

# **Stakeholder Engagement Report: Environmental Justice**

## **Climate Change Preparedness in New Jersey**

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This report was prepared for the New Jersey Climate Adaptation Alliance which is facilitated by Rutgers University. The views and insights in this report do not reflect the position of Rutgers University nor the members of the Alliance Advisory Committee.

## Background: EJ and Climate Change-Related Impacts

Researchers have documented disproportionate effects on Environmental Justice (EJ) communities from several climate change-related impacts. For example, there is evidence that Blacks and low-income New Orleans residents had more difficulty evacuating, suffered more damage and are having a harder time recovering from Katrina<sup>1</sup>. Although it is not possible to directly link any single weather event such as Katrina, other hurricanes, or extreme precipitation events to climate change, events such as extreme precipitation are expected to increase in frequency due to the changing climate.<sup>2</sup> One reason people of color may find it more difficult to recover from severe storms is housing discrimination that makes it even more difficult to find housing in a market that is already limited due to damage caused by a storm.<sup>3</sup> Heat waves may also impact Blacks<sup>4</sup> and low-income residents<sup>5</sup> and perhaps Latinos<sup>6</sup>, to a greater degree than they do other communities. Increased air pollution due to climate change<sup>7</sup> might be especially problematic for EJ communities as several investigations have found that exposure to air pollution is already disproportionately high in these

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<sup>1</sup> Bullard, R., & Wright, B. (2009). Introduction and chapter 1. In Bullard, R., & Wright, B. (Eds.), *Race, Place and Environmental Justice After Hurricane Katrina, Struggles to Reclaim Rebuild, and Revitalize New Orleans and the Gulf Coast*, (pp. 1-47). Westview Press; Pastor, M., Bullard, R. D., Boyce, J. K., Fothergill, A., Morello-Frosch, R., & Wright, B. (2006). *In the wake of the storm: Environment, disaster and race after Katrina*. Russell Sage Foundation.

<sup>2</sup> Walsh, J., Wuebbles, D., Hayhoe, K., Kossin, J., Kunkel, K., Stephens, G., Thorne, P., Vose, R., Wehner, M., Willis, J., Anderson, D., Doney, S., Feely, R., Hennon, P., Kharin, V., Knutson, T., Landerer, F., Lenton, T., Kennedy, J., & Somerville, R. (2014). Ch. 2: Our Changing Climate. In Melillo, J.M., Richmond, T.C., & Yohe, G.W. (Eds.), *Climate Change Impacts in the United States: The Third National Climate Assessment*, (pp. 19-67). U.S. Global Change Research Program, doi:10.7930/J0KW5CXT.

<sup>3</sup> Bullard, R., & Wright, B. *supra* note 1; National Fair Housing Alliance. (2006). *Still No Home for the Holidays: A Report on the State of Housing and Housing Discrimination in the Gulf Coast Region*. Washington, DC: National Fair Housing Alliance.

<sup>4</sup> Uejio, C. K., Wilhelmi, O. V., Golden, J. S., Mills, D. M., Gulino, S. P., & Samenow, J. P. (2011). Intra-urban societal vulnerability to extreme heat: the role of heat exposure and the built environment, socioeconomics, and neighborhood stability. *Health & Place*, 17(2), 498-507; Basu, R. (2009). High ambient temperature and mortality: a review of epidemiologic studies from 2001 to 2008. *Environmental Health* 8(1); O'Neill, M. S., Zanobetti, A. & Schwartz, J. (2003). Modifiers of the temperature and mortality association in seven US cities. *American Journal of Epidemiology* 157(12), 1074-1082; Curriero, F. C., Heiner, K. S., Samet, J. M., Zeger, S. L., Strug, L., & Patz, J. A. (2002). Temperature and mortality in 11 cities of the eastern United States. *American Journal of Epidemiology*, 155(1), 80-87; Klinenberg, E. (2003). *Heat wave: a social autopsy of disaster in Chicago*, (pp. 328). University of Chicago Press; Whitman, S., Good, G., Donoghue, E. R., Benbow, N., Shou, W., & Mou, S. (1997). Mortality in Chicago Attributed to the July 1995 Heat Wave. *American Journal of Public Health*, 87(9), 1515-1518; Greenberg, J. H., Bromberg, J. I. L. L., Reed, C. M., Gustafson, T. L. & Beauchamp, R.A. (1983). The epidemiology of heat-related deaths, Texas – 1950, 1970-79, and 1980. *American Journal of Public Health*, 73(7), 805-807.

<sup>5</sup> Balbus, J. M., & Malina, C. (2009). Identifying vulnerable subpopulations for climate change health effects in the United States, *Journal of Occupational and Environmental Medicine* 51(1), 33-57; Basu, R. *supra* note 4; Harlan, S. L., Brazel, A. J., Prashad, L., Stefanov, W.L., & Larsen, L. (2006). Neighborhood microclimates and vulnerability to heat stress, *Social Science & Medicine*, 63(11), 2847-2863; O'Neil et al. *supra* note 4; Curriero et al. *supra* note 4; Klinenberg, E. *supra* note 4.

<sup>6</sup> Uejio et al. *supra* note 4; Harlan et al. *supra* note 5.

<sup>7</sup> Tagaris, E., Liao, K. J., DeLucia, A. J., Deck, L., Amar, P., & Russell, A. G. (2010). Sensitivity of air pollution-induced premature mortality to precursor emissions under the influence of climate change, *International Journal of Environmental Research and Public Health*, 7(5), 2222-2237; Targaris, E., Liao, K. J., Delucia, A. J., Deck, L., Amar, P., & Russell, A. G. (2009). Potential impact of climate change on air pollution-related human health effects, *Environmental Science & Technology*, 43(13), 4979-4988.

communities.<sup>8</sup> Similarly, elevated food prices connected to climate change may be particularly burdensome for low-income residents who are struggling with limited resources.<sup>9</sup> The New York Environmental Justice Alliance has consistently presented evidence that storm surge may disproportionately impact low-income communities of color in our nation's largest city because industrial areas with multiple sources of pollution are disproportionately located in or near these communities.<sup>10</sup> Other EJ communities around the country are in the same unenviable position as those in New York City<sup>11</sup> and therefore are also in danger of being disproportionately affected by storm surge.

## Approach

On September 28, 2013 over 70 people participated in small group discussions, which were part of the Sandy Climate Justice Roundtable held at Rutgers University in New Brunswick, NJ. Roundtable participants included individuals from EJ residential communities, i.e. communities of color and low-income communities, and representatives of organizations that work with these communities. The discussion focused on the difficulties faced by EJ communities in New Jersey during and after Hurricane Sandy and how they should be addressed, identifying climate change-related impacts that will significantly affect EJ communities and how they should be addressed, and climate change mitigation. This report presents information on the organizing and format of the Roundtable and, more importantly, on the contents of the small group discussions. The information generated by the small group discussions has been organized and synthesized in an effort to make it easily digestible. On March 29, 2014 a follow-up meeting to the original Roundtable was held and one of its purposes was to review a draft report from the Roundtable and ensure that it accurately captured the Roundtable's discussions. Although this was a smaller meeting, some of

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<sup>8</sup> California Environmental Protection Agency. (2010). Cumulative Impacts: Building a Scientific Foundation, (pp 69). California Environmental Protection Agency, Office of Environmental Health Hazard Assessment; Ash, M., Boyce, J., Chang, G., Pastor, M., Scoggins, J. & Tran, J. (2009). Justice in the Air: Tracking Toxic Pollution from America's Industries and Companies to Our States, Cities, and Neighborhoods. *Political Economy Research Institute*; Pastor, M., Morello-Frosch, R. & Sadd, J. L. (2005). The air is always cleaner on the other side: Race, space, and ambient air toxics exposures in California. *Journal of Urban Affairs*, 27(2), 127-148; Pastor, M., Jr., Sadd, J.L. and R. Morello-Frosch. (2004). Waiting to Inhale: The Demographics of Toxic Air Release Facilities in 21st-Century California. *Social Science Quarterly*, 85(2), 420-440; Houston, D., Wu, J., Ong, P. & Winer, A. (2004). Structural disparities of urban traffic in Southern California: implications for vehicle related air pollution exposure in minority and high poverty neighborhoods. *Journal of Urban Affairs*, 26(5), 565-92; Jarrett, M., Burnett, R. T., Kanaroglou, P., Eyles, J., Finkelstein, N., Giovis, C., & Brook, J. R. (2001). A GIS – environmental justice analysis of particulate air pollution in Hamilton, Canada. *Environment and Planning A*, 33(6), 955-974; Wernette, D. R., & Nieves, L. A. (1992). Breaking Polluted Air. *EPA Journal*, 18, 16.

<sup>9</sup> See Luber, G., Knowlton, K., Balbus, J., Frumkin, H., Hayden, M., Hess, J., McGeehin, M., Sheats, N., Backer, L., Beard, C.B., Ebi, K.L., Maibach, E., Ostfeld, R.S., Wiedinmyer, C., Zielinski-Gutiérrez, E., & Ziska, L. (2014). Ch. 9: Human Health. In Melillo, J.M., Richmond, T.C. & Yohe, G.W. (Eds.), *Climate Change Impacts in the United States: The Third National Climate Assessment*, (pp. 220-256). U.S. Global Change Research Program, doi:10.7930/JOPN93H5.

<sup>10</sup> Information on this topic is available on the New York City Environmental Justice Alliance website (<http://nyc-eja.org/>).

<sup>11</sup> Morello-Frosch, R., Zuk, M., Jarrett, M., Shamasunder, B., & Kyle, A.D. (2011). Understanding the cumulative impacts of inequalities in environmental health: implications for policy. *Health Affairs*, 30(5), 879-887; California Environmental Protection Agency, *supra* note 8; 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. Cleveland OH: United Church of Christ Justice and Witness Ministry; Mohai, P., & Saha, R. (2007). Racial inequality in the distribution of hazardous waste: A national-level reassessment. *Social Problems*, 54(3), 343-370.

the participants of the Roundtable were present and provided feedback on the draft report that has been incorporated into this version of the report. There were other participants at the March 29 meeting who had not attended the Roundtable and their contributions to the discussion that day are being used for purposes not included in this report.

The organizers of the Roundtable consisted primarily of the New Jersey Environmental Justice Alliance (NJEJA) and seven of its constituent organizations that included the CARAT Team of the Coalition of Black Trade Unionists, Concerned Citizens Coalition of Long Branch, GreenFaith, Ironbound Community Corporation, League of Women Voters of New Jersey, New Jersey Environmental Federation and the New Jersey State Conference of the NAACP. Two other important academic partners were the Center for the Urban Environment of the John S. Watson Institute for Public Policy at Thomas Edison State College and the New Jersey Climate Adaptation Alliance, facilitated by Rutgers University (NJCAA). NJEJA was the lead planning organization but NJCAA was involved in planning at all levels and also contributed significant logistical support.

Invitees to the Roundtable consisted of New Jersey EJ community residents and members of groups who worked with EJ communities. The intent of the organizers was to create a “safe space” where Roundtable participants could discuss climate change and EJ from the perspective of those who were intricately involved with EJ communities and either had been affected by Sandy or were in some manner working on climate change issues. Those who actually attended represented a wide range of organizations including labor, environmental, civil rights, faith-based, housing, and EJ organizations. While the majority of Roundtable participants were of color there were also a significant number of white participants.

NJEJA believed this type of discussion was crucial because organization members felt that EJ communities and EJ issues had been insufficiently examined during the public discussion that surrounded both Sandy and climate change. NJEJA had been part of a Sandy EJ Regional Assembly that had been held in New York City in January 2013 and produced an excellent set of recommendations regarding EJ and Sandy.<sup>12</sup> However, NJEJA members thought a set of more New Jersey specific recommendations was also needed. NJCAA was in the midst of organizing a series of stakeholder discussions on Sandy and climate change and wanted the Sandy Climate Justice Roundtable to serve as part of its discussion on vulnerable communities.

The Roundtable began with a half dozen speakers who made presentations about the effects that climate change-related impacts might have on EJ communities and to some extent the impact that Sandy actually had on New Jersey EJ communities. However, the focus of the day was on the small group discussions. There were seven small discussion groups that consisted of seven to nine people each including a facilitator and a note-taker. Each facilitator had a facilitation guide that included questions to ask participants and suggestions on how to successfully facilitate the small group. The small group participants also had the questions.

There were six questions asked during the small group discussions that addressed the following issues: the difficulties faced by EJ communities during and after Sandy and how they should be addressed; what the most pressing detrimental climate change-related impacts are and what can be done to make communities resilient to these impacts; what the primary obstacles are to fighting climate change; and how people can work together to build a broad-based movement to fight climate change and the use of fossil fuel that causes it.

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<sup>12</sup> These recommendations are contained in the Sandy Regional Assembly Report available from the New York City Environmental Justice Alliance website (<http://nyc-eja.org/>).

As stated above, prior to the Roundtable there was widespread sentiment in NJEJA that there had been insufficient public discussion concerning how EJ communities fared during Sandy and how they were recovering. NJEJA members also thought there needed to be more discussion focused on how to make EJ residential communities resilient to future extreme weather events, and other climate change-related impacts, and also about climate change mitigation. The Roundtable was intended to generate discussion on all of these issues. The contents of that discussion are presented and discussed below. It is important to note that although NJEJA thought it was critical that that this type of discussion occurred, neither NJEJA, NJCAA nor the author necessarily agree with all the suggestions and findings made during the Roundtable discussion.<sup>13</sup>

## Findings and Recommendations

The small discussion groups of the Roundtable generated approximately 45 pages of raw notes that appear to have captured the main points of the discussions. These notes have been synthesized and condensed into recommendations, findings and ideas that are presented in a loose outline form. This loose outline is further synthesized into 13 key recommendations and findings.

Key recommendations and findings were formed from information and ideas that were contained in the notes of the multiple small discussion groups, information and ideas that appeared to be an important part of the discussion of a small discussion group, or both. The loose outline attempts to capture most of the ideas expressed in the small discussion groups. Part of the follow-up meeting was used to ensure that this report, as much as possible, accurately reflects the discussions that took place at the Roundtable. Notes from the follow-up meeting are not included in the loose outline since no new ideas generated at that meeting are included in this report.<sup>14</sup> However, this report does indicate where the discussion in the follow-up meeting resulted in an important clarification in the draft report.<sup>15</sup>

Key findings and recommendations appear in the next section of the report without discussion. The section following that presents the key findings and recommendations along with comments on each of them. The loose outline appears in the Appendix following the section that contains the author's insights.

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<sup>13</sup> One example of this is the suggestion that New Jersey re-join the Regional Greenhouse Gas Initiative since NJEJA and EJ organizations across the country have both been highly critical of emissions trading programs. See Sheats, N., Onyenaka, T., Gupta, S., Caffee, V., Carrington, T., Gaddy, K., & Montague, P. (2008). An Environmental Justice Climate Change Policy for New Jersey, New Jersey Environmental Justice Alliance and Center for the Urban Environment. (Available from the author).

<sup>14</sup> Although no completely new idea has been added, in one instance an addition has been made to a key recommendation. The recommendation in question is that green infrastructure should be used to address the heat island effect, air pollution and storm surge. It is not clear whether using green infrastructure to address the heat island effect was actually discussed at the Roundtable, but Roundtable participants at the follow-up meeting suggested it should be included in the recommendation. Since it was a small but potentially important modification of the recommendation generated by the Roundtable, it has been included in this report.

<sup>15</sup> See the section of the report that includes comments on key recommendations and findings.

## **Key Findings and Recommendations**

***Overarching context for the discussion about EJ, climate change adaptation and climate change mitigation:***

- 1) EJ communities are especially vulnerable to the detrimental impacts of climate change and protecting these communities should be a societal priority.
- 2) If society does not begin to significantly mitigate climate change, humanity will not be able to adequately protect itself through adaptation.

***Difficulties faced by EJ communities during and after Sandy:***

- 1) Major impacts from Sandy included loss of power; damage to homes and cars; fallen trees; disrupted transportation; disrupted means of communication; higher rents and limited housing availability leading to displacement; and problems reaching and delivering information to seniors, especially those living in high-rise buildings.
- 2) A major problem with the response to Sandy was a lack of communication and information generally that included inadequate information in Spanish and about possible toxic contamination. Obtaining government assistance after the storm also proved to be difficult due in significant part to documentation requirements that seemed excessive and inflexible.

***Climate change impacts that need to be addressed:***

- 1) Climate change impacts that significantly affect EJ communities and need to be addressed include extreme weather events; air quality; food security and justice; storm surge and associated toxins and health impacts; increases in temperature and associated heat stress and disease; increases in mold; and housing and other issues associated with extreme weather events.

***Addressing climate change impacts:***

- 1) Community level and community specific emergency plans and climate change adaptation and preparedness plans are needed for EJ communities. Community residents, community organizations and other non-profit organizations should receive resources to ensure their effective participation in the creation and implementation of these plans. Government should help by creating the structure and resources to ensure the development of these plans and the effective involvement of community residents, community groups and other non-profits in their development and implementation. These plans should address the climate change impacts detailed above and should be reviewed on a regular basis.
- 2) The emergency plans need to be practiced well before the occurrence of a storm to ensure the community is prepared when a storm does occur.
- 3) Air pollution needs to be addressed through tighter enforcement and public policies that include using climate change policy to address toxic air pollution.

4) Climate change and climate justice education<sup>16</sup> need to be instituted in schools and at a community level.

5) The use of energy efficiency and renewable energy should be increased and community controlled energy systems should be created.

6) Local resilient food systems should be created to address the insufficient availability of fresh healthy food in some communities. Local gardens should be part of these food systems.

7) Green infrastructure should be used to address the heat island effect, air pollution and storm surge.

***Principle obstacles to fighting (mitigating) climate change:***

- 1) A principle obstacle to fighting (mitigating) climate change is the political and economic influence of the corporate sector that perpetuates the use of fossil fuel.
- 2) Another principle obstacle to fighting (mitigating) climate change is individual behavior that contributes to this global threat.

***How EJ communities can gain more allies and build a broad-based movement to fight against climate change and fight for environmental justice.***

- 1) A broad range of organizations need to come together, find common ground and collaborate on climate change and EJ issues. There should also be an emphasis on involving youth in the fight against climate change.

## **Comments on Key Findings and Recommendations**

***Overarching context for the discussion about EJ, climate change adaptation and climate change mitigation:***

**Finding:** EJ communities are especially vulnerable to the detrimental impacts of climate change and protecting these communities should be a societal priority.

**Finding:** If society does not begin to significantly mitigate climate change, humanity will not be able to adequately protect itself through adaptation.

Participants from the Roundtable who attended the follow-up meeting thought that the key findings and recommendations in the draft report adequately reflected the details of Roundtable discussion but did not include the overarching themes of the discussion regarding adaptation and mitigation. They thought this was probably because these themes had formed the context for the day's discussion and therefore were not pondered in detail during the actual discussions. During discussion at the follow-up meeting this was said explicitly concerning the first finding above regarding the vulnerability of EJ communities and the author believes was implicitly indicated

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<sup>16</sup> In this context a climate justice curriculum would discuss the effects of climate change on EJ communities and climate change policies that would be fair to, and address the needs of, these communities.



concerning the second finding above regarding mitigation. The actual wording of the two overarching findings was constructed by the participants at the follow-up meeting.

*Difficulties faced by EJ communities during and after Sandy:*

Finding: Major impacts from Sandy included loss of power; damage to homes and cars; fallen trees; disrupted transportation; disrupted means of communication; higher rents and limited housing availability leading to displacement; and problems reaching and delivering information to seniors, especially those living in high-rise buildings.

Participants were asked what major difficulties their communities faced during and after the storm and many of the responses coincided with impacts that have been widely publicized. For example, the loss of electric power was a storm impact discussed in multiple small groups. Other impacts mentioned that were not surprising were fallen trees, damaged homes and cars, and disrupted communication. Disrupted communication referred primarily to inoperable “hard” telephone lines as well as inoperable cellular towers that prevented communication by cell phone. A good amount of attention has been focused in the state’s public discussion on storm-related displacement, an indirect effect of the Sandy. However, Roundtable participants also discussed post-storm elevated rents, another indirect Sandy impact that could exacerbate displacement. Several small groups also expressed concerns about how seniors fared during and immediately after the storm. They thought there had been problems in several cities reaching seniors who were trapped on the upper floors of high-rise buildings and they also mentioned that it could be difficult reaching an older population with information because they might be reluctant to go to their mailboxes or open their front doors.

Finding: A major problem with the response to Sandy was a lack of communication and information generally that included inadequate information in Spanish and about possible toxic contamination. Obtaining government assistance after the storm also proved to be difficult due in significant part to documentation requirements that seemed excessive and inflexible.

Although storm impacts detailed by Roundtable participants were generally not surprising the emphasis on a lack of communication as a problem in response to the storm was somewhat unexpected. Not only did participants talk about the means of communication being rendered inoperable (see above) but they also felt that the substance of communication from authorities was inadequate. They thought that residents had not received enough information to know what actions should be taken to fully protect them from the storm. There were specific concerns that non-English speaking populations were not being adequately served due to insufficient bi-lingual communication and, as expressed above, that communication to seniors was difficult.

There were also complaints that the public was not receiving enough assurances that actions were being taken to determine if toxic contamination was a problem either during or after the storm.

An example of what was characterized as excessive documentation required prior to receiving government assistance was requiring receipts for groceries that were lost during the storm.

***Climate change impacts that need to be addressed:***

**Finding:** Climate change impacts that significantly affect EJ communities and need to be addressed include extreme weather events; air quality; food security and justice; storm surge and associated toxins and health impacts; increases in temperature and associated heat stress and disease; increases in mold; and housing and other issues associated with extreme weather events.

A significant amount of time was devoted to discussing what happened during Sandy and how difficulties faced by communities during and after this extreme weather event should be addressed. The recommendations that perhaps were the most prominent (see below) was for the creation and implementation of community level emergency plans, and climate change adaptation and preparedness plans, and the active involvement of local residents and non-profit organizations at all levels of this process.

There was also concern expressed that food prices would increase due to climate change but that the quality of food would decrease. A lack of fresh healthy food, i.e. a food desert, was also mentioned as a concern.

Concern about toxins delivered to communities by storm surge, especially with respect to neighborhoods that are in or near industrial areas, was also evident in the small group discussions. Several groups worried that groundwater and drinking water may have been contaminated during the storm and there was apprehension about possible increases in post-storm toxic exposure, mold, skin conditions and asthma.

There was a basic concern about housing availability and displacement linked to a lack thereof since numerous homes were damaged by the storm. There was also a perception that post-storms rent may have increased and contributed to difficulties finding housing.

***Addressing climate change impacts:***

**Recommendation:** Community level and community specific emergency plans, and climate change adaptation and preparedness plans, are needed for EJ communities. Community residents, community organizations and other non-profit organizations should receive resources to ensure their effective participation in the creation and implementation of these plans. Government should help by creating the structure and resources to ensure the development of these plans and the effective involvement of community residents, community groups and other non-profits in their development and implementation. These plans should address the climate change impacts detailed above and should be reviewed on a regular basis.

**Recommendation:** The emergency plans need to be practiced well before the occurrence of a storm to ensure the community is prepared when a storm does occur.

Several small groups recommended that community level emergency plans and climate change adaptation and preparedness plans should be developed that address the specific needs of different communities. In this case “community level” means neighborhood level and not at the level of an entire municipality. There also appeared to be strong sentiment among several groups that local residents, and local community groups and other local non-profits should be intricately involved in the development and implementation of these plans. It was reasoned that these local

residents and organizations would be close to the community already and would know and understand the community better than other organizations brought into the community from a distance. They would, therefore, be in the best position to serve the local community. It was said explicitly by several groups that local residents and non-profits should work in conjunction with government. One group went further and stated that government should create a structure and funding that not only ensures the two types of aforementioned plans are actually developed but that local residents and non-profits are involved in both their development and implementation. This suggestion also reflected a repeated discussion theme that local residents, community groups and other non-profits should receive funding from government or foundations that allows them to fully and effectively participate in the creation and implementation of these storm and climate change related plans. Practicing the emergency and storm preparedness plans was suggested as a method of ensuring that residents know what to do when an extreme storm actually does occur.

**Recommendation:** Air pollution needs to be addressed through tighter enforcement and public policies that include using climate change policy to address toxic air pollution.

Roundtable participants thought that several actions should be taken to address air pollution. They recommended that policies that regulate industry be tightened and that an indoor air pollution ambient standard be established. They further recommended that climate change policy be used to reduce local toxic air pollution through a “co-pollutant” strategy. This type of policy would create strategies that reduce emissions of local toxic air pollution such as particulate matter in addition to emissions of greenhouse gases.

**Recommendation:** Climate change and climate justice education need to be instituted in schools and at a community level.

Education on climate change, climate justice and related issues played an important role in the discussion of several small groups. Participants advocated that a climate change curriculum and a climate justice program be instituted in schools but also thought students should receive education on “practical” subjects such as where a community’s water, energy and food come from. And although it was mentioned several times that climate change education would likely reach adult members of the community through their children, Roundtable participants also recommended that community residents of all ages be educated as well as members of local non-profit organizations.

**Recommendation:** The use of energy efficiency and renewable energy should be increased and community controlled energy systems should be created.

Roundtable participants recommended the use of renewable energy and energy efficiency be increased at the expense of fossil fuel utilization. Both solar and geothermal energy were mentioned as types of renewable energy that should be employed but solar energy was discussed more extensively. One more specific suggestion was that new housing developments should be energy efficient and equipped with solar energy.

**Recommendation:** Local resilient food systems should be created to address the insufficient availability of fresh healthy food in some communities. Local gardens should be part of these food systems.

Roundtable participants feared that climate change would elevate food prices making it more difficult for low-income residents to obtain fresh healthy food and thus exacerbating the problem of “food deserts.” There was also concern expressed that centralized monoculture farming reduced food production resiliency. It was suggested that one solution to this problem is to encourage regional food production and build local food systems that might improve food production resiliency and make local communities more resilient through increased self-sufficiency. The need for the creation of resilient local food systems was reiterated at the follow-up meeting.

**Recommendation:** Green infrastructure should be used to address the heat island effect, air pollution and storm surge.

This recommendation was elevated from inclusion only in the loose outline to inclusion as a key recommendation also at the suggestion of participants at the follow-up meeting. The types of green infrastructure discussed at the Roundtable were trees.

***Principle obstacles to fighting climate change:***

**Finding:** The principle obstacles to fighting (mitigating) climate change are: 1) The political and economic influence of the corporate sector that perpetuates the use of fossil fuel; and 2) Individual behavior that contributes to this global threat.

The political and economic influence of the corporate sector was believed by many Roundtable participants to be a primary barrier in efforts to mitigate climate change. Many Roundtable participants believed that large corporations, particularly those in the fossil fuel industry, used their influence to defeat the adoption of effective climate change legislation and prevent the use of alternative energy technologies to the extent needed. The need to improve energy efficiency technologies was mentioned specifically.

Roundtable participants felt that another obstacle that must be overcome is personal behavior that contributes to climate change. A number of recommendations were made regarding this issue including enacting public policy that fostered behavioral change, adopting programs that had been effective elsewhere and attempting to make environmentally sound behavior fashionable. Examples of public policies that could support behavior that might help fight climate change would be transportation policy that reduced the use of cars and energy policy that reduced the cost of renewable energy. It was even suggested that taxes be considered that discouraged behavior that contributes to climate change. Making “good” environmental behavior “fashionable” or appealing could involve delivering appropriate messages via social media or celebrity spokespersons. It was also recognized that everyday problems and conditions such as poverty and the need to find affordable housing could overwhelm concern about climate change.

## ***How EJ communities can gain more allies and build a broad-based movement to fight against climate change and fight for environmental justice:***

**Recommendation:** A broad range of organizations need to come together, find common ground and collaborate on climate change and EJ issues. There should also be an emphasis on involving youth in the fight against climate change.

It was strongly suggested that EJ groups needed to work both with their “natural” allies and groups with whom they had not previously collaborated. Natural allies were thought to include some mainstream environmental groups, various educational organizations and the public health community. Potential allies where collaboration might take more effort could consist of conservation-oriented organizations, environmental commissions and private businesses. It was thought that the EJ community should attempt to create common ground with both sets of potential allies and suggest these organizations integrate EJ into work they are already performing.

Working with youth and educating them on climate change and EJ was believed to be another “winning” strategy. As stated above, it was believed that youth would in turn educate adults and further strengthen and enlarge a broad-based movement. To attract youth it was recommended that EJ groups use activities they enjoy such as social media and music, and work organizations in which they are already involved.

Direct education of community residents was repeated as a suggestion. Although in this context it was also emphasized that the education should include training in organizing so communities can more effectively advocate for themselves in a variety of arenas.

## **Insights from the Author**

The overarching context for the Roundtable discussions was that EJ communities are especially vulnerable to the detrimental impacts of climate change and that society must move quickly to mitigate this global threat or adaptation will be futile. Against this backdrop the discussion appeared to be clearly focused on local communities in general and more specifically on the empowerment and self-sufficiency of local EJ communities. For example, the recommendation that seemed to be central to the discussion was that local residents, community groups and non-profit organizations should be involved in the creation and implementation of community level emergency plans and climate change adaptation and preparedness plans. In other words, there should be community level plans created by the community in collaboration with government. The details of these plans were not specified but two key recommendations were that local renewable energy and food production systems need to be created. When you combine the suggestion that local residents and organizations should be part of the planning and implementation process with the suggestions that local energy and food systems should be developed you arrive at an overall picture of local residents and organizations working together to build resilient local communities. This scenario fits in nicely with the emphasis that the EJ movement assigns to place and local communities.<sup>17</sup> It is also consistent with the EJ principle that communities speak for themselves.<sup>18</sup>

More discussion and investigation are needed to fully develop some of the recommendations and ideas produced by the Sandy Climate Justice Roundtable discussion. The content of the two types

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<sup>17</sup> See Bullard et al., *supra* note 11.

<sup>18</sup> See principles of EJ available on the WEACT for Environmental Justice website (<http://weact.org/Home/PrinciplesofEnvironmentalJustice/tabid/226/Default.aspx>).

of plans alluded to needs to be developed. More detail is needed even for specific ideas that participants indicated should be in a climate change adaptation plan. For example, it was recommended that energy issues and food issues be addressed by creating local systems for each of these areas. But what is the exact nature of these local systems? There was a specific suggestion that the problem of storm surge should be addressed by creating green infrastructure as a buffer but what should be done about the waters that will inevitably rush by even the best green infrastructure? And how do we assess the extent of any toxic contamination left behind by storm surge and the health threat it presents to local residents? Increases in temperature were also identified as a climate change related impact that needs to be addressed but very few solutions were offered. More deliberation also needs to be given regarding how to make EJ communities resilient to increased air pollution. It was recommended that a climate change co-pollutant public policy needs to be established but surely there are additional strategies that can be developed on a local level to engage the air pollution issue, particularly since air pollution has clearly defined health consequences.<sup>19</sup> The connection between cumulative impacts, a premier EJ issue<sup>20</sup>, and climate change also needs to be explored and discussed.

But perhaps as important as the content of the community level plans is the question of how a structure is created that not only ensures the plans are completed but that there is local involvement in both their development and implementation. One part of that structure that would make it easier for communities to develop their plans might be the creation of model community emergency plans and climate change adaptation and preparedness plans. These plans would contain basic elements that most communities could use but could also be adapted to the needs of specific EJ communities across the state.

This report is intended to provide ideas and reflections on Sandy and climate change including what happened to EJ communities during and after the storm. What distinguishes this information from that produced by most other sources is that it is from the perspective of EJ community residents and members of organizations that work with EJ communities. However, the resources were not available to perform one-on-one interviews or to fact check most statements made during the small group discussions that occurred at the Sandy Climate Justice Roundtable. For that and other reasons, both the roundtable and report should be viewed as the beginning and not the end of this discussion. A study is needed that examines in a rigorous fashion what occurred in EJ communities during and after Sandy. This study could use various methods of investigation including one on one interviews, focus groups, surveys and literature searches. It could also target certain EJ communities that were known to have been significantly affected by Sandy. However, the Roundtable and current report have value because they present an important and much needed perspective on what occurred to EJ communities during and after Sandy even if the information is informal and anecdotal. The ideas presented on what climate change related impacts are important, how these impacts should be addressed and on climate change mitigation are of special value also since there is a relative dearth of information from an EJ perspective being included in the general climate change discussion. More efforts need to be made to determine how climate change affects EJ communities and how to include more EJ voices in the climate change discussion.

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<sup>19</sup> See Pope III, C. A., & Dockery, D.W. (2006). Health effects of fine particulate air pollution: lines that connect. *Journal of the Air and Waste Management Association*, 56(6), 709-742.

<sup>20</sup> See Morello-Frosch et al., *supra* note 9; California Environmental Protection Agency, *supra* note 8; National Environmental Justice Advisory Council. (2004). Ensuring Risk reduction In Communities with Multiple Stressors: Environmental Justice and Cumulative Risks/Impacts.

## **Appendix A: Small Groups Discussion Notes Loose Outline**

### ***I. Difficulties Faced By EJ Communities During And After Sandy***

#### **A. Loss of Services and Damages**

- Many areas suffered a loss of electricity as well as heat and gas.
  - An associated problem was that some people had to leave their homes open so they could obtain assistance with their services.
- It seemed to some community members that some emergency service providers had some apprehension about coming into the community.
- Trees fell that at times damaged houses and cars.
- Homes were damaged and some completely lost.
- Infrastructure was damaged.
- Transportation was totally disrupted including no buses, trains and a loss of cars.
  - There was concern that this might have caused some people to lose their jobs.
- It was difficult to obtain cash because ATM's did not work.
- Many businesses were not open.
- Schools were closed which was a problem not only for the students but also for working parents who had to find a way to supervise their school age children.
- Polling sites were closed.

#### **B. Housing**

There were higher rents, more limited housing availability and displacement after the storm.

- There was a perception that high FEMA reimbursements may have helped raised rents.
- There may have been price gouging in addition to elevated rents.
- Some displaced residents could not pay their mortgages on time.
- Displacement makes it difficult to track people and therefore more difficult to help them.
- There was some shelter overcrowding.

#### **C. Communications**

There was a general lack of communication and information during and immediately after the storm.

- There was an insufficient communication system in place and insufficient instructions.
- The means of telephone communication, both hard lines and cellular towers, were compromised.
- There was insufficient information on rationing.
- It can be difficult to reach seniors because they may not go to their mailboxes or open their doors.
- In at least one instance people had to stand in line for information.
- EJ communities' relative lack of access to the internet makes communication with residents of these communities more difficult.
- There was no communication about health issues like water contamination.
- There was no communication from the New Jersey Department of Environmental Protection or other state agencies on possible toxic contamination or spills.
- There was a lack of communication from FEMA.
- The utilities did not communicate with community residents very well.
- There was evidence that coordination or communication between elected officials and their professional staff may have been poor at times.
- Press focused on shore and New York City.
- Language barriers, i.e, limited English speakers, is an important issue.

#### D. Obtaining Recovery Related Government Services

Excessive bureaucracy, in the form of documentation requirements, made it difficult to access government services.

- System needs to be more reasonable and flexible with respect to documentation.
- EJ communities' relative lack of access to the internet made it more difficult for residents to navigate government services.
- FEMA needs to do better working with community organizations.
- Rules and regulations might even prevent some help from reaching community.
  - For example, one participant wanted to use generators to help a community but couldn't get approval in time to make the assistance useful.
- Another problem is that HUD is using FEMA information for long-term recovery and it was meant to help in a short-term emergency.

#### E. Health and Safety

Possible environmental contamination and subsequent health impacts were inadequately addressed.

- There was an alarming release of sewage and wastewater.
- Waterborne disease could be a special problem for low-income residents in Newark because they tend to live in low-lying areas.
- There is also concern about possible drinking water contamination.



- It seemed to Roundtable participants that there has been a post-Sandy increase in groundwater pollution, mold, skin-disease and asthma.
- There are also mental health needs.
- Limited budgets made some local emergency services become regional services and therefore further away from some residents and more difficult to access.
- Some theft was reported and dark hallways and buildings could have posed safety issues.

#### G. Seniors

- The problem of reaching seniors in high-rise buildings occurred in several cities and in some cases it took a week to reach them.
- There were people in wheelchairs and elevators were not working.

#### H. Community Response and Community Issues

- Many people relied on other community members and family for help.
- Traditional first responders were also affected by the storm.
- Local community groups also acted as first responders.
- Undocumented workers had no heat and no-where to go.
- Social networks were very important in helping some people obtain information and share resources.
- Some people were afraid of interacting with authorities during a state of emergency.

## ***II. Extreme Weather Event Solutions***

### A. Loss of Services

- Use schools as charging centers for those who lost electric power. Monmouth University served as a charging center.
- Utilities need to have back-up plans.
- Power systems in EJ neighborhoods need to be made more resilient; especially in older neighborhoods with older infrastructure.
  - Utilities need to work with residents and solicit community input with respect to replacement of infrastructure.

### B. Planning, Education and Training

#### *Planning*

##### The Plans

- There needs to be community level emergency management plans for large towns and they need to incorporate the participation of non-profits such as churches and block associations.
- There should be an emergency plan in each town and the community needs to know what it is.

- Communities that were not significantly affected by the storm should be able to help communities that were significantly affected.
- Plans should reflect best flood practices from existing town plans and ordinances.
- Need plans that specifically address helping seniors; for example just having flashlights to help people trapped on high floors would be an improvement.
- The plans need to be practiced.

#### Incorporating Local Non-profits, Community Groups and Community Residents

- Funds should go directly to community groups. They will help make the transition from short-term help to long-term recovery smoother.
- Local non-profits familiar with the local community should be used for communications and to distribute food and supplies instead of using out of state organizations that are not familiar with the local area.
- Local organizations should work together.
- Using local groups can reduce bureaucracy.
- Need watchdogs in the community who stay aware of what is occurring and inform other community residents.

#### Government

- If government has plans it needs to make the community and local groups aware of them before the storm.
- Government and local groups need to determine how they can work together; the government seemed to have a bias against working with local groups.
- There was good coordination between FEMA, the Red Cross and the NAACP and this helped and should be replicated with more locally based non-profits and community groups.
- Government plans need to address how to make the transition from short-term emergency management under FEMA to long-term recovery under HUD more efficient.
- There should be a liaison between the government and the community.

#### Evacuations

- Preparations for evacuation and other needs should occur days before a storm.
- Evacuation plans are especially important in areas that rely heavily on public transportation.
- Kearney fire department went door to door to help evacuate residents. This should be part of plans.

#### Health

- Designated medical dispensaries are needed and making sure that hospitals retain or regain power should be a priority.
- Mental health issues need to be addressed.

#### Additional Ideas

- Crime watches exist- emergency watches are also needed.

- In addition to local planning, there should be local hiring.
- Emergency packs were given to Newark residents. This is a good idea that should be replicated.
- Smarter building is needed; for example, power lines could be placed underground.
- Need plans for people with pets.
- A systematic study of what occurred in EJ communities is needed. It could use mixed research methods that include interviews, focus groups and FEMA data.

### *Education and Training*

#### Community and Non-Profits

- Community education needs to occur before the storm so residents will know what to do during the storm.
- There should be education centers in each town and members of non-profits should also receive education.
  - Educating community group members and leaders is important because they are the closest to the residents.
- Training community members needs to be proactive, hands on and one on one if necessary.
- Community members should be trained to be first responders – they should know what to do and be a conduit for information.
- There needs to be education specifically aimed at undocumented workers and non-English speakers.

#### Emergency Workers

- Emergency workers could benefit from additional training.
- More emergency workers are needed and consideration should be given to instituting a civil defense system that mobilizes volunteers.

#### Safety Training

- Safety and protection training is needed for storm-related workers.
- Individuals who own generators should receive training before using them because they can be dangerous.
- Safety issues connected to fire, electricity, stoves and generators should all be addressed.

#### **C. Communication**

- Good communication systems, like the one in Red Bank that used text messages, should be replicated.
- Need to develop better communication methods.
- To keep cell phones working the cell towers should have extra power sources. Renewable energy sources could be used for this purpose.
- Information needs to be made available in Spanish and Spanish speaking FEMA workers are also needed.

#### **D. Housing Issues**

- There should be rent control during disasters.
- A master emergency, recovery and adaptation plan is needed that includes affordable housing.
- HUD probably will make back-up generation in HUD subsidized housing mandatory. Indirect effects of a storm need to be examined also; for example, due to displaced residents Section 8 waiting lists may be longer.

#### E. Community Resilience

- Citizens need to accept a certain level of responsibility for themselves and their community.
- Litigation may be a viable way for communities to address some concerns. For example, housing coalitions filed suit that will help obtain more affordable housing.

### ***III. Climate Change Impacts That Need To Be Addressed***

#### A. Air Quality

- Air pollution from various sources needs to be addressed.
- Local air quality seemed worse after Sandy.

#### B. Food Issues

- Climate change will cause more disease and food crises.
- Climate change will cause food prices to increase and food quality to decrease.
- Corporatized food production makes crops less resilient.
- Food deserts are a problem.
- Another potential problem is farms being used for solar power instead of the production of food.

#### C. Storm Surge and Toxins

- There may be more toxins in the water after Sandy.
  - Newark was relatively more affected by chemicals due to poor water infrastructure.
- Storm surge may also harm the power grid.

#### D. Heat and Disease

- There will be climate change related temperature increases and health impacts associated with heat stress.
  - There can be an increase in biological activity associated with temperature increases and increased disease associated with the increased biological activity.
- Elevated temperatures can cause an increase in the use of air conditioning, which can be expensive and not within the financial reach of low-income residents.

#### E. Mold

- Increases in mold might be caused by garbage build-up.
- Mold may increase indoor air pollution.

#### F. Housing Issues

- Renters may not know if their landlord cleaned-up sufficiently.
- Foreclosures post-Sandy might have been an issue because storm impacts may have prevented some residents from paying their mortgages.

(See also sections IA, IB and IID)

#### G. Additional Issues

- The economy may be affected by climate change in various ways.
- There could be detrimental climate change related impacts on future generations; for example, food quality and education are just two areas that could be affected.
- There could be an increase in crime in disaster situations.
- In addition to storm surge the power grid could also be hurt by increased demand.

#### H. Extreme Weather Events (See also sections I and II)

### ***IV. What Actions Should Be Taken To Address Climate Change Impacts?***

#### A. Food

- Use local gardens, perhaps locating them in vacant lots, to address food deserts.
- Encourage the development of regional food systems in order to make food production more resilient.
- Diversified food production should be encouraged.
- Local food systems should be created in order to make local areas more self-sufficient.

#### B. Air Pollution, Storm Surge, Green Infrastructure and Flooding

##### Air Pollution

- Air pollution needs to be addressed through policies aimed specifically at toxic air pollutants but toxic air pollution should also be addressed through climate change policy.
  - One type of climate change policy that would reduce toxic air pollution is a greenhouse gas co-pollutant policy that reduces emissions of toxic air pollutants such as particulate matter along with emissions of greenhouse gases.
  - This type of policy would provide immediate benefits to EJ communities.
  - Air pollution policies that regulate industry need to be tightened, as does enforcement.
- Municipal and state officials should be held accountable for ensuring that air pollution policies are working.
- Mileage for cars should be improved to decrease air pollution.
- An indoor air pollution standard is needed, especially if mold has increased air pollution.

##### Air Pollution, Storm Surge and Green Infrastructure

- Trees and other types of plants could be used as green infrastructure that could improve air quality and act as a buffer for pollution and storm surge.
  - Another reason to increase the amount of green space is because it can sequester carbon.
- Industrial safety systems should also be used to protect communities from storm surge.
- Dunes and seawalls should be used on the coast to protect communities from flooding.

### C. Education

- Education on climate change impacts and how to respond to them is needed.
- Parents could be educated through their children and children could be educated first through a school-based curriculum.
  - It would also be beneficial to create a climate justice program for students and a climate change “survivors curriculum”.
  - Part of the education in the schools should be practical; for example, students should be taught where their food, water and energy come from.
- Youth could be engaged outside the school system also, for example, at boys and girls clubs and scouts.
- Education and training should be provided to community residents of all ages so they can engage in all the processes that will be associated with climate change related planning and preparedness.
- Mindsets need to be changed.
- Elected officials also need to be educated about climate change.

### D. Planning and Training

- There should be community specific emergency plans, climate change adaptation and preparedness plans, and facts sheets.
  - Academics and government should submit proposals to foundations to obtain funds to develop these plans and fact sheets.
  - Each community should also have the resources to develop and implement an adaptation plan.
  - Communities should pursue grants themselves.
- There also needs to be a governmental structure and public funds to support planning and training.
  - Government needs to create the resources to create emergency plans, and climate change adaptation and preparedness plans, and community organizations should have a role in those plans.
- Best practices should be developed from experience with previous storms and they should be communicated to communities in advance of new storms.
- Emergency plans and climate change adaptation and preparedness plans should address issues on both an individual and community level.
- Plans should cover evacuation, accommodations and transportation, and involve local community organizations.
- Plans need to reflect community perspectives from residents of all ages

- Major pollutants in the community should be identified by the plan or fact sheets. The New Jersey Department of Environmental Protection cumulative impacts screening tool could be useful in this context..
- The demographics and language use of vulnerable communities should be mapped and vulnerable residents should be identified even if it requires going door to door.
  - Social workers or residents may be able to do the mapping using special applications.
  - The mapping could be used in the development of emergency and adaptation plans.
- A civil defense system that mobilizes volunteers could be used for storms and heat events.
  - It could use block captains and would help to coalesce the community.
- Community groups and volunteers could be used to check on community residents.
- Schools could be incorporated into plans as distribution centers.
- There needs to be a communication plan that addresses cell towers not functioning.
- Opportunities should be created for partnerships with the private sector (for example Home Depot and Lowes).
- Workers need to be trained to perform clean-ups safely for themselves and others.
- Municipal land use laws need to be changed so there can be regional planning.

#### E. Communications

- There needs to be a communication plan that addresses cell towers not functioning.
- Churches could be used as communications centers in vulnerable communities.
- More technology should be brought into vulnerable communities.
  - For example, texting could be used to spread information.

#### F. Power Generation

- The use of energy efficient systems should be increased.
  - More funds, including a massive amount of public funds, need to be invested into research and development for energy efficiency.
- The use of renewable energy such as solar power and geothermal energy should be increased instead of using fossil fuel.
  - For example, homes could be built, or made more energy efficient and equipped or retrofitted with solar energy.
  - Similarly it could be mandated that new developments are energy efficient and equipped with solar energy.
  - Consideration should be given to installing geothermal energy in vacant lots where it is determined to be safe and appropriate.
- Community run renewable energy systems could be developed.
- If the price of renewable energy could be reduced this would align personal interest with fighting climate change.
- The public must be made aware of renewable energy options.
- There could be more cooperation in the use of power and water.
- Cooling systems should be created that don't rely on air conditioners.
  - Low-income home energy assistance program subsidies, cool roofs and other methods besides air conditioning could be used to cool buildings.

- More inspections of the energy grid should be performed.
- New Jersey could rejoin RGGI – at least conceptually.

#### G. Community Focused Recommendations and ideas

- Communities need to be organized and educated so they can address the issues that affect their residents.
  - Communities need to be empowered so they can affect public policy.
  - The community could seek to have local ordinances like no idling passed.
  - There should be an important role for the community in planning and the policymaking process.
  - Schools could be used to bring communities together.
  - In general, society needs to strive to build stable and secure communities.
  - In many ways EJ communities are sustainable, for example walkable, but they can be overwhelmed because they bear the burden of regional problems.
- Powerbrokers and policymakers should be held accountable and responsible for preparing communities for climate change impacts.
- It would help if there was some cost sharing between communities and if neighboring communities worked together on climate-related issues perhaps through local community organizations like faith-based organizations.
- Personal connections within the community to EJ and climate change problems, such as health impacts, could also help convince society to protect EJ communities from climate change impacts.

#### H. Building On Flood Plains

- New Jersey should rebuild smarter and make people realize they should not rebuild in flood plains.
- But if this policy is applied it must be done so equitably; wealthy communities cannot be allowed to stay and low-income communities moved.
- Wealthy residents should not be compensated for rebuilding a second home.
- Perhaps consideration should be given to compensating low-income residents for voluntarily moving out of flood plains.

#### I. The Health System and Health Tools

- Medical doctors should be linked to community groups and incorporated into emergency plans and climate change adaptation and preparedness plans.
  - Doctors can advise patients on climate change issues.
- Local health clinics can be created that address climate change-related health impacts. The clinics could also be used to disburse information.
- Post-Sandy community health assessments should be performed.
- Residents could be given mold kits that are similar to radon kits.

#### J. Individual Behavior

- Positive environmental and EJ choices should be made fashionable and negative behavior should be penalized through taxes.



- Better public policies should be created and implemented that provide incentives to change personal behavior that contributes to climate change like reliance on cars.
- It should be determined how successful environmental and climate change programs like the San Francisco recycling program changed personal behavior.

#### K. Corporate Behavior

- Corporate influence on government is a problem because it can affect public policy and our tax structure.
- The disproportionate environmental impact on EJ communities is not an accident.
  - Many corporations pollute and take advantage of vulnerable communities.

### ***V. Principle Obstacles to Fighting Climate Change***

#### A. Corporate Influence

- Corporate power of fossil fuel companies allows them to effectively lobby against climate change policy such as renewable energy.
- Society's reliance on oil, oil profits, greed and bureaucracy can all make it more difficult to address climate change.
- Government can be too lax on business.

#### B. Individual Concerns and Behavior

- Everyday problems and conditions, for example socioeconomic status and the need to find affordable housing, may overwhelm concern for climate change.
- Denial, complacency and resistance to change on the part of individuals are obstacles to addressing climate change.
  - Concern over climate change may seem overstated to some because the world has survived even though every generation has been alarmed about the environment; and even though every generation has been alarmed about the environment pollution has actually decreased.

#### C. Pollution Sources

- Greenhouse gas emissions from industrial sources, transportation and coal plants contribute to climate change.
- There should be surcharges on fossil fuel as long as the funds are used for equitable green practices.
- Public transportation needs better planning.
  - There should be free public transportation on high heat days.
  - More carbon free or low transportation like alternative fuel vehicles need to be used.
- The fact that you can't actually see fine particle pollution and that most people don't know about cumulative impacts makes it more difficult to fight pollution and climate change.
  - More science education could help.

## **VI. How Can A Larger Broad-Based Movement To Fight Climate Change Be Created?**

### **A. Collaboration**

- Organizations need to be less territorial, stop guarding their “turf”, and work together more.
- Mainstream environmental organizations need to pay more attention to EJ and perhaps there should be a national summit between EJ and mainstream organizations.
  - The EJ community should also consider working with groups it does not normally work with even if they are in the private sector, for example PSE&G.

### **B. Education**

- More local community education and grassroots organizing is needed.
- Educate youth who in turn will educate parents.
- Teach community residents how to organize; this could be accomplished through community workshops.
- Educate community residents about the detrimental impacts of climate change.
- Continue to educate people in order to counter industry ideas and pressure.

### **C. Job Creation**

- Create jobs through toxic-clean ups and the use of renewable energy and energy efficiency.
- Job creation could be helped by partnering with unions.
  - Vocational education could be expanded and the EJ community could work with unions to remove barriers to union membership.
  - The partnership between job corps and the building and construction trades would be a good program to replicate.

## **VII. How Can The Environmental Justice Community Gain More Allies?**

### **A. Collaborations Between Groups**

- Groups need to stop working in silos and the EJ community should collaborate with its natural allies in the environmental, educational and public health communities.
- EJ community also needs to reach out to other groups who are potential allies, if not “natural” allies, like environmental commissions, tree commissions and conservation groups and attempt to get them concerned about health issues.
- EJ community should also work with groups with whom it has not worked extensively and create common ground and try to convince them to integrate EJ into work they are already doing.
  - These groups could include churches, first responders, Office of Emergency Management, scientists, the YMCA and YWCA, the Boys and Girl Scouts, and small businesses.
- EJ community should also work with housing groups, renters associations and other groups working on housing and community economic issues.

- Partnerships with these groups could help residents of EJ communities gain access to services and jobs. Health professionals should also be involved in emergency, and climate change adaptation and preparedness, planning and implementation.
- EJ groups should work with social service organizations on climate change-related issues that include resiliency, renewable energy, leadership training and neighborhood infrastructure.
- Collaborations should include small business and the EJ community should engage them on green practices.

#### **B. Youth Involvement**

- Should get more youth involved in EJ through things they enjoy like social media, music and organizations in which they are involved.
- Also need to make sure that schools are educating our youth about the environment and about EJ.
  - Educating younger students could involve an EJ and environmental curriculum or perhaps even a charter school.
  - Vocational education could also be used.
- College students could also be involved through local groups visiting campus, EJ courses, and through required community service at those colleges where it exists.

#### **C. Reaching Out**

- “Unconventional” methods like billboards should be used to reach people and more conventional methods like education and forums should be used to provide community residents an opportunity to interact and work together.
- Other creative methods that could be used might be demonstration green buildings and dramatic advertisements similar to the anti-smoking advertisements.
- Celebrities and the media should be used to promote the EJ community’s ideas and concerns.
- Outreach needs to be performed in communities also even if it requires going door to door.