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Shilpa J. Kulkarni

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**Environmental Social Justice Issues and Health Risks in Younger Kids from Vulnerable
Communities in the United States: Educating Youth of Immigrant Communities to
Address Social Justice Issues**

Shilpa J. Kulkarni

Merrimack College

2021

MERRIMACK COLLEGE

CAPSTONE PAPER SIGNATURE PAGE

CAPSTONE SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE

MASTER OF EDUCATION

IN

COMMUNITY ENGAGEMENT

CAPSTONE TITLE: Environmental Social Justice Issues and Health Risks in Younger Kids
from Vulnerable Communities in the United States: Educating Youth of Immigrant Communities
to Address Social Justice Issues

AUTHOR: Shilpa J. Kulkarni

THE CAPSTONE PAPER HAS BEEN ACCEPTED BY THE COMMUNITY ENGAGEMENT
PROGRAM IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION IN COMMUNITY ENGAGEMENT.

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May 7, 2021
DATE

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May 7, 2021
DATE

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Abstract

This project was conducted to examine the environmental social justice issues in the United States and how they are linked to health issues in younger children in low-income communities and people of color through the lenses of multiple theoretical frameworks. The workshop was focused on educating youth from other communities of people of color, providing them resources so that while bridging the cultural gaps they will become allies. The targeted audience was Asian-Indian youth of Maharashtrian communities across the country. The youth of mixed age group and first and second generations of immigrants from those communities participated in the workshop. The findings of the workshop stated that participants walked away with more knowledge about environmental social justice issues and strong desire to share the information with their friends and peers and other members in their communities. They also showed deep interest to know more about the social justice issues and resources so that they can make efforts to address the issues in their local communities.

Table of Contents

Acknowledgements	3
Abstract.....	4
Literature Review	9
Project Plan	20
Situation Statement	20
Define Your Goals	20
Target Audience and Stakeholders	21
Crafting a Clear Message.....	22
Incentives for Engagement	22
Identify Outreach Methods	23
Responsibilities Chart	23
Tools/Measure to Assess Progress.....	24
Implementation Timeline.....	24
Logical Framework.....	26
Methodology	26
Results	29
Discussion.....	33
Limitations of the Study.....	36
Implications for Future Studies.....	36

References..... 38

Appendix A: The Workshop Flyer..... 43

Appendix B: Post Workshop Evaluation..... 44

Environmental Social Justice Issues and Health Risks in Younger Kids from Vulnerable Communities in the United States: Educating Youth of Immigrant Communities to Address Social Justice Issues

Environmental justice is a part of social justice that has been a topic of great concern worldwide for some time and in the United States for a long time. In the United States it is directly connected to environmental racism. The term environmental racism was conceived by Benjamin Chavis, the executive director of the Commission for Racial Justice of the United Church of Christ. He defined the term as “Environmental racism is racial discrimination in environmental policy making, the enforcement of regulations and laws, the deliberate targeting of communities of color for toxic waste facilities, the official sanctioning of the life-threatening presence of poisons and pollutants in our communities, and the history of excluding people of color from leadership of the ecology movements” (Mohai, Pellow & Roberts, 2009, p.406).

Environmental racism plays a distressing role for vulnerable communities of people of color and low-income families that results in immeasurable health issues in these groups, especially among their children with long term effects. According to the article written by Jasmine Bell for the Center for American Progress, air pollution causes serious problems such as asthma, cardiovascular disease, lung cancer and water contamination lead to health issues in young children such as blood disorders, waterborne diseases, and cancer (Bell, 2016).

The fight against environmental racism started in early 1960s when Latino farm workers from farm fields of California's San Joaquin valley voiced out against harmful pesticides used in the farm fields. Then in 1967, African American students of Houston protested against the city garbage dump that caused the death of two children (Skelton & Miller, 2016). In February of 1968, more than 1000 African American sanitation workers in Memphis, Tennessee went on

strike to protest unfair wages (Navarro, 2010). The protest started by poor, rural black people in the small community of Afton in Warren County, North Carolina against the landfill in their community sparked the political movement across the United States (Skelton & Miller, 2016). Although the protest was unsuccessful, it brought the issue of disproportionate impact of environmental hazards on people of color in the spotlight. It provoked the US General Accounting Office to conduct a study to investigate the racial framework of the communities near the four hazardous waste landfills in the South in the following year of 1983. The result of the study stated that race was the central factor in deciding the locations of commercial hazardous waste facilities (Mohai, Pellow, & Roberts, 2009).

Communities of people of color and low-income families that bear the disproportionate environmental burdens including pollution, industrial production, and processing facilities, landfills are defined as environmental justice communities (Foresight Design Initiative, 2017). While talking about such communities in Massachusetts, Kaitlyn Budion (2019, para. 7) quoted Rep. Adrian Madaro of East Boston saying that, “Out of 351 cities and towns in Massachusetts, 137 of them have EJ communities and population.” She further quoted him saying in his speech that those who are living near Logan airport, with highways, tanks of jet fuel, and heating oils are having higher rates of childhood asthma.

Current empirical research shows that due to intuitional racism and decision makers or policy makers who could protect their interests are not easily reachable for these communities. Shea Diaz (2016, para.4) in Georgetown Environmental Law Review concludes causes as “discriminatory siting, unequal regulatory enforcement and unequal political power are the major culprits for environmental injustice”. The recent environmental policy changes by Trump administration are weakening protections for air and water, threatening the community health

and safety, and refusing to take actions on climate change (Patronella & Griffin, 2020).

According to a news release by Environment Massachusetts, these policies will continue to have a deep impact on the health of American people. They state that, “Blocking the Clean Power Plan alone will slow progress in cleaning our air – leading to 3,600 additional premature deaths, 90,000 more asthma attacks in children, and 300,000 more missed work and school days by 2030” (EnvironmentMassachusetts, 2017, para.6). In summary, low-income and minority groups often likely have less political power and hence are less likely to have their voices heard. Compared to white people, communities of people of color bear higher environmental risk which include rising health risks, safety issues and financial risks.

The purpose of this capstone project would be to spread awareness among the Maharashtrian youth of Asian-Indian community about this issue. The workshop will focus on water and air pollution, and how it is affecting children’s health across vulnerable communities so that the youth participating in the workshop will act as a bridge between two cultures and advocate for vulnerable communities, spreading awareness within their own communities instead of acting as bystanders. By conducting an interactive workshop and preparing a toolkit with resources to reduce environmental pollution, this project would help prepare more advocates to raise a voice against this social issue as environmental justice continues to be an important part of the struggle to improve and maintain a clean and healthful environment, especially for those who have traditionally lived, worked and played closest to the sources of pollution.

Literature Review

Environmental injustice can be defined as the uneven exposures of environmental hazards in low-income and minority communities (Diaz, 2016). Nationwide research conducted

by scientists from United States Environmental Protection Agency shows that while low-income communities had 35% higher burden, Non-whites 28% and African American communities specifically had 54% higher burden of emitting particulate pollution than the overall population (Mikati et al., 2018). Disproportionate environmental burden leads to many health issues such as cancer, asthma, and developmental disabilities in children with higher mortality rate than white communities (Diaz, 2016). There was statewide study in Pennsylvania and nearly 1200 elementary kids were tested who lived near industrial sites around Pittsburgh (Marusic, 2018). The study results showed that 22.5% students had asthma, and 60% of them had uncontrolled asthma. Nationwide 38% kids have uncontrolled asthma. Uncontrolled asthma is the foremost reason of missing the school, obesity, and permanent damage to kids' airways and lungs (Marusic, 2018). World Bank group published the report in 1992 titled "World Development report 1992: Development and Environment". The report gave the statistics of developing countries related to water and air pollution. It says, "Diarrheal diseases that result from contaminated water kill about 2 million children and cause about 900 million episodes of illness each year. Indoor air pollution from burning wood, charcoal, and dung endangers the health of 400 million to 700 million people. Dust and soot in city air cause between 300,000 and 700,000 premature deaths a year" (The World Bank, 1992, p.44).

Discrimination and the Environment

The environment deeply impacts an individual's overall physical, social, and psychological development. As a result of modernization, people were exposed to other surroundings that they thought were more supportive than they were living in, hence they started migrating from one place to another to use those resources to increase the quality of life. That is how immigrants started diversifying the local communities of towns and cities worldwide. Thus,

many countries became more culturally diverse than ever before, including the United States of America. Cultural diversity in United States brought different social groups together with their own beliefs, social norms, values and prejudices or preconceived notions about other individuals based on which social group they belong to. According to Sensoy and DiAngelo, prejudice is “learned prejudgment toward social others and refers to internal thoughts, feelings, attitudes, and assumptions based on the groups to which they belong” (2017, p.60). These prejudices about others give direction to our thoughts, categorize our values, and control our actions. Actions such as ignoring, excluding, avoiding, threats and violence based on prejudices are called as discrimination (Sensoy & DiAngelo, 2017). When one social group holds and enforces prejudice and discrimination against another social group with the support of institutional power, oppression in forms of racism, sexism, classism, ableism occurs in the society. “oppression occurs when one group’s prejudice is backed by historical, social and institutional power. Common shorthand within the discipline is: Prejudice and Discrimination + Power = Oppression” (Sensoy & DiAngelo, 2017, p.61).

Racism is a specific form of oppression and can be looked through multiple lenses; economic, political, social/cultural structures, actions, and beliefs. Racism “is a form of oppression in which one racial group dominates over others” (DiAngelo & Sensoy, 2017, p.123). When talking about environmental injustice, it is hard to ignore how race plays a factor. In efforts to ensure that everyone gets a healthy environment regardless of race, color, language, socio-economic status, nationality, environmental justice as a social movement was started in the United States during the late 1960’s. The movement was the response to environmental racism across the country. “Environmental racism is the disproportionate impact of the environmental hazards on people color (Greenaction, n.d.). In short, low-income families, typically families and

people of color, are forced to live near the hazardous waste and landfills and these communities continue to be sitting targets for environmental hazards across the country. Dr. Bullard, and his colleagues described the disproportionate burden of environmental waste on people of color and low-income families in their report of the national study of commercial waste hazardous facilities. They concluded the report as, “significant racial and socioeconomic disparities persist in the distribution of the nation’s commercial hazardous waste facilities” (Bullard et al., 2007, p.xi). Their report also concluded that “African Americans, Hispanics/Latinos and Asian Americans/Pacific Islanders alike are disproportionately burdened by hazardous wastes in the U.S” (p.xii). The US General Accounting Office’s study showed that three out of four of the off-site commercial hazard waste landfills in the southern region of Alabama, Florida, Georgia, North Carolina, South Carolina, and Tennessee were located predominantly in African American communities (Hines, 2015).

Because of unequal laws, regulations, and policies, people of color and minority communities are intentionally targeted while choosing locations for waste hazardous dumping stations or facilities. They are more likely to live near the landfills, polluting facilities, and hazardous waste sites. The report published by National Association for the Advancement of Colored People entitled, *Coal Blooded: Putting Profits Before People* (2012) says that, “Among those living within three miles of a coal power plant, 39 percent are people of color — a figure that is higher than the 36 percent proportion of people of color in the total U.S. population. Moreover, the coal plants that have been built within urban areas in the U.S. tend overwhelmingly to be in communities of color” (p.15).

Environmental Injustice Links to Children's Health Issues

The disproportionate burden of environmental pollution affects deeply on the health of low-income communities and people of color and reducing their life spans especially it affects young children's health. Jacqueline Patterson, the Environmental and Climate Justice Director for the NAACP talked about how people of color face this issue in her interview with Diane Toomey at *Yale Environment 360*. She said, "An African American child is three times more likely to go into the emergency room for an asthma attack than a white child and twice as likely to die from asthma attacks than a white child. African Americans are more likely to die from lung disease, but less likely to smoke" (Patterson, 2013). The water crisis in Flint, Michigan is a striking example of the connection between exposure to toxic wastes and health risks in vulnerable communities living near the hazardous sites deprived of clean water and air. The most affected group in the Flint crisis were children. In Flint, the water was infected with potentially detrimental lead particles, with almost 9000 children exposed to lead-contaminated water for 18 months (Denchak, 2018). Lead causes serious health issues in children including slowing down children's brain development and potentially leading to behavioral changes (Wood, 2019).

Air pollution is another factor of environmental pollution that can lead to long-term illness in vulnerable communities. According to National Institute of Environmental Health Sciences (2017), chemicals such as dioxin can be released into the environment from the burning of commercial wastes as well as the use of wood, coal, or oil, all of which have adverse effects on the health of people which include infertility, damage to the immune system, developmental disorders in children, and hormonal disorders. In 2015, all leading scientists, health professionals and children and environmental advocates across the country came together under Project Tender and pointed to linkage between airborne toxic environmental chemicals and related neurological

disorders (Payne-Sturges et al., 2019). They identified that “developmental disabilities, such as learning disabilities, developmental delays, autism, and attention-deficit/hyperactivity disorder (ADHD), affect one in six children in the United States, and the rate of these disorders is rising” (Payne-Sturges et al., 2019, p.550).

Nitrogen dioxide is another pollutant that emitted through vehicle burning the fuel which can trigger various health problems in human beings, especially those who have preexisting respiratory conditions such as asthma and people of color have 37% higher exposure to nitrogen dioxide than white people (Milman, 2017). An African American community in Mossville, Louisiana has been suffering from the adverse effects of carcinogens and fighting for a healthy environment for almost two decades (Hines, 2015). The food grown in this town is also contaminated because of polluted water, air, and soil mixed with toxic chemicals. While exploring environmental racism through the Freddie Gray’s case of lead poisoning and describing how toxins disproportionately affect people of color in her essay, Rita Turner says that “Environmental issues are not often described in terms of violence, at least not violence against humans. But the environmental injustice that slowly poisons people of color and poor individuals and deprives them of access to healthy food and healthy living environments in the United States and globally is, in my view, most certainly a form of violence” (Turner, 2016, p.191). Juliana Maantay examined the linkage between asthma and air pollution using GIS mapping in the Bronx, NY and she found that “people living near (within specified distance buffers) noxious land uses were up to 66 percent more likely to be hospitalized for asthma and were 30 percent more likely to be poor and 13 percent more likely to be a minority than those outside the buffers” (Maantay, 2007, p.32). One study was conducted by group of researchers to assess the relationship between local air quality, emotional wellbeing and neighborhood

infrastructure in Minneapolis, MN. They did a real-time assessment of emotional wellbeing through a mobile app. “From the observational data in 6 neighborhoods of varying SES and light-rail access, poorer neighborhoods tended to have higher PM_{2.5} concentrations than their mid-SES counterparts in Minneapolis, MN, raising environmental justice concerns” (Lal et al., 2020, p. 9). The findings showed a negative correlation between particle matter percentage in the air and emotional wellbeing, meaning the higher the percentage of PM_{2.5}, the lower the emotional wellbeing score was (Lal, et al., 2020). Another study examined the role of segregation in environmental health disparities. Morello-Frosch and Lopez (2006) examined the health and well-being of communities of color in the United States who are segregated in neighborhoods with high levels of poverty and material deprivation. The findings indicated a potential link between segregation and poor health outcomes primarily due to environmental health inequalities. Some of these outcomes included premature adult mortality, infant mortality, negative birth outcomes such as low-birth weight, preterm birth, perinatal mortality, and asthma (Morello-Frosch & Lopez, 2006).

Poverty and Environmental Injustice

There are other intersectional issues such as poverty that highly correlates to the environmental injustice and health risks in these vulnerable communities besides race. Although the intersectionality of poverty and environmental inequalities is more visible in developing countries, they go together in the United States as well. Low-income families cannot afford a good neighborhood to live in and are forced to choose living in polluted areas near landfills or hazardous toxic sites. Gary Evans and Elyse Kantrowitz (2002) documented the reverse relationship between income and other socioeconomic status with environmental risk factors “including hazardous wastes and other toxins, ambient and indoor air pollutants, water quality,

ambient noise, residential crowding, housing quality, educational facilities, work environments, and neighborhood condition” (Evan & Kantrowitz, 2002, p.303). They further stated that, “The poor are most likely to be exposed not only to the worst air quality, the most noise, the lowest-quality housing and schools, etc., but of particular consequence, also to lower-quality environments on a wide array of multiple dimensions” (Evans & Kantrowitz, 2002, p.304). In the conclusion of their research, they argued that “particularly salient feature of poverty for health consequences is exposure to multiple environmental risk factors” (Evans & Kantrowitz, 2002, p.303). The United Nations Development Programme published a human development report in 2006 entitled “Beyond Scarcity: Power, Poverty and the Global Water Crisis”. The team of the researchers who worked on this report found that the crisis of water and sanitation is, above all, a crisis of the poor throughout the world – including the US.

Theoretical Foundations for Environmental Justice

Critical Race Theory, also called as CRT sees that race is socially constructed rather than a natural characteristic of an individual. The critical race theory also states that white people constructed race to maintain their interests in labor markets and politics at the cost of people of color (Curry, 2018). The critical race theory movement made an appearance in 1970’s in Derrick Bell and Alan Freeman’s writings in the response of the slow pace of racial reformation after civil rights movement (Hiraldo, 2010). CRT help scholars in understanding how race, racism and power are integrated in the American society and play their role in the best interest of white people at the institutional level to maintain their historical advantages over people of color (Curry, 2018). To see the environmental social justice issue through the lens of CRT, the dominant groups – typically affluent, white communities – hold the power in making policies and laws. People of color and marginalized groups have less power in decision making and in

choosing their neighborhoods to be able to live safe and healthy life because of white racial superiority. While explaining the dynamics of white racial superiority, Sensoy and DiAngelo highlighted Johnson and Shapiro's quote that emphasized on the fact that white people live in most racially segregated groups. Sensoy and DiAngelo further stated that, "Whites are most likely to be in the economic position to choose this segregation. In fact, racial segregation is often what defines schools and neighborhoods as "good" for Whites; we come to understand that a "good school" or "good neighborhood" is often coded language for "White," while "urban" is code for "not-White" and therefore less desirable" (Sensoy & DiAngelo, 2017, p. 132). Also, to apply a color-blindness ideology that Bonilla-Silva explained in his book *Racism without Racists* (Bonilla-Silva, 2010), here in the context of environmental injustice, it could be seen as people who are changing policies or ignoring the adverse effects of these changes that are impacting deeply marginalized groups are from dominant groups who are color blind and do not see that racism exists.

John Rawls Theory of Justice poses that every individual has equal rights to basic liberties, and everybody should get the equal and fair opportunities and benefits including health care and education regardless of their ethnicity, sex, and socio-economic background. John Rawls, American political and ethical philosopher drew a theory of justice as fairness (Duignan, 2020). He argued against utilitarian philosophy which holds the thought that greatest goods for greatest numbers which neglects rights of minority. Rawl's theory of justice consist two principles, one is basic liberties such as freedom of thought, the right to join the political party, the right to represent the government and right to make rule of law and second principle focuses on equality which is called as difference principle that talks about the fair opportunities for everyone to hold positions in public and private offices.

He insisted that society should provide basic resources to everyone equally which would reduce inequalities from the society (Duignan, 2020). Looking at environmental injustice issue through the lens of theory of justice, people of color and low-income need to get the basic liberties and position to voice out for uneven distribution of environmental burden they are bearing for long time. They need to get the equal opportunity regardless their ethnicity and economic status to choose the place to live in.

Environmental Inequality Formation (EIF) was proposed by David N. Pellow, a professor of environmental studies at University of Santa Barbara, California proposed environmental inequality formation perspective when he found conceptual, theoretical, and methodical issues in the studies of environmental justice and environmental inequalities. Pellow's environmental inequality formation incorporates three major factors that are not considered in studies of environmental inequalities: the importance of process and history, the role of multiple stakeholder relationships and a life-cycle approach to the study of hazards (Pellow, 2000). According to him, the EIF model suggests that environmental racism and inequalities are complex processes than they were reviewed before by researchers. He says, "EIF indicates not only that environmental inequality is more complex but that it is much more insidious because it is the mechanism whereby interlocking systems of inequality serve to divide and conquer stakeholders who may be potential allies. EIF therefore reveals the much deeper workings of power in society" (Pellow, 2020, p.597). According to him, without understanding the process behind environmental inequalities, researchers will not be able to provide tools for policy makers and social movement organizations to find out solution for environmental injustice (Pellow, 2020).

Environmental Justice Education for Youth from Immigrant Communities

Environmental social justice issue still exists in today's world hence it is critical to address this issue at every level. Environmental issue is not just about recycling, reducing the waste or planting more trees but it is more complex and connected to social inequalities that is affecting physical and mental wellbeing of low-income communities and communities of color especially young children of these communities. Therefore, it becomes vital to spread awareness about the issue in the society and educate more people and make allies to fight against the environmental justice issue including children. It is important to emphasize on the environmental social justice education in all schools and educational institutions.

It is also important to spread awareness among other immigrant communities about the social justice issue especially in the youth from immigrant families. Youth immigrants act as a bridge between two cultures while living in the United States. To interact with their peers, they are more likely learn the importance of the diversity. Despite of cultural barriers they know how to balance between family and the outer world where they interact with peers, friends, and teachers. This balancing act will help them to look at this social justice issue with the unbiased approach. Instead of becoming bystanders, they will understand cultural barriers that vulnerable communities might be facing while bearing disproportionate environmental burden and hence they will advocate for these affected communities of people of color. Environmental social justice education will instill new values and norms about equality in youth who might be future lawmakers, policy makers and educators bringing a big change in the society.

In summary, there is an urgency to spread more awareness and educate more people including future generation about environmental injustice. This hands-on project will not only bring awareness about environmental injustice among all age groups but also it will educate

youth to take the stewardship of the clean earth and fight for better environment for everyone to live in.

Project Plan

This project intends to spread awareness among youth from Maharashtrian communities who are first and second generation of immigrants across the United States about water and air pollution and how it is affecting the children's health from vulnerable communities through the interactive workshop.

Situation Statement

Communities of color and low-income communities bear the disproportionate environmental burdens including pollution, industrial production and processing facilities, landfills that increase the health risks especially in young children in these vulnerable communities with long term effects. Air pollution causes serious problems such as asthma, cardiovascular disease, and lung cancer. Water contamination leads to health issues in young children such as blood disorders, waterborne diseases, and cancer (Bell, 2016). The study of Centers for Disease Control and Prevention indicated that the percentage of lead poisoning among African American children of aged 1- 5 yrs. is higher (11.2%) compared with 2.3% of white children (Wengrovitz & Brown, 2009).

Define Your Goals

There are many contributing factors to disproportionate environment and health risks in young children such as race, poverty, age, and institutional racism.

- **GOAL 1:** Participants will become informed and aware of environmental injustice. They will understand causes of environmental social justice issue.

- **GOAL 2:** Participants will learn about environmental inequalities and they will reflect on what they learned about the environmental injustice through interactive activities in the workshop.
- **GOAL 3:** Participants will identify ways in resource toolkit so that they can impact their community while getting involved in environmental justice advocacy. They will also find more resources to educate other people about the social justice issue.

Target Audience and Stakeholders

The target audience will be youth from age group of 15 years old and above who may not be aware of facts about environmental pollution and factors that are contributing to health risks in young children from the communities of people of color and low-income families. They will be educated about environmental injustice and how they can help in creating better environment for everyone to live healthy life regardless the race, age, and socio-economic status of the person.

Stakeholder#1: The Stakeholder in this project will be an Asian Indian community organization called Bruhan Maharashtra Mandal of North America. Bruhan Maharashtra Mandal (BMM) is a cultural organization run by volunteers which has been serving Maharashtrian (Indian regional) community across the North America past 40 years. There are 70,000 Marathi speaking people who are members of more than 50 local chapters all over North America. The organization is a parent organization those local chapters. The organization aims to foster and preserve the Marathi culture through various cultural programs while collaborating with Indian and North America performing artists, bring Marathi community together through different initiatives such as bi-annual, 3-days convention, Yuva (youth) team, Uttarrang (club of senior citizens). It gives a platform to all members to speak out and It also addresses the need of Marathi community of North America through Matrimonial site and the 24 hrs. helpline. The

organization overall helps North American Marathi communities to build shared connections within themselves and develop relationships with the North American community at large.

Stakeholder #2: Another stakeholder will be Bruhan Maharashtra Mandal's youth team that runs by youth undertaking many initiatives for adolescents of Marathi community ages 15 and above. Guidance, organization, and networking are the goals of BMM youth team.

Youth team organizes informational webinars and workshops to gain the knowledge and resources in Science, Technology, Engineering, Mathematics and Arts, college and career guidance, entrepreneurship, and social education.

Crafting a Clear Message

According to United States Environmental Protection Agency, 13% of African American children reported asthmatic compared to Hispanic children (9%) and white children (8%) and developmental disabilities are significant in children from low-income families and people of color. These and many other health issues in communities of people of color and low-income families are linked to disproportionate environmental burdens because of institutional racism, socioeconomic status, and color-blindness of white people.

Incentives for Engagement

Targeted audience: Maharashtrian youth from age group of 15 years old and above
Incentive: Participants will understand the concept of environmental justice. Being immigrants, they will explore the ways to bridge between two cultures and how they can spread awareness about environmental social justice issue in their own communities and the outside world. They will get tools and resources to share with their friends and peers in the school.

Stakeholders: Bruhan Maharashtra Mandal of North America

Incentive: Provide opportunities to next generation of Maharashtrian community of United States to learn about environmental social justice issues across the country, social justice topics, and use those learnings to educate their own communities and outside communities in the North America at large.

Identify Outreach Methods

To promote this project the poster will be created with date, location, and time details. It will be promoted on the website and social media, Facebook page, Instagram of Bruhan Maharashtra Mandal of North America. Also, the event will be advertised in the Bruhan Maharashtra Mandal's monthly newsletter.

Responsibilities Chart

NAME	ORGANIZATION OR AFFILIATION	RESPONSIBILITIES	CONTACT INFORMATION
Shilpa Kulkarni	Merrimack College	Research, plan and execution of the project Facilitate the workshop	kulkarnis@merrimack.edu
Milind Bavdekar	Bruhan Maharashtra Mandal	Executive committee member of Bruhan Maharashtra Mandal, Youth team lead	Milind.bavdekar@bmmonline.org
Siddhi Londhe	Bruhan Maharashtra Mandal	BMM youth team coordinator, publicity, flyer creator	slondhe4792@gmail.com

Nichita Kulkarni	UMass Medical School	Presenter and technical helper with the facilitation of the workshop	nichitakulkarni@gmail.com
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Tools/Measure to Assess Progress

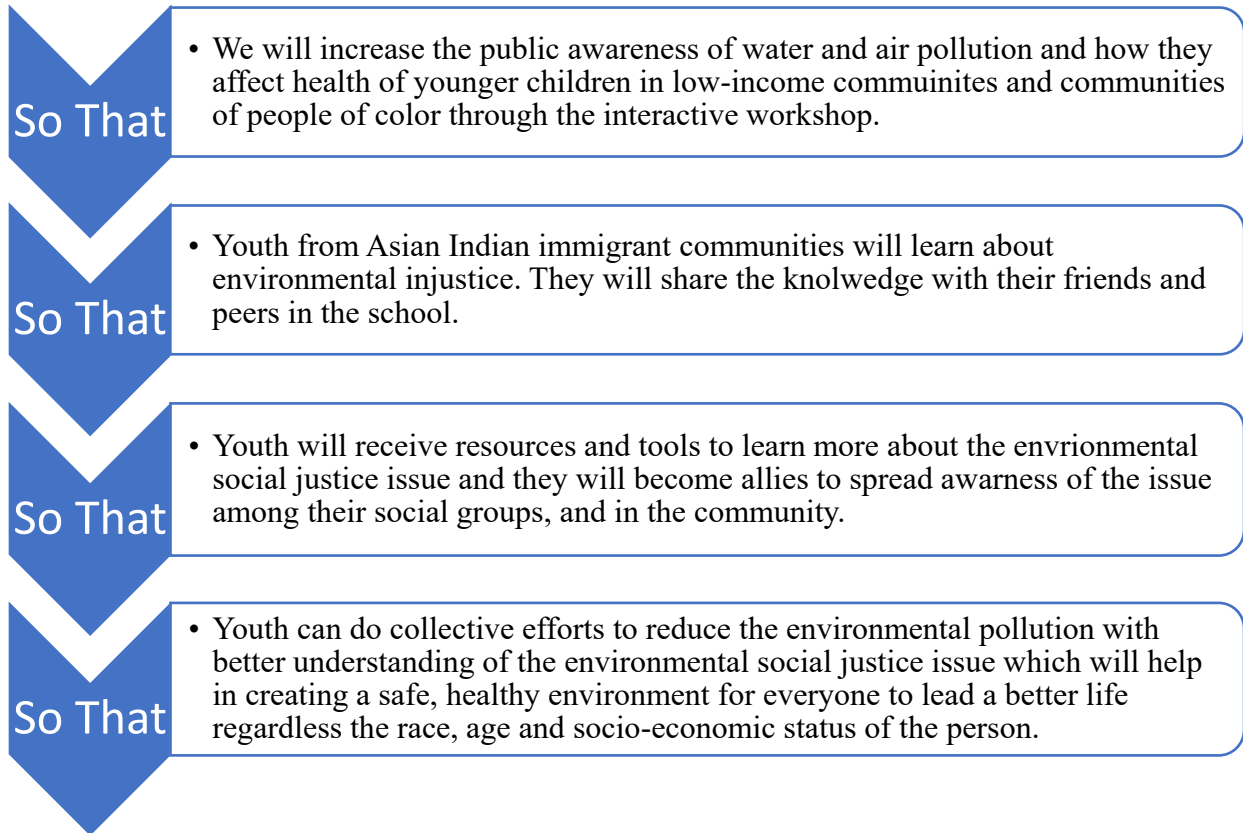
1. Communication: Email to Bruhan Maharashtra Mandal to check the possibility of the partnership to organize and host the workshop.
2. Digital posters: To promote the event on BMM website and social media and for other online publicity.
3. Resource Toolkit: To provide resources about environmental pollution, its causes and effects and actions to bring the change.
4. Post-workshop evaluation forms: To collect data from participants of the knowledge they gained from the workshop activities.

Implementation Timeline

August- September 2020	Research and data collection
October- December 31 2020	<ul style="list-style-type: none"> • Introduction • Literature review • Project plan • Identify the place to host interactive exhibit. • Identify the activities for the interactive exhibit. • Finalize the content for the exhibit. • Prepare Plan B of the workshop if COVID closes all in-person activities.

January 1- January 31, 2021	<ul style="list-style-type: none"> • Refine project plan. • Finalize the date, time for the in- Online workshop as per plan B. • Communicate the date and time with Bruhan Maharashtra Mandal to add on their calendar.
February 1 – February 15, 2021	<ul style="list-style-type: none"> • Communicate with Bruhan Maharashtra Mandal Youth team to finalize logistics of the event. • Continue refining the draft capstone paper
February 20 – March 15, 2021	<ul style="list-style-type: none"> • Communicate with BMM Youth team to create poster for the workshop. • Start publicizing the event on BMM social media and through email communication. • Facilitate the workshop on March 13th. • Collect the post-evaluation data
March 16 – March 31, 2021	<ul style="list-style-type: none"> • Data analysis • Implication and discussion sections • Continue refining the capstone paper
April 1 – April 30, 2021	<ul style="list-style-type: none"> • Full capstone draft due • Submit final capstone paper for publication

Logical Framework



Methodology

Environmental Social Justice Issues in the United States: The Linkage to the Health issues in Younger Kids from Vulnerable Communities, workshop was conducted virtually on March 13, 2021 on ZOOM through the Asian-Indian cultural organization called Bruhan Maharashtra Mandal of North America. The workshop was two hours long which was held from 12 pm to 2 pm Eastern standard time. It was consisted of presentations, break out activities and debriefing of activities.

Participants

The workshop was open for youth ages from 15 and above from Maharashtrian communities across the United States. A total (30) participants attended the workshop from five different cities, Chicago, IL; Atlanta, GA; Boston, MA; Los Angeles, CA; Charlotte, NC. The

purpose of the workshop was to spread awareness of environmental social justice issues among these youth from immigrant communities who have different cultural values and norms than the affected vulnerable communities of people of color and low-income families. To learn the environmental social justice issue, acquire the knowledge of the health issues in younger children of vulnerable communities and gain the resources and tools so that they can bridge two cultures, become advocates, and educate their own communities including their families, friends, neighbors, peers, and people from outside the communities instead of being just bystanders.

Materials

For this workshop, the post-evaluation form created in google form used to collect the data from participants at the end of the workshop. There were six questions in the form. Participants were asked to rate scaled questions to collect the data of the understanding of participants about the environmental social justice issue in the United States and overall experience of the participation in the workshop. Next four questions were asked to gather the data of knowledge they gained from the participation in the workshop. Last question was asked to collect the data of participants' demographic information including their age range, education, generational status as an immigrant, gender identity. During the workshop, in the break-out activity, EPA screening and mapping tool was introduced to participants so that they can learn to locate environmental justice communities in their local area. Word cloud and jam board, online tools were used to compile participants' thoughts and ideas about environmental social justice, cultural barriers in learning and addressing this issue and ideas about how to bridge two worlds while taking actions to address the environmental social justice issues in the communities. Participants were observed throughout the workshop. Participants' comments, questions were noted down to analyze data of their knowledge and understanding of the topic.

Procedure

Participants were sent an email reminding them about the workshop details including the topic of the workshop, date, time and ZOOM link were sent to join the workshop two days before the workshop through email communication and social media group. After participants joined the ZOOM on the day of the workshop, first activity was an ice breaker to understand participants' pre-notions about environment and justice after the introduction and explaining the agenda of the workshop. They have been asked to write one word about environment and justice in the shared google document and those words were compiled in the word cloud after the activity.

Then in the second activity, the workshop facilitator presented slides about the history of environmental social justice, environmental justice movement in the United States, causes of this social justice issue, environmental justice policies, current work to address this issue at local and national level by the government and organizations. Participants were encouraged to ask questions and comment after the presentation.

The third interactive activity was conducted in break-out rooms which was designed to introduce the screening and mapping tool to participants created by environmental protection agency of the United States to locate environmental justice communities across the country. This 15-minute activity was intended to learn the objectives of the EPA and the instructions to use the screening and mapping tool to locate EJ communities in local area.

Then the guest speaker, the UMass medical student, presented her slides about the water and air pollution and health issues in young children especially in vulnerable communities. She also explained how participants can take actions to address those issues. Participants were encouraged to ask questions after the presentation.

The fourth activity was conducted using online Google jam board to understand cultural barriers participants might be facing being from immigrant families while living in two worlds at home and in outside communities. The activity was intended to help understand how they can bridge cultural gap while advocating environmental justice for vulnerable communities.

Lastly, there was a debriefing of activities, discussion and open question period about the topic and overall workshop. Participants were asked to fill out post-evaluation form after the workshop.

Results

The virtual workshop was held on Saturday, March 13 at 12 pm EST on ZOOM. All participants confirmed their attendance through email to the youth team coordinator and on the social media group when the event was publicized. There were three volunteers to help the facilitator with the technical logistics of the workshop such as admit participants, manage break-out rooms, and help with online tools such as word cloud and jam board. A Total of 30 youth participated in the workshop. Participants were requested to submit the post evaluation form online after the event.

Workshop Activities Reflections

Ice breaker activity: During the workshop, the first activity conducted was an ice breaker called 'Brainstorm' that helped participants define their own definition of environmental justice. To do this activity participants were asked to write the one word that came in their mind in the shared Google document when they heard words "environment" and "justice". Then as shown in figure 1, a collage was made through an online worldcloud generator to understand the frequency of words that have been used by participants during the activity. The activity was

intended to understand the preexisting knowledge of participants about environmental justice. All 30 participants (100%) participated in this activity.

Figure 1: Icebreaker Word Cloud



EPA environmental justice screening and mapping tool: During the online workshop, to do this activity participants were broken into five groups based on their cities, using the “Breakout Rooms” tool in ZOOM. The document of user guide from the EPA website was shared in the chat to download with all participants. With the help of volunteers, participants were informed and guided how to use the tool and locate the EJ communities in their local area. Each Volunteer noted down the data of EJ communities from each group. After bringing all participants to the main room, the data was shared with all participants and asked them to reflect on the activity and what they thought when they located EJ communities. Twenty-five of the participants found the activity interesting and informative. Five of the participants felt that they needed more time to explore about the tool.

Stepping on two stones - bridge two worlds: In this main room activity, participants were asked to write on Google jam board how they feel while living in two worlds as an immigrant. Specifically, they were asked to explore what cultural barriers they experience when

they interact with their peers and in the world outside. Twenty of the participants responded to the question and reflected on it. One of participant said, “differences in cultural context”. One participant said, “loss of identity” and other five participants agreed to that answer. Two participants said, “lack of acceptance”. Another participant mentioned lack of diversity. Two participants felt that ‘moral understanding’ is a cultural barrier while connecting with his peers. Another participant reflected that reconnecting with the native language (mother tongue) is the barrier sometime. Three participants agreed to this answer and explained that they feel confusing sometimes while communicating their thoughts to their friends and other people outside home. One participant reflected that social norms are cultural barriers. Three participants said that religious traditions and beliefs become barriers sometimes when they interact with their families and outer world as well.

Post-Evaluation Survey

After sending the email reminders and social media reminders to complete the post-evaluation survey, 10 out of 30 participants completed the post-evaluation form. In the post-evaluation survey, respondents ages ranged from under 18 (n=3), 18-24 (n=2) and 24 and above (n=5). Out of 10 respondents 3 were male and 7 were female. Three were high school students (30%), three were undergraduate students (30%) and four were graduate students (40%). Out of the total respondents, five respondents were born outside of the United States, and four respondents had first generational status with immigrant parents. Only one respondent was second generation of immigrants whose grandparents came as immigrants in the United States.

There were series of questions asked on the survey which respondents could rate those questions on a scale of strongly agree (1), agree (2), neutral (3), and disagree (4) and strongly disagree (5). The questions were asked to find if respondents understood the objectives of the

workshop, to determine if knowledge were gained during the workshop, and if they thought they could use information from the workshop to share with others in their own communities.

Respondents were asked to rate the workshop, “The objectives of the workshop were clear to me” and all 10 respondents answered strongly agree. Next question was asked, “The activities in the workshop aligned with the objectives” and eight respondents answered strongly agree and two respondents answered agree. Respondents were asked, “The presentations were clear and connected to the topic”, and nine respondents answered strongly agree and one respondent answered agree. The next question was “The toolkit and resources from this workshop are helpful to me” and eight respondents answered strongly agree and two respondents answered agree. They were asked, “I now have a better understanding of what environmental social justice is” and nine respondents answered the question with strongly agree and one respondent answered agree. They were also asked, “I now have a better understanding of how environmental social justice disproportionately affects children and vulnerable communities” and nine respondents answered the question strongly agree and one respondent answered agree. Next, they were asked, “I have more knowledge about what actions I can take to educate others” and five respondents answered strongly agree and five respondents answered agree. Last question of the series was “I better understand how I can be a bridge between two worlds / two communities to advocate” and six respondents answered strongly agree and four respondents answered agree.

Using open ended response, respondents were asked to write briefly about their biggest takeaway of the workshop. All 10 respondents responded to this question. Three participants identified their biggest take away was gaining knowledge about health issues related to environmental social justice (30%). One participant identified “environmental social justice is not just phenomena, but it is an actual problem” as the biggest take away (10%) and three

participants identified the tools and resources as being most helpful (30%) Two participants identified their biggest takeaway of the workshop that it is important to educate their friends on the environmental Do's and Don'ts and become a part of social change (20%) and one participant identified how communities are segregated (10%).

They were also asked to write about their favorite part of the workshop. Four respondents wrote “the workshop presentation and the presentation about health issues” as a favorite part of the workshop. Six respondents wrote about the EJ tool as a favorite part of the workshop.

Further in the post-evaluation form they were asked to answer the question, “What from today's workshop challenged you or challenged your cultural norms and values?” One respondent answered that question saying that “being neutral about social justice issues happening around me”. Another respondent answered the question that “there is no participation in the community”.

Respondents were also asked to provide suggestions on how the workshop could be improved. Five respondents mentioned that the workshop was good as is, and four respondents said, “more follow up sessions”.

Discussion

One of goals of the project was to help make Maharashtrian (Asian-Indian) youth aware of environmental social justice issues in the Unites States and how it is linked to health issues in younger kids of marginalized communities. Also, to provide them resources and tools about environmental social justice issues so that they can become advocate, educate, and share the information with their peers, friends, families, and other members of their own communities.

The overall findings of the project indicate that participants clearly understood the topic of the workshop. The comments and conversations throughout the workshop reflected that they were concerned and wanted to know more about environmental social justice issues. Although there were 10 participants who responded to post evaluation survey, and most of them have some college experience. During the workshop more participants, especially high school students, were engaged in the activities and debriefing at the end of the workshop. In the ice breaker activity people wrote one word about environment and justice. The activity reflected that participants knew words such as racism, disparities, equality, climate change but they were unaware of the fact that those terms are connected to environmental inequalities which is a deeply rooted issue in the United States.

After observing participants' reactions and receiving their comments during the second activity of exploring EPA's EJ screening and mapping tool, the interesting finding was that all participants were concerned about their local communities and interested learning more about them such as demographics, environmental indicators, low-income and people of color population and linguistically isolated population while learning that tool. All participants wanted to explore EJ communities in and around their hometowns and across the state they belonged to.

Participants were very engaged in the interactive presentation on health issues in younger kids from vulnerable communities because of environmental disparities. The presenter was a third-year medical student and a founding member of the University of Massachusetts Medical Coalition for Climate Action who explained water and air pollution and how that affect the children's health. The presenter also explained how participants can be engaged themselves in awareness activities of environmental justice while juggling with academics and other

responsibilities. One of middle school students reflected on the presentation that she would like to know more resources to start the similar Climate Action club with her peers in the school.

One of high school students reflected on the workshop during the debriefing that the workshop inspired her to present the Environmental social justice topic in UN model contest. Another graduate student showed the concern saying that “this is really a serious issue that I never realized before. It affected the other people of color, but it will soon reach to my community because of the systemic racism”. All participants requested follow up sessions after the workshop so that they can get more resources and share information they gained and actions they took in the meantime between the workshop and the follow up session. At the end of the session, participants were provided the options and ways they can explore to help vulnerable communities in their local areas. The information included four options, research, advocacy, direct services, and indirect services. Participants discussed those options thoroughly and asked many questions such as how they can reach to local town, how they can offer interpreter services to those communities to understand policies and other information about environmental social justice written in English and what other organizations are doing and how can join them. It clearly stated that they were engaged in the activities and discussions.

It was challenging to present the topic of the workshop to the targeted audience in the limited time because of its complexity as it intersects with many factors such as institutional racism, poverty, and health issues. However, there was lot of curiosity and enthusiasm to know more about the social justice issue. The mixed age group was another challenge in explaining the topic but most of participants especially school going kids were familiar with terms such as privilege, white supremacy, discrimination and about Flint water crisis.

Participants' reflections, comments during the workshop, post-evaluation responses, their questions during discussions, show that participants gained the knowledge about environmental social justice issues in the United States. They were able to walk away with the enough information about topic to share it with their friends and families. They were able to get the direction to further explore the topic in-depth so that they can act as allies to address the issue. Overall, the project goals are achieved through this interactive workshop.

Limitations of the Study

Because of the COVID pandemic the event was held virtually on ZOOM. There were technical limitations to the project especially while interacting with youth as their cameras were off most of the time. If the event was in-person, there would have been more post-evaluation responses as it was difficult to pursue participants through email communication.

Implications for Future Studies

Future iterations of the environmental social justice workshop might target larger audiences including other Asian-Indian communities in collaboration with their cultural organizations across the country. In the future, the workshop needs to add content on the bystander approach of those communities and what factors that are preventing them to seeing social justice issues in and around them. There were a few immigrant parents of first generation at the workshop with their middle school kids, and they reacted on the topic. The questions were asked about climate change, composting and recycling, but people need to understand in-depth that how our small actions toward environment could link to disproportionate burdens on other people of color. Also, those are not just enough actions to fight against the deep-rooted systemic racism. Each privileged person should come forward and raise the voice against the issue regardless of the legal citizenship status.

In future workshops, the activities should focus on the socio-economic privileges that Asian-Indian communities have despite of being immigrants in comparison to other marginalized immigrant communities in the United States.

References

- Bell, J. (2016, April 25). 5 things to know about communities of color and environmental justice. *Center for American Progress*.
<https://www.americanprogress.org/issues/race/news/2016/04/25/136361/5-things-to-know-about-communities-of-color-and-environmental-justice/>
- Bonilla-Silva, E. (2010). *Racism without racists: Color-blind racism and the persistence of racial inequality in America. Fourth edition*. Lanham: Rowman & Littlefield Publishers, Inc.
- Budion, K. (2019, June 05). Advocates push bills linking environment and social justice in state house. *WBUR Boston*. <https://www.wbur.org/earthwhile/2019/06/05/environmental-justice-communities-bills-legislature>
- Bullard, R. D., Mohai, P., Saha, R. & Wright, B. (2007). *Toxic wastes and race at twenty 1987—2007. Grassroots struggles to dismantle environmental racism in the United States*. The United Church of Christ.
- Cahn, A.L. (2018, April 5). Massachusetts environmental act moves forward. *Conversation Law Foundation*. <https://www.clf.org/blog/massachusetts-environmental-justice-act-moves-forward/>
- Curry, T. (2016). Critical race theory. *Encyclopedia Britannica*.
<https://www.britannica.com/topic/critical-race-theory>
- Denchak, M. (2018, November 08). Flint water crisis: Everything you need to know. *Natural Resources Defense Council (NRDC)*. <https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know>

- Diaz S (2016, January 29). Getting to the root of environmental injustice. *Georgetown Environmental Law Review*. <https://gielr.wordpress.com/2016/01/29/getting-to-the-root-of-environmental-injustice/>
- Duignon, B. (2020). John Rawls. *Encyclopedia Britannica*.
<https://www.britannica.com/biography/John-Rawls>
- Environment Massachusetts. (2017, April 6). Boston's health at risk with 92 dirty air days in 2015. <https://environmentmassachusetts.org/news/mae/boston%E2%80%99s-health-risk-92-dirty-air-days-2015>
- Evans, G.W. & Kantrowitz, E. (2002). Socioeconomic status and health: The Potential role of environmental risk exposure. *Annual Reviews*, 23, 303-331.
<https://doi.org/10.1146/annurev.publhealth.23.112001.112349>
- Faber, D.R. & Kreig, E. J. (2002). Unequal exposure to ecological hazards: Environmental injustices in the commonwealth of Massachusetts. *Environmental Health Perspectives*, 110(suppl 2), 277-288. doi: 10.1289/ehp.02110s2277
- Foresight Design Initiative. (2017, July 19). What does an environmental justice community even mean?
<https://www.foresightdesign.org/blog/2017/7/19/xcd8aq95i73fy933hw4ppjappv346t#:~:text=Minority%2C%20low%2Dincome%2C%20tribal,disproportionate%20environmental%20harms%20and%20risks.>
- Hines, R. I. (2015). The price of pollution: The struggle for environmental justice in Mossville, Louisiana. *Western Journal of Black Studies*, 39(3), 198–208.
<http://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=2&sid=d731e121-7df0-4c09-81da-e5c884718f66%40sessionmgr4007>

- Lal, R. M., Das, K., Fan, Y., Barkjohn, K. K., Botchwey, N., Ramaswami, A., & Russell, A. G. (2020). Connecting air quality with emotional well-being and neighborhood infrastructure in a US city. *Environmental Health Insights*, 14, 1-11.
<https://doi.org/10.1177/1178630220915488>
- Maantay, J. (2007). Asthma and air pollution in the Bronx: Methodological and data considerations in using GIS for environmental justice and health research. *Health Place*, 13(1), 32-56. doi: 10.1016/j.healthplace.2005.09.009
- Maurisic, K. (2018, June 11). 6 Breathless: Pittsburgh's asthma epidemic and the fight to stop it. *Environmental Health News*. <https://www.ehn.org/pittsburghs-asthma-epidemic-and-the-fight-to-stop-it-2575098934.html>
- Mikati, I., Benson, A.F., Luben, T.J., Sacks, J.D., & Richmond-Bryant, J.(2018). Disparities in distribution of particulate matter emission sources by race and Poverty Status. *American Journal of Public Health*, 108(4), 480-485
- Milman, O. (2014, September 17). US people of color still more likely to be exposed to pollution than white people. *The Guardian*.
<https://www.theguardian.com/environment/2017/sep/14/us-people-of-color-still-more-likely-to-be-exposed-to-pollution-than-white-people>
- Mohai, P., Pellow, D. J., & Roberts, T. (2009). Environmental justice. *Annual Review of Environment and Resources*, 34, 406-409. 10.1146/annurev-environ-082508-094348
- Morello-Frosch, R., & Lopez, R. (2006). The riskscape and the color line: Examining the role of segregation in environmental health disparities. *Environmental Research*, 102(2), 181-196. <https://doi.org/10.1016/j.envres.2006.05.007>

National Conference for Community and Justice. (2020). *Environmental justice*.

<https://www.nccj.org/environmental-justice>

National Institute of Environmental Health Sciences. (2017). Dioxins.

<https://www.niehs.nih.gov/health/topics/agents/dioxins/>

Navarro, K (2010, September 12). Memphis, Tennessee, sanitation workers strike, 1968. *Global Nonviolent Action Database*. <https://nvdatabase.swarthmore.edu/content/memphis-tennessee-sanitation-workers-strike-1968>

Patronella, A. & Griffin, S. (2020, February 27). Communities of color bear the brunt of Trump's anti-environmental agenda. *Center for American Progress*.

<https://www.americanprogress.org/issues/green/news/2020/02/27/480820/communities-color-bear-brunt-trumps-anti-environmental-agenda/>

Payne-Sturges, D.C., Marty, M.A., Perera, F., Miller, M.D., Swanson, M., Ellickson, K., Cory-Slechta, D.A., Ritz, B., Balmes, J., Anderko, L., Talbott, E. O., LGould, R., & Hertz-Picciotto, I. (2019). Healthy air, healthy brains: Advancing air pollution policy to protect children's health. *American Journal of Public Health, 109*(4), 550–554.

doi: [10.2105/AJPH.2018.304902](https://doi.org/10.2105/AJPH.2018.304902)

Pellow, D. (2000). Environmental inequality formation: Toward a theory of environmental justice. *American Behavioral Scientist, 43*(4), 581-601.

DOI: [10.1177/00027640021955441](https://doi.org/10.1177/00027640021955441).

Sensoy, O. & DiAngelo, R. (2017). *Is everyone really equal? An introduction to key concepts in social justice education*. Teachers College Press.

Skelton, R., Miller, V. (2016, March 17). The environmental justice movement. *Natural Resources Defense Council*. <https://www.nrdc.org/stories/environmental-justice-movement>

Toomy, D. (2013, June 19). Coal pollution and the fight for environmental justice. *Yale Environment 360*.
https://e360.yale.edu/features/naacp_jacqueline_patterson_coal_pollution_and_fight_for_environmental_justice

Turner, R. (2016). The slow poisoning of black bodies: A lesson in environmental racism and hidden violence. *Meridians: Feminism, Race, Transnationalism*, 15(1), 189-204. <https://www.muse.jhu.edu/article/651254>.

United Nations Development Project. (2006). *Beyond Scarcity: Power, Poverty and the Global Water Crisis*. New York: Palgrave Macmillan.

United States Environmental Protection Agency (n.d.). *Children's environmental health facts*.
<https://www.epa.gov/children/childrens-environmental-health-facts#develop>

Wengrovitz, A.M., & Mary Jean Brown, M., J. (2009). Recommendations for blood lead screening of Medicaid-eligible children aged 1-5 Years: An updated approach to targeting a group at high risk. *Center for Disease Control and Prevention*.
<https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5809a1.htm>

Wood, M.R. (2019, June 27). How the Flint water crisis set students back. *The Conversation*.
<https://theconversation.com/how-the-flint-water-crisis-set-students-back-116125>

World Bank. (1992). *World Development Report*. New York: Oxford University Press.

Appendix A: The Workshop Flyer

**BRUHAN MAHARASHTRA MANDAL OF NORTH
AMERICA YUVA TEAM PRESENTS
ENVIRONMENTAL SOCIAL JUSTICE ISSUES IN
THE UNITED STATES**

**THIS WORKSHOP IS A PART OF GRADUATE
CAPSTONE PROJECT - MERRIMACK COLLEGE
SCHOOL OF EDUCATION & SOCIAL POLICY**

**DATE: SATURDAY, MARCH 13, 2021
TIME: 12 PM EST**

BY : SHILPA KULKARNI



LIVE SESSION ON ZOOM

Appendix B: Post Workshop Evaluation

Thank you so much for participating in the workshop, about Learning Environmental Social Justice Issues in the United States. This post event evaluation is part of the Graduate capstone project. Please fill out the form below. Your answers will help me understand your thoughts and views on this workshop. All responses will be kept confidential and will only be used for data collection purposes. Thank you!

1. Please rate each of the statements below regarding this workshop.

Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The objectives of the workshop were clear to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The activities in the workshop aligned with the objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presentations were clear and connected to the topic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The toolkit and resources from this workshop are helpful to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I now have a better understanding of what environmental social justice is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I now have a better understanding of how environmental social justice disproportionately affects children and vulnerable communities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have more knowledge about what actions I can take to educate others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I better understand how I can be a bridge between two worlds / two communities to advocate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. What is your biggest takeaway from this workshop?

3. What was your favorite part of the workshop?

4. What from today's workshop challenged you or challenged your cultural norms and values?

5. How this workshop can be improved?

About Yourself

This section asks your demographic information. Please answer as best you can.

Mark only one oval.

6. What is your age?

- Under 18
 18 to 24
 24 and above

7. What is your gender identity?

- Female
 Male
 Non-binary
 Other _____
 Prefer not to say

8. What is your education level?

- Middle school
 High school
 Undergraduate
 Graduate

9. What is your generational status? (Use most recent status in your household.)

- Born outside of US
 First generation, parents were immigrants
 Second generation, grandparents were immigrants
 Third generation or longer (great-grandparents or further were immigrants)

Thank you for taking the time to complete this survey. Your feedback is greatly appreciated.