that the heat element forms yet another one of these. To be specific, new participants such as climate change advocates and activists might participate in the movement and make contributions to its development. As more people become affected by these new forms of injustice, the movement becomes increasingly urgent and it is important to emphasize the different roles

that people play in speaking out about the environment.

When we return to the story of Terry Gonzalez-Cano, the latina mother described at the beginning of the essay, we can see how environmental justice does not live in a historical past tense. Instead, the rapid-changing climate conditions might trigger more concerns for her: she might not only have to worry about the lead pollution, but also excessive heat burdens, which would also

prevent her children from playing outside and having a carefree childhood. More importantly, we should always remember that Terry is only one representative of a massive number of people, including many minority and working-class individuals. As new environmental injustices such as extreme heat events continue to surface, we might ponder the trans-generational influence of those problems and repeatedly stress the necessity of uncovering more injustices.

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