

# Mapping Our Future

*A Work Plan for Public Engagement & Equity in  
Climate Adaptation Planning in the  
San Francisco Bay Area*



**Bay Localize**

Building equitable and resilient communities





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Author: Kirsten Schwind

Research Assistant: Tatiana Chaterji

Design: Corrine Van Hook

## About Bay Localize

Since 2006 Bay Localize has served as a thought leader for building equitable, resilient communities in the Bay Area and beyond. Our innovative research, action, and advocacy has won recognition from the New York Times, American Planning Association, American Association of Landscape Architects, and the State of California Senate and Assembly. Bay Localize's *Community Resilience Toolkit* guide for climate adaptation planning is used in 46 states and more than 30 countries.

Bay Localize 436 14th Street, Suite 1216 Oakland, CA 94612 (510) 834-0420  
[www.baylocalize.org](http://www.baylocalize.org)



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# Executive Summary

Some Bay Area residents will be harder hit by climate change than others. Working directly with community organizations is an effective way to learn how to best identify, reach, and serve residents who are most likely to be hit the hardest by climate impacts. Partnering with highly vulnerable communities in adaptation planning efforts can provide the following benefits:

- Increases knowledge about how to serve hard-to-reach populations
- Makes adaptation and emergency plans more robust and cost-effective
- Improves relationships and trust with grassroots community leaders
- May help compliance with federal and state mandates such as the federal and state Civil Rights Acts and California's Health in All Policy
- Improves the competitiveness of proposals for funding implementation

Community organizations from many Bay Area vulnerable communities are interested in partnering and playing a leadership role in climate adaptation planning. The importance of investing in social networks to support neighbors helping each other in emergencies cannot be overstated. Research has found that in heat waves, living in well networked neighborhoods can have the equivalent life-saving effect as having an air conditioner in every room (Klinenberg, 2013).

## *Complexity of Climate Impacts and Vulnerability*

Climate risk is a function of exposure to impacts, vulnerability to them, and ability to adapt. The task of climate adaptation planners is to understand the interactions between three sets of complex information:

- 1) *Which climate impacts will be felt locally*
- 2) *Who is most vulnerable to these impacts*
- 3) *How to best reach and serve highly vulnerable residents*

Impacts of climate change will be felt both as acute events, such as natural disasters, and also as gradual changes, such as rising food prices. Climate adaptation planning needs to prepare for both types of change. Climate vulnerability is heavily influenced by income, race, health conditions, age, living conditions/location, occupation, language barriers, and related factors. Identifying highly vulnerable populations is a complex task in the Bay Area, a region with a majority of people of color, immigrants from around the world, and vast disparities in wealth and health outcomes.

## *Project Overview*

In 2012 the JPC commissioned Bay Localize to prepare a regional work plan for community engagement and social equity in Bay Area climate adaptation planning. The work plan was designed to provide information and consultation to key Bay Area adaptation stakeholders—including local governments, regional agencies, and community groups—that will help to fully integrate social equity and environmental justice issues into Bay Area adaptation planning.

Bay Localize conducted a literature review, a survey, and a workshop to gather information for this report. The in-depth online survey in both English and Spanish was voluntarily distributed by fifty-five Bay Area community and social service organizations throughout the nine counties, with responses by more than 400 residents. We analyzed results from 350 respondents who identified that one or more climate vulnerabilities applied to someone in their own household. The majority of respondents also work with highly vulnerable communities through social services or community organizing. We then hosted a workshop with thirty regional social justice, public health, and community engagement experts to shape the draft proposals outlined in this report. See Appendix B for research methods, sample characteristics, and workshop attendees.

## *Findings*

The climate impact that the greatest number of survey respondents expressed concern about is rising prices of food and other basic goods. They also expressed serious concerns about impacts of major storms, drought, and poor air quality.

Participants rated “partnering with organizations in vulnerable communities” as the most effective strategy for local governments to engage with them in planning. Partnerships should be structured to ensure that community groups have real power in decision making, especially around major investment. Participants are interested in leadership roles in determining how planning will happen and where investment will be made, including major infrastructure spending. They also indicated they believe it is important for community organizations to be funded for the time and effort of their involvement in planning, and for residents of highly vulnerable communities to be hired into jobs resulting from investment in adaptation.

Participants expressed interest in identifying and supporting existing community resilience to climate change. Resilience, defined as the ability to cope with stress and adversity, exists at the level of the individual, family or household, and community as a whole. Low-income residents and communities of color especially have deep experience dealing with stress and adversity, and have much to teach about resilience. Identifying and investing in neighborhood-level resilience assets offers a cost-effective

way to build community capacity to respond and adapt to the impacts of climate change.

### ***Regional Climate Adaptation Work Plan***

This report presents a work plan for regional agencies to partner with community groups on climate adaptation, and support local governments in doing so as well. It also presents parallel recommendations for funders and community groups.

#### ***Work Plan Stage 1: Conceptualizing and Funding Regional Adaptation Planning***

1. Identify and earmark considerable public funds to create and implement climate adaptation plans.
2. Include the economic impacts of climate change on low-income households as one of the major climate impacts, especially rising costs of food, water, and basic needs.
3. Partner with organizations in vulnerable communities from the very beginning of the process about how planning will be done and who will be involved.

#### ***Work Plan Stage 2: Climate Adaptation Planning***

1. Identify highly vulnerable residents throughout the Bay Area.
2. Partner with community groups in determining how to allocate adaptation spending for both infrastructure and community resilience investment.
3. Create regional and local adaptation plans based on results from community partnerships. Ensure compliance with existing legal mandates, including the federal and state Civil Rights Acts and Health in All Policies.

#### ***Work Plan Stage 3: Implementation***

1. Connect job seekers from targeted vulnerable communities with jobs that build local climate resilience.
2. Partner with community groups on evaluating how plans are being implemented.
3. Support community groups in conducting education on climate impacts emergency response in multiple languages and in ways that are culturally relevant.

## Bay Area Climate Impacts and Vulnerability

**Key Message:** Climate adaptation planning requires understanding complex interactions between local climate impacts and vulnerabilities to them. It requires identifying and prioritizing residents who will be hardest hit by impacts and serving them effectively.

Climate risk is a function of exposure to impacts, vulnerability to them, and ability to adapt to them. The task of climate adaptation planners is to understand the interactions between three sets of complex information:

1. Which climate impacts will be felt locally
2. Who is most vulnerable to these impacts
3. How to best reach and serve vulnerable residents

While local impacts of climate change will affect everyone in the Bay Area, research shows some residents are at greater risk than others. Social variables such as age, race, and income affect the ability of households to prepare, respond, and recover from a natural disaster or other potential climate impacts (Jerett et al. 2012).

Working directly with organizations in highly vulnerable communities is an effective way to learn how to best identify, reach, and serve residents who are likely to be hardest hurt by climate impacts. Partnering with highly vulnerable communities in adaptation planning efforts can create the following benefits:

1. Increases knowledge about how to serve hard-to-reach populations, and build critical social networks making adaptation and emergency plans more robust and cost-effective.

### Planning for Worst Case Scenarios in a Complex Region

Reaching a wide range of vulnerable residents in worst-case scenarios is a daunting task. It requires deep knowledge of communities not available as statistics, such as:

Which community organizations can reach elderly monolingual Hmong speaking residents with emergency information?

In the case of a flood, what is the fastest way to evacuate families of low-income single mothers who don't have cars?

With increasing heat waves, how do we ensure day care centers can handle kids having more dangerous asthma attacks?

In the case of food price shocks, how do we make sure food pantries can meet increased demand?

This is the reality of climate adaptation planning in the Bay Area, a region with a majority of people of color, immigrants from around the world, and vast disparities in wealth and health outcomes.



2. Improves relationships and trust with grassroots community leaders.
3. Ensures compliance with federal and state mandates, including Title VI of the Civil Rights Act and California's Health in All Policy.
4. Co-benefits in public health, jobs, reduced crime, and higher quality of life.
5. Improves competitiveness of proposals for funding implementation.

The importance of investing in social networks to support neighbors helping each other in emergencies cannot be overstated. Research has found that in heat waves, living in well networked neighborhoods can have the equivalent life-saving effect as having an air conditioner in every room (Klinenberg, 2013).

### *Climate Vulnerability Factors*

**Key Message: Climate vulnerability is based on income, race, health conditions, age, living conditions/location, occupation, language barriers, and related factors.**

For an in-depth literature review and discussion of social vulnerability factors to climate change and their distribution across California counties, see Cooley et al. (2012), Jerrett et al. (2012), Morello-Frosch et al. (2008). This and other research identifies the following inter-related climate vulnerability factors:

**Income:** Low-income residents are more likely to face a number of related climate vulnerability factors including lack of air conditioning in hot climates, renting homes versus owning them, unemployment, citizenship status, lack of health, life, or property insurance, lack of a high school diploma, lack of access to affordable healthy food, and lack of access to a vehicle to evacuate in case of an emergency.

**Race:** Race is frequently related to other vulnerability factors such as income, living location (neighborhood), occupation, and language barriers. However, it is also a vulnerability factor on its own due to historic and current institutionalized racism in many social systems including zoning, infrastructure spending, access to neighborhood amenities, and quality of emergency response. These factors result in more severe impacts of natural disasters, heat waves, and other health hazards on people of color (Morello-Frosch et al. 2008, Cooley et al. 2012, Rossi et al. 1983, Pastor et al. 2006, Beyers et al. 2008, Lum 2010, Pavel 2009). A groundbreaking study of health inequities in Alameda County puts it this way:

*Race is a social construct - largely defined by society and culture, rather than genes and biology. As such, most health inequities by race reflect social processes that create racial differences in health, rather than innate biological differences. The relationship*

*between race and health has long been shaped by residential segregation and other forms of racial discrimination. Covert and overt institutional policies have separated people by race in residential contexts, with lasting impacts on neighborhood conditions and ultimately on health.*

- Alameda County Department of Public Health (Beyers et al. 2008).

**Health conditions:** Heat waves can make air quality worse and increase emergency room visits for asthma patients. As temperatures rise, air pollution such as ozone increases, which can trigger asthma attacks and contribute to the development of asthma in otherwise healthy people. Heart disease also increases risk of mortality in heat waves. Conditions and disabilities that restrict mobility make it more difficult for residents to evacuate in dangerous situations. Residents who rely on electricity to refrigerate medications or run medical appliances are at risk during power outages due to extreme storms or blackouts. Pregnancy is also a risk factor in emergency situations.

**Age:** Young children and the elderly (especially those living on their own) can be more susceptible to health problems from impacts such as heat waves, especially if they also suffer from health conditions.

**Health conditions:** Heat waves can make air quality worse and increase emergency room visits for asthma patients. As temperatures rise, air pollution such as ozone increases, which can trigger asthma attacks and contribute to the development of asthma in otherwise healthy people. Heart disease also increases risk of mortality in heat waves. Disabilities and conditions that restrict mobility make it more difficult for residents to evacuate in dangerous situations. Residents who rely on electricity to refrigerate medications or to run medical appliances are at risk during power outages due to extreme storms or blackouts. Pregnancy is also a risk factor in emergency situations, and as women are also often primary caregivers for the very young, old, and sick, researchers have also identified gender as a risk factor.

**Age:** Young children and the elderly (especially those living on their own) can be more susceptible to health problems from impacts such as heat waves, especially if they also suffer from health conditions.

**Living Conditions/Location:** Vulnerable locations of housing or workplaces can include areas with poor air quality, risks of wild fires, a high percentage of pavement instead of trees and parks that cool neighborhoods, high crime (fear of leaving the home), geographic isolation, or floodplains. Vulnerable living or working conditions include buildings with poor construction or inadequate cooling systems, living in an institution (affects ability to evacuate, especially for incarcerated populations), renting versus owning a home, and homelessness. Access to air conditioning may become a contested issue between goals to decrease greenhouse gas emissions and maintain comfort and

public health in heat waves, as air conditioning is energy intensive. Natural cooling systems such as architecture that is appropriate for hot climates and shade trees will become important elements in mitigating this conflict.

**Occupation:** Residents who work outside during extreme weather, such as farmworkers or construction workers, are at disproportionate risk for mortality from heat waves. Latinos make up a disproportionate number of workers in both industries. Occupation may also be related to the vulnerability factor of citizenship status, as some industries such as farm work are easier to enter without documentation.

**Language barriers:** Inability to understand and speak English can be a barrier in receiving information about climate change and its impacts, getting involved with climate adaptation planning processes, understanding emergency announcements and instructions, or in handling paperwork in applying for relief benefits.

**Access to a vehicle:** Access to a private vehicle can be critical for evacuation in emergencies, especially as public transit is often shut down in these situations. However, many low-income households cannot afford private vehicles, and seniors and residents with disabilities may be unable to drive cars. Also many urbanites choose to live car-free for reduced hassle or as a powerful personal action to combat climate change. To realistically reduce greenhouse gas emissions, Bay Area planners must encourage decreased reliance on cars. We must also invest in public transportation and establish robust public evacuation systems in emergencies.

### *Climate Impacts: Shocks and Slides*

**Key message: Impacts of climate change will be felt both as sudden acute events, such as natural disasters, and also as gradual changes, such as rising food prices. Climate adaptation planning needs to prepare for both.**

Climate adaptation planning has considerable overlap with emergency preparedness, as many impacts such as severe storms and flooding will be experienced as acute natural disasters. However, what makes climate adaptation especially challenging is that gradually changing weather patterns and temperatures will become the new normal - or rather, the new normal will be constant change. This is likely to mean constant low- to mid-level uncertainty and stress on food systems, water systems, and other natural systems that give humans life. Climate adaptation will need to happen every day.

Bay Area-based climate justice organization Movement Generation has coined a useful phrase for describing impacts of climate change: “shocks and slides.” While we can prepare for shocks with emergency preparedness, adapting to more gradual slides will require re-working entire systems to function in the new normal of constant change.

Table 1 describes selected climate impacts that will be felt in the Bay Area (including both those that will be felt as acute and as gradual changes), factors that make residents especially vulnerable to them (Cooley et. al 2012, Jerrett et al. 2012), and comments from Bay Area survey residents about how they see these impacts affecting them personally. Impacts are listed in order of greatest concern to survey respondents (see Figure 1), using language from the survey. Note that respondents were concerned not just about impacts on humans, but also indicated serious concern for loss of biodiversity of plants and animals.



Volunteers with the Victory Garden Foundation grow fresh produce to supplement food pantry bags for hungry families in Oakland. Photo: Michelle Woo.

**Table 1. Selected Impacts of Climate Change in the Bay Area and Key Vulnerabilities, Listed According to Highest Level of Concern Indicated by Survey Respondents**

Climate Impacts (continued)	Key Vulnerability Factors	Comments from Bay Area Vulnerable Residents
<p><b><u>Rising Food Prices.</u></b> Fluctuating weather patterns will cause crop failures globally and rising consumer food prices locally (Hatfield et al. 2013, Nelson et. al 2010). Other basic needs that may rise in price due to climate change include water, energy, and housing, due to an influx of people moving to the temperate Bay Area from regions that are even harder hit.</p>	<p>Income Health Status Location/Living Conditions</p>	<p>“I work full time, but don’t much make money. I’ve noticed that food prices have really gone up, but my salary hasn’t. I barely cover my rent as it is. When prices go up, I don’t know what to do.”</p> <p>Maria M. Escobar, Richmond</p>
<p><b><u>Impacts of Major Storms</u></b> include losing power, landslides, and road closures. Models predict climate change will cause more frequent and severe El Nino events (Pierce et al., 2011).</p>	<p>Health Conditions Age Location/Living Conditions Race</p>	<p>“I’m concerned about social and economic impact of severe storms on the robustness of Silicon Valley as a premier place to live and work.”</p> <p>San Jose survey respondent</p>
<p><b><u>Drought</u></b> causing less water in water systems, wells, rivers, creeks, and fisheries (Pierce et al., 2011). Drought can raise food and water prices (see above). Drought-driven crop failure is especially hard on farmers and farmworkers, who lose work and income when there is no harvest.</p>	<p>Income Occupation Location/Living Conditions</p>	<p>“I’m concerned about drought and famine resulting in severe inflation and lack of access to daily needs such as food and water.”</p> <p>Alameda County survey respondent</p>



Climate Impacts (continued)	Key Vulnerability Factors	Comments from Bay Area Vulnerable Residents
<p><b>Poor air quality</b> makes it harder to breathe. As the temperature rises, air pollution such as ozone increases, triggering asthma attacks (EPA 2010). Residents living in areas with poor air quality already, or who don't have health insurance, are especially vulnerable.</p>	<p>Health Conditions Location/Living Conditions Age Race Income</p>	<p>"I have asthma, and science confirms what my lungs have long known: when air pollution rises, it's harder to breathe. Climate change is going to make this problem worse."  Joel Ervice, Oakland</p>
<p><b>Local wild plant and animal species dying off</b> or loss of biodiversity. Climate change is predicted to drive species to extinction around the world, including in the biodiverse Bay Area (Pierce et al., 2011). While impacts of biodiversity loss on humans may seem unclear, in some examples such as loss of fisheries the connections are very clear to the fishing industry.</p>	<p>Occupation Location/Living Conditions</p>	<p>"The threat to wildlife and animal species is of most concern to me because it is irreversible and has a devastating effect on the ecosystem."  San Francisco survey respondent</p>
<p><b>Flooding</b> can be caused by sea level rise, storm surges during major storms, broken levees, heavy rains or early snowmelt flooding rivers and creeks, and storm drains backing up during heavy rains. Climate change will increase the incidents of extreme storms and heavy spring runoff in California (Pierce et al., 2011).</p>	<p>Location/Living Conditions Income Age Language Access to Vehicle Health Conditions</p>	<p>"The flooding was severe enough that families had to flee their homes and bang on the doors of neighbors in second-floor apartments to seek refuge."  Annie Loya, East Palo Alto</p>

Climate Impacts (continued)	Key Vulnerability Factors	Comments from Bay Area Vulnerable Residents
<p><b><u>Prolonged heat waves</u></b> causing heat strokes and other health impacts. People who work outside are especially vulnerable, including farm and construction workers. Asthma sufferers, the very young, the elderly, people with health conditions such as heart disease, and residents who live in buildings with inadequate cooling are also vulnerable (Morello-Frosch, 2008, Cooley 2012, Jerrett et al., 2012).</p>	<p>Occupation Location/Living Conditions Health conditions Age Income Race</p>	<p>“I’m concerned about heat waves, given that most available work here is in the fields, in the vineyards. Heat waves are very hard on farm workers.”</p> <p>Irma Sanchez, Calistoga</p>
<p><b><u>Getting stranded in an emergency</u></b> because of having no way to evacuate is a concern for residents with health conditions, no access to cars, who do not understand emergency announcements in English, who live in geographically isolated locations, who live in institutions, or are elderly with limited mobility (Cooley, 2012, Jerrett et al., 2012).</p>	<p>Age Health conditions Location/Living Conditions Access to Vehicle Income Race</p>	<p>“Like many senior and disabled people, we are slower in getting around and have health conditions. We’re less likely to push our way inside evacuation buses or get into emergency shelter.”</p> <p>San Francisco survey respondent</p>
<p><b><u>Wildfires</u></b> will increasingly endanger forests, homes, and towns in the greater Bay Area (Pierce et al., 2011). Even city dwellers are at risk for decreased air quality, especially those with asthma.</p>	<p>Location/Living Conditions Health conditions Access to Vehicle Income</p>	<p>“I’m worried about wildfires. I live adjacent to watershed land and live paycheck to paycheck right now without a lot of ‘wiggle room’.”</p> <p>Contra Costa County survey respondent</p>

## *Climate Impacts of Greatest Concern: Broadening the Conversation*

**Key Message: Research and preparation for Bay Area climate impacts should address the concerns of highly vulnerable residents, especially affordability of basic goods.**

While important initial research has been done on climate adaptation, there is a need for more focus on impacts that are of greatest concern to highly vulnerable populations. The State of California has funded assessments of local climate impacts of extreme heat, wildfires, and coastal flooding due to sea level rise. However, other documented impacts of climate change have received less attention and less research funding.

A prime example is the impact of climate change on the price of basic goods such as food, water, utilities, and housing. The draft *Third National Climate Assessment Report* finds that droughts, floods, and heat waves related to climate change around the world will cause crop failures that drive up consumer prices of food and increase hunger in the United States (Hatfield et al., 2013). Rising food prices have the greatest impacts on households that are already struggling economically, but this topic has not been included in state-funded climate adaptation research to date.

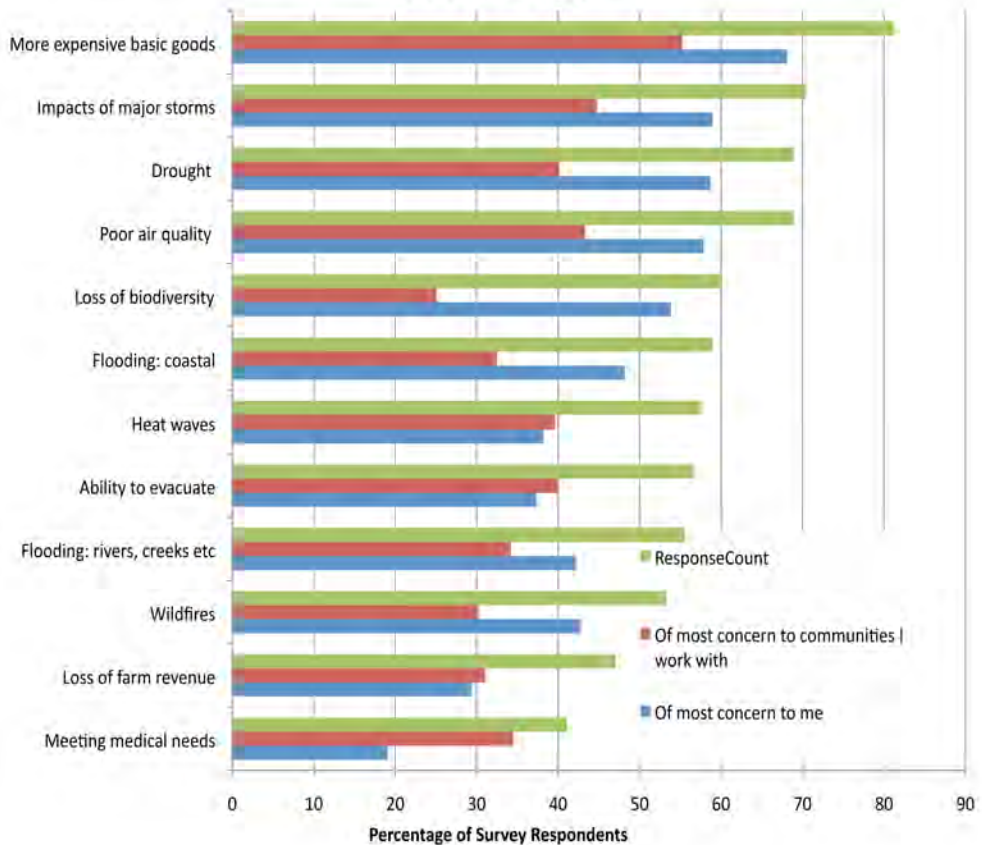
The first question Bay Localize examined is, which climate impacts are of greatest concern to highly vulnerable populations? Methods included a literature review, a survey, and a workshop to gather information for this report. The in-depth online survey in both English and Spanish was voluntarily distributed by fifty-five Bay Area community and social service organizations throughout the nine counties, with responses by more than 400 residents. We analyzed results from 350 respondents who identified that one or more climate vulnerabilities applied to someone in their own household. The majority of respondents also worked with highly vulnerable communities through social services or community organizing. We then hosted a workshop with thirty regional social justice, public health, and community engagement experts to shape the draft proposals outlined in this report. Research methods, sample characteristics, and workshop attendees are described in depth in Appendix B.

Survey participants identified which local impacts of climate change were of greatest concern to both themselves and to populations they work with (see Figure 1). Response options are paraphrased in Figure 1; see Appendix B for full text of the survey. Respondents were allowed to identify multiple options. In Figure 1, “response count” refers to percentage of total respondents who identified the option as a great concern to either themselves or populations with which they work (respondents could choose either or both).



The largest number of respondents identified “more expensive food, water, housing, and basic goods” as a concern for both themselves and populations they work. Other top climate change concerns identified by a majority of respondents were impacts of major storms, droughts, poor air quality, and loss of biodiversity.

Figure 1. Which of these impacts are of greatest concern to you and/or communities you work with?  
Select all that apply.

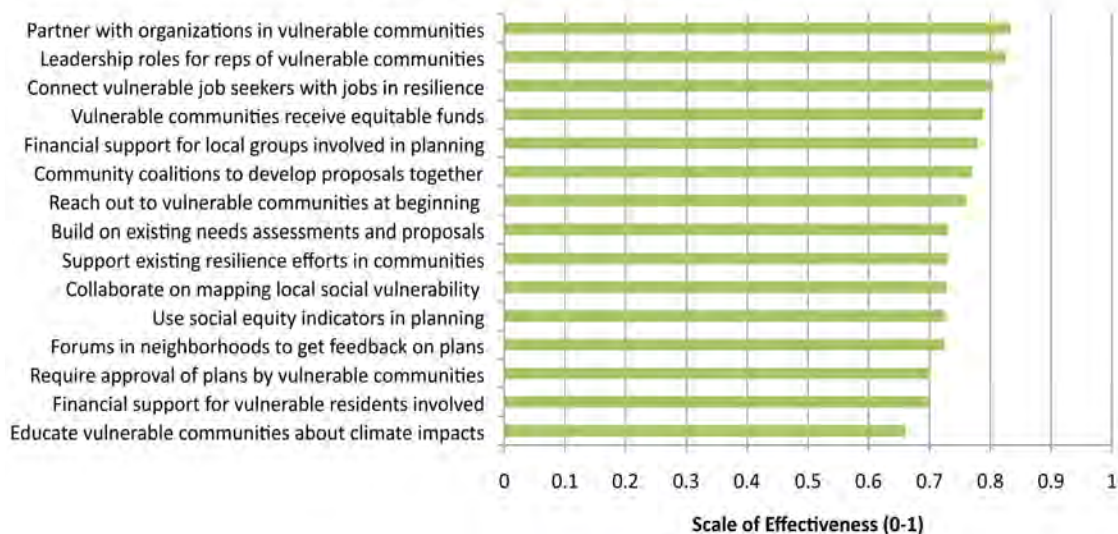


## Community Engagement for Climate Adaptation Planning

**Key Message:** Highly vulnerable residents rate “partnering with organizations in vulnerable communities” as the most effective strategy for local governments to engage with them in planning, and are interested in taking leadership roles in determining how planning will happen and where investment will be made. Partnerships should be structured to ensure that community groups have real power in decision making, especially around major investment.

It can be difficult for planners and decision makers who do not experience social vulnerabilities themselves to understand the perspective of people who do. Survey respondents were asked to choose options from a list of best practices they thought would be most effective to facilitate local government and vulnerable communities working together to prepare for climate change. Respondents rated each option on a scale of effectiveness from “not effective” to “very effective” which was converted into a numerical scale from 0-1 (1 being very effective). All responses were fairly popular with the respondents, showing a strong interest in deeper forms of community engagement in general. Figure 2 reflect respondents’ recommendations to government agencies for community engagement. Workshop participants generally supported these survey findings.

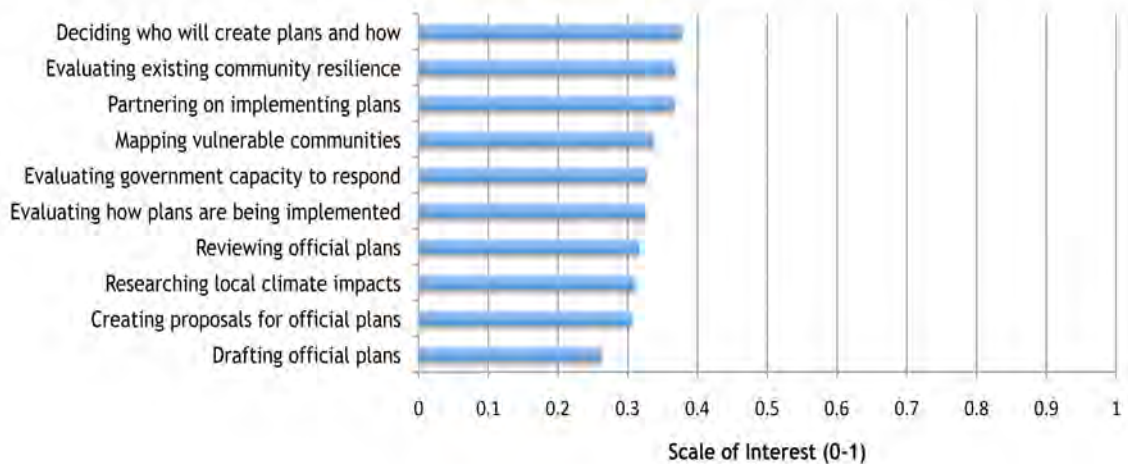
**Figure 2. Based on your experience, please rate how effective you think each strategy would be in helping local government planners and vulnerable communities work together.**



Survey respondents recommended most often that local government partner with organizations in vulnerable communities and establish leadership roles for their representatives early on in the planning process. Also highly rated were ensuring that the participation of community groups is adequately funded, ensuring that vulnerable communities receive equitable funds in the implementation stage, and that climate-vulnerable job seekers are connected with jobs resulting from investment in climate adaptation. Workshop participants also supported these findings.

Partnerships between government agencies and community groups and leaders requires real commitment on both sides, especially on the part of neighborhood groups made up of volunteers with many demands on their time. Survey respondents were also asked how they personally would be most interested in getting involved in local climate adaptation planning, with results presented in Figure 3. Respondents rated each option on a scale of interest from “not interested” to “very interested/already involved” which was converted into a numerical scale from 0-1 (1 being very effective). Responses on this scale were numerically lower than the previous question, reflecting the higher level of commitment referred to in this question.

**Figure 3. Would you personally be interested in getting involved in any of the following steps in climate resilience planning?**



Respondents expressed most interest in playing a leadership role in shaping the planning process early on, evaluating existing community resilience that could contribute to climate adaptation, and also in partnering through the implementation stage.

## Workshop Recommendations

Workshop participants also provided valuable questions, concerns, insights and recommendations, summarized below:

- **Understand the demographics.** Planners need to understand what’s really happening on the ground before beginning adaptation planning, including recent demographic shifts. Planners who do not come from highly vulnerable communities themselves are likely to experience limitations in understanding vulnerabilities, and will be most effective when doing this research in partnership with community groups.
- **Establish open and transparent processes that don’t play favorites.** It’s important to ensure that community partnership opportunities aren’t limited to just groups with which agencies tend to agree, but also to groups with views that they may not agree with. Call for community partnerships should be public, transparent, and widely communicated, with any criteria clearly stated.
- **Prioritize grassroots groups grounded in vulnerable communities.** Grassroots and neighborhood groups expressed frustration that planning and implementation funds often go to larger nonprofits that are not as grounded in highly vulnerable communities. Define criteria for “community partnerships” to prioritize groups with a majority of members and leaders from vulnerable communities.
- **Structure decision making to prioritize representation of and accountability to vulnerable communities.** Calling for collaboration between government and community groups is often an improvement over the status quo of public engagement, but not enough to guarantee equitable planning outcomes if the politically difficult recommendations that community groups make end up being ignored. In the experience of the participants, this is often the case. The real challenge is how to increase the power of vulnerable communities to make sure adaptation spending reflects their interests, and that decision makers are accountable to these communities.
- **Open all aspects of decision making on public resources to partnership with vulnerable communities.** Don’t silo vulnerable communities into just one part of decision making, while the major decisions happen elsewhere. Participants expressed interest in being involved in all parts of decision making, especially major investment of infrastructure dollars to ensure equity in their distribution.
- **Address existing infrastructure that makes communities more vulnerable to impacts of climate change.** A key question in adaptation planning will be how to deal with existing infrastructure that increases climate vulnerability of nearby residents. A major example is polluting industries that contribute to existing poor air quality and asthma, which heat waves are predicted make worse. Climate

adaptation should address existing pollution sources as part of addressing climate impacts.

- **Leverage existing tools, resources, and policies for incorporating equity in planning.** These include both the federal and state civil rights acts which prohibit discrimination in allocation of funding in state and federally supported projects, state Health in All policies which require incorporating public health considerations in planning decisions, and various emerging environmental justice screening tools.
- **When investing in a community, ensure continued affordability for existing residents.** Participants expressed that while co-benefits of investment in climate adaptation in low-income neighborhoods can be a wonderful thing, it's important to consider that increasing the desirability of a neighborhood can drive gentrification that prices out existing residents and businesses, especially those that rent. This can disrupt the social networks in a neighborhood and actually decrease resilience in important ways. Work with community groups on including ways to prevent pricing out existing residents and businesses in adaptation plans.
- **Invest in community-led climate resilience education.** In communities that have historically experienced tense relationships with local government, community organizations may be more trusted sources of information. They may also be more effective at employing culturally relevant arts-based forms of public education, for example the youth Eco Rap festival organized by Breakthrough Communities to educate young people of color about ecological issues.



Volunteers growing food for hungry families at the Telegraph Ministry Center are also creating community resilience.

Photo: Michelle Woo.



## Building Community Resilience: What Does it Mean?

Survey respondents rated “evaluating existing community resilience” in the top two choices of how they would like to get involved in climate adaptation planning. We recommend climate adaptation plans include support for groups in vulnerable communities to map existing neighborhood assets and implement strategies to develop and connect them as need.

**Resilience, the ability to cope with stress and adversity,** is critical in the age of climate change. It exists at the level of the individual, family or household, and community as a whole. Low-income people and communities of color especially have deep experience dealing with stress and adversity, and have much to teach about coping mechanisms.

All communities have positive strengths, or assets, that can contribute to resilience in the face of local climate impacts. Assets can be:

- **Knowledgeable people.** Examples: gardeners, babysitters, plumbers.
- **Organized community groups.** Examples: social, sports, or youth groups.
- **Institutions.** Examples: agencies, hospitals, schools, faith communities.
- **Natural characteristics.** Examples: creeks, wetlands, trees, open space.
- **Infrastructure.** Examples: buildings, roads, bike paths, harbors, subways.

Connecting these community assets in creative ways to serve local needs creates stronger, more self-reliant neighborhoods (Kretzman and McKnight, 1993). Oakland’s grassroots Victory Garden Foundation provides a great example of how connecting assets can build community resilience. Master gardener Victory Lee organizes volunteers to grow fresh produce in the backyard of the Telegraph Ministry Center to supplement food pantry bags for hungry families. The act of gardening together allows neighbors to get to know each other in ways that could contribute to helping each other out in emergency situations.

Bay Area community leaders are clearly interested in partnering with government to determine where and how major infrastructure dollars will be spent. But they are also interested in identifying, networking, and investing in grassroots assets that build resilience as well. It’s difficult to overestimate the importance of flexible grassroots networks that are both preventative and responsive to any type of disaster. Well-grounded community groups are often experts in identifying and connecting local assets, and deserve recognition and support for this important work as a part of climate adaptation planning.

## Regional Work Plan for Community Partnership in Adaptation Planning

**Key Message:** Effective climate adaptation planning requires understanding an immense amount of information about complex interactions of local impacts and vulnerabilities. Partnerships with organizations from highly vulnerable communities are key to gaining this understanding. Regional agencies can take a leadership role in developing robust models of partnering with highly vulnerable communities on adaptation planning and decision making on major investment, and supporting local governments in doing the same.

The following recommendations, developed based on regional survey results as well as ideas gathered from social justice leaders, provides an integrated work plan for regional agencies, funders, and community organizations to establish robust partnerships to ensure social equity and effectiveness in adaptation planning. This work plan is written for regional and local government agencies, with accompanying recommendations for funders and community organizations.

For effective adaptation planning that fully understands and serves the needs of highly vulnerable communities, we need a sea change in methods of community engagement. Planners generally cannot be experts in how to reach and serve all the vulnerable residents in their jurisdiction, but organizations from these communities can be. The traditional model of a public hearing and comment period on nearly-finalized plans is insufficient and a missed opportunity to work together in more substantial ways to gather the information required to serve nuanced needs of diverse target populations in the face of climate change.

Leaders of the Bay Area's highly vulnerable communities are calling for a model of robust partnership in adaptation planning and decision making. While a partnership model may seem more resource intensive for planners, better information gathered early in the planning process from grassroots leaders who understand the needs of highly vulnerable residents is likely to result in more equitable, realistic, robust, and cost-effective regional adaptation.

Representatives of many highly vulnerable communities are already organized at the regional as well as local level, for example in coalitions involved in the SB 375 planning process or advocating for air quality improvements. While identifying and engaging the most vulnerable residents in each jurisdiction is a task for local government, regional agencies can take a leadership role in developing a partnership-based model of public engagement for planning decisions at the regional level, and support local governments in doing so as well.

How would regional and local government agencies develop a partnership-based model of public engagement? Public engagement research such as the anthology

*Breakthrough Communities* (Pavel, 2009) provide successful examples from around the country. Appendix A provides an example of a written agreement that formed the basis of a partnership between the West Oakland Environmental Indicators Project, the EPA, and other actors to address air pollution in West Oakland that resulted in wide-reaching improvements.

### ***Work Plan Stage 1: Conceptualizing and Funding Regional Adaptation Planning***

**1. Identify and earmark considerable public funds for creation and ongoing implementation of climate adaptation plans.** Work with state and federal decision makers to earmark considerable public funds for increasing local climate resilience through community partnerships. *Outcome (3 years): State or federal funds secured for regional and local adaptation planning and implementation.*

**2. Include the economic impacts on low-income households as one of the major climate impacts, especially rising costs of food and water.** Work with state and federal climate research and planning resources to include economic impacts on low-income households, especially rising costs of food and other basic goods. Coordinate this with community advocates. *Outcome (3 years): Regional, state and federal assessments include analysis of climate economic impacts on low-income households.*

**3. Partner with organizations in vulnerable communities from the very beginning of the process about how planning will be done and who will be involved.** Train and support Bay Area local governments in establishing open, transparent, and well publicized processes to seek out and partner with community organizations interested in planning, regardless of their politics. Prioritize grassroots groups rooted in membership in vulnerable communities. *Outcome (1 year): Written partnering agreement developed at regional level for replication at local levels as well as in other regions.*

**Regional Implementation:** Lead regional agency hires a high-level Adaptation Planner with a strong community organizing and social equity background to develop and implement regional partnership agreements with community groups for adaptation planning, and to support local governments in replicating these agreements. Allocate at least three years of funding for this position to implement all stages of the work plan.

#### **Recommendations for Funders**

- a) Require written agreements for collaboration between agencies and community groups as a prerequisite for funding adaptation planning.
- b) Ensure adequate line items for implementing community outreach and partnerships in public agency budgets.
- c) Establish independent funds for community groups to be able to take a leadership role in planning while maintaining their independent voice.



### Recommendations for Community Groups

- a) Establish a regional network of community groups working on adaptation planning, or build off an existing regional network.
- b) Establish a fund to support community groups that are involved in climate adaptation planning and building community resilience.
- c) Work with state and federal agencies to update the definition and scope of climate impacts.
- d) Conduct capacity building for local government planners on how to partner with community groups.

### Work Plan Stage 2: Climate Adaptation Planning

1. **Identify highly vulnerable residents throughout the Bay Area.** Bay Area Regional Health Inequities Initiative (BARHII) works with community groups to gather specific data on which populations in each Bay Area city are most vulnerable to climate impacts. *Outcome (1 year): Comprehensive map of Bay Area's most vulnerable communities.*
2. **Partner with community groups in determining how to allocate adaptation spending for both infrastructure and community resilience investment.** Co-develop protocol and train local governments in how to partner with community groups to allocate adaptation spending. Include methods to map climate adaptation assets and needs in vulnerable communities and prioritize investment in them. *Outcome (2 years): Regional protocol for community partnerships in identifying investment priorities, replicable at the local level and in other regions.*
3. **Create regional and local adaptation plans based on results from community partnerships.** Ensure compliance with existing legal mandates, including the federal and state Civil Rights Acts and Health in All Policies. Implement decision protocols described above to allocate adaptation investment. Calculate how many jobs this investment could create to gain political support. Train local governments in incorporating existing equity and health mandates. *Outcome (3 years): Regional and local Bay Area adaptation plans emphasize needs of vulnerable communities.*

**Regional Implementation:** Fund collaboration between BARHII and community groups to map climate vulnerability around the Bay Area, and train local planners in how to use the results as well. Adaptation Planner at regional agency facilitates regional planning process and offers technical assistance to local governments.

### Recommendations for Funders

- a) Fund public health departments to partner with community groups to map climate vulnerable residents throughout the Bay Area.
- b) Fund a collaboration of community groups around the Bay Area to implement the work plan below in partnership with regional and local agencies.
- c) Request written evaluations from both agencies and community groups on the successes and challenges in planning partnerships.

### Recommendations for Community Groups

- a) Partner with BARHII on mapping climate vulnerabilities.
- b) Co-develop protocol with regional agencies to map out climate adaptation investment priorities, for both infrastructure and community resilience.
- c) Implement protocol with regional agencies to allocate adaptation investment according to community priorities.
- d) Monitor emerging adaptation plans and implementation for compliance with equity and health mandates.

### *Work Plan Stage 3: Implementation*

1. **Connect highly vulnerable job seekers with jobs building local climate resilience.** Promote implementation of resilience plans as jobs creation, based on research in Stage 2. Work with job training programs to prepare residents from vulnerable communities, especially with barriers to employment, for climate adaptation jobs. Create policies to hire these trainees onto work sites receiving public funds. Look at San Francisco's Environment Now program as an example. *Outcome (post planning): Replicable model program for placing vulnerable job seekers in climate adaptation jobs.*
2. **Partner with community groups on evaluating how plans are being implemented.** Establish and implement evaluation protocol in partnership with community organizations to ensure equitable implementation of adaptation plans. *Outcome (post planning): Documentation of benefits of adaptation spending for vulnerable communities.*
3. **Support community groups in conducting education on climate impacts and emergency response in multiple languages and ways that are culturally relevant.** Fund community groups to conduct public education on local climate impacts and emergency response in multiple languages, utilizing relevant art and culture. *Outcome (post planning): Highly vulnerable residents receive key*

*messages about how to respond to climate impacts from trusted community sources.*

**Regional Implementation:** Regional agency staff continue to support local planners in implementation of adaptation plans.

#### **Recommendations for Funders**

- a) Fund technical assistance to develop a replicable model program to place vulnerable job seekers in climate adaptation jobs.
- b) Fund community groups to implement the work plan below.

#### **Recommendations for Community Groups**

- a) Advise on establishing programs to hire residents from vulnerable communities, especially with barriers to employment, to work on implementing climate resilience plans.
- b) Monitor implementation of adaptation plans for compliance with equity and health mandates.
- c) Conduct community outreach campaigns on public education on local climate impacts and emergency response in multiple languages.

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# Appendix A. Sample Community Partnership Agreement

## Partnering Agreement

### West Oakland Toxic Reduction Collaborative

#### I. Background

The community of West Oakland has embarked on a steady course of revitalization aimed at sustainable development and public health. Since the Loma Prieta earthquake in 1989, the community, the City, agencies and other parties have produced comprehensive redevelopment plans, assessments and initiatives to support these goals. During the 1990's the U.S. Environmental Protection Agency's Region 9 office implemented an environmental justice pilot project in West Oakland. More recently, in 2002 a community-driven initiative resulted in the report, "Neighborhood Knowledge for Change", issued by the West Oakland Environmental Indicators Project (EIP), putting forward 17 indicators of community health. The EIP Committee has continued since that time, pursuing and expanding upon the strategies identified in the Report. Since 2002 EPA's Region 9 office has provided support to the EIP Committee and the Pacific Institute in developing a strategy to address the impacts of diesel emissions. All of these developments point to the need for a broad collaborative multi-stakeholder approach to address the environmental and community health problems facing West Oakland.

#### II. The West Oakland Toxic Reduction Collaborative (also referred to as the "Collaborative")

The Collaborative functions as a broad range of organizations bringing to bear respective resources to address the environmental and community health issues affecting West Oakland. The Collaborative includes representatives of the community (e.g. residents), community-based organizations or groups, faith based groups, neighborhood associations, school/academia based groups, non-profit environmental organizations, labor, youth, local agencies, state agencies, federal agencies, and business/industry. Members of the Collaborative are referred to as "Partners". The Collaborative will be coordinated by co-leads - the U.S. Environmental Protection Agency, Region 9 serves as the federal lead for the Collaborative and the Environmental Indicators Project Committee serves as the local community lead.



### III. Goal statement

It is the goal of the Collaborative to identify, mobilize and coordinate federal, state, local and community resources to improve air quality and community health. The project partners agree that their efforts should be action oriented, voluntary and focused on solving problems to reduce the exposure to and effects of diesel and other toxic pollutants in West Oakland.

#### Goals:

1. Reduce exposure from toxic air emissions and diesel pollution from stationary and mobile sources.
2. Reduce incompatible land uses to promote a safe, healthy and sustainable community.
3. Improve indoor air quality to West Oakland residents.
4. Reduce proximity and impact of diesel truck traffic to West Oakland residents.
5. Strengthen and improve relationships and coordination between public agencies, and with the community.
6. Ensure timely and effective response to environmental violations in West Oakland, including both public and private violations.
7. Build community capacity and education towards community based leadership.

### V. Roles of Co-leads

To achieve the goals of the Collaborative, the Co-leads will (1) develop the agendas, issues notices for meetings of the full collaborative, (2) prepare meeting summaries, (3) comply with evaluation and reporting requirements associated with the collaborative, (4) coordinate funding requests, and (5) be responsible for external communications regarding the work of the Collaborative.

### VI. Role of the Steering Committee

The role of the Steering Committee is to advise and provide direction to the project and the workgroups, and to ensure the goals of the Collaborative are being met. The Collaborative will identify “Workgroups” (as described in section VIII, below) to advance the goals of the Collaborative. The co-chairs of each Workgroup and the co-leads of the Collaborative, will constitute the make-up of the Steering Committee. One of the co-chairs of each work group will be a representative of the West Oakland community.

## VII. Roles of Partners

To achieve the goals of the collaborative, Partners are expected to:

- Share data and information about their own mission and activities in order to assist each other and the Collaborative as a whole in meeting its goals.
- Keep each other informed of actions, initiatives and legislation/regulation that may contribute to or detract from the goals.
- Coordinate activities that have the potential to complement or conflict with each other.
- Identify existing and additional resources that could be applied to the goals, and assist each other in obtaining or utilizing those resources (e.g. in-kind support, administrative support, technical assistance, meeting space, etc.)
- Identify and participate in joint activities that could benefit the goals.
- Identify obstacles to achieving the goals and develop solutions to overcoming them.
- Think creatively about how the Partners can work collaboratively to make a difference in the health and well being of the West Oakland community.
- Respect each other's individual roles and contributions and any limitations a Partner may have with regard to resources.
- Resolve any conflicts in a positive, swift and constructive manner.
- Share relevant information to the Partnership related to West Oakland

## VIII. Workgroups

The work of the Collaborative will be distributed among several workgroups, which will report back periodically to the full Collaborative. The workgroups will be identified by the Collaborative. The workgroups will craft and implement their work consistent with the goals of the Collaborative (see section III), and will develop a workplan consistent with the goals of the Collaborative. The Collaborative will identify co-chairs (2) for each workgroup. One co-chair shall be a representative of the West Oakland community. The Collaborative will establish workgroups to address the initial set of issues: (1) Truck Traffic Management; (2) Truck idling; (3) Truck incentives; (4) Off -road sources; (5) Healthy Homes and Indoor Air; (6) Fuels and technologies issues; and (7) Interagency issues and coordination. These issues may be expanded or revised by agreement of the Collaborative. Workgroups may include non-Partners.

## **IX. Facilitation**

Meetings of the full Collaborative will be facilitated. Facilitation of work groups will be decided by the members of those work groups.

## **X. Duration**

Initial commitments by Partners will be for one year with the expectation that the project is likely to require two years for achievement of substantial progress. The co-chairs and/or the Steering Committee will periodically survey the Partners - initially semiannually - on the functioning of the Collaborative and will report on the results of the surveys at regular meetings of the full Collaborative.

## **XI. Decision-making and Conflict Resolution**

In the course of the project, disagreements will inevitably arise. The Partners agree to work in a collaborative fashion and to strive for consensus on the issues before the Collaborative. If consensus cannot be reached, the Partners agree to use mediation to attempt to reach a resolution within one-month of when the issue arises. Further, the Partners agree they will attempt to resolve disagreements expeditiously and constructively. In the event of an impasse, the co-leads shall be the final decision-makers on matters pertaining to the Collaborative, carefully weighing the consequences of any decision where there is a lack of consensus. If the co-leads cannot agree, then the action in question will not proceed. In any event, individual Partners cannot be compelled to participate in any action to which they do not agree. Individual Partners may also abstain from participation in a decision when they believe it would be inappropriate for them to participate in that decision.

In the spirit of collaboration and collective problem-solving, the Partners agree to the statements outlined in this agreement and to resolve to work together to demonstrate how agencies, communities and other stakeholders working in concert can achieve meaningful improvements in environmental protection and public health for communities such as West Oakland.

Signed by:

U.S. Environmental Protection Agency  
Region 9

West Oakland  
Environmental Indicators Project Committee

[last revised 9/15/04]  
[reformatted 2/9/05]  
[correction 3/3/05]

## Appendix B. Methods

Based on an extensive literature review, Bay Localize prepared an in-depth survey for Bay Area residents who are involved in their communities and likely to be interested in local climate adaptation. We peer reviewed the survey with a group of regional social justice organizers and health equity experts (listed in acknowledgements).

Bay Localize distributed the surveys online in both English and Spanish using a snowball methodology, in which recipients were asked to forward the survey to others they know. Fifty five Bay Area community and public health organizations throughout the nine counties participated in distributing the survey to their members, co-workers, lists, or constituents.

### *Bay Area Organizations that Voluntarily Distributed Survey:*

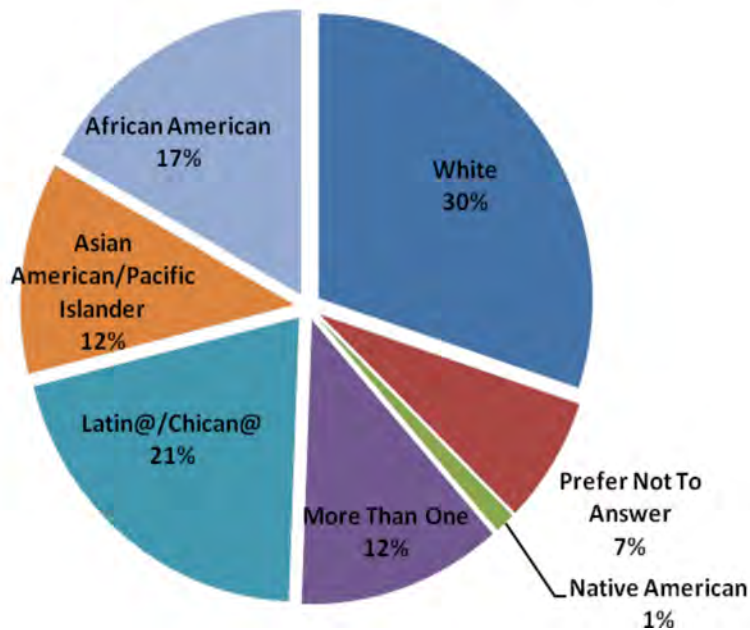
4CL	Live Healthy Napa County
Public Advocates	Mendonoma Transition Towns
Alameda County Public Health	Movement Generation
BAEHC	Napa County Health and Human Services
BARHII	North Bay Organizing Project
Bay Area Community Resources (BACR)	Nuestra Voz of Sonoma
Project USA	Oakland Climate Action Coalition
Bay Localize	Pacific Institute
Berkeley Climate Action Coalition	POWER
Breakthrough Communities	Richmond Progressive Alliance
California Institute of Integral Studies	Santa Clara County Public Health
Calistoga Family Center	Sierra Club Loma Prieta Chapter
California Department of Public Health	Silicon Valley Community Foundation
Citizens Against Pollution	Six Wins
Climate Corps Bay Area	Somos Mayfair
Communities for a Better Environment	South Prescott Neighborhood Group
Community Food and Justice Coalition	South Prescott NextDoor Community
DD Council	South Santa Clara Collaborative
District 5 United	The San Francisco Foundation
Earth Island Institute	Thrive Napa Valley
Ecology Center	Transportation Justice Working Group
Environmental Defense Fund	Transform
Environmental Health Network (EHN)	Transition Towns
Park Pleasant Neighborhood Association	Tri-Valley CAREs
Greenbelt Alliance	Unitarian Universalist Church of Oakland
GRID Alternatives	Urban Habitat
HOPE Collaborative	Veggielution
La Luz Center	W. Oakland Environmental Indicators Project
	Youth United for Community Action (YUCA)

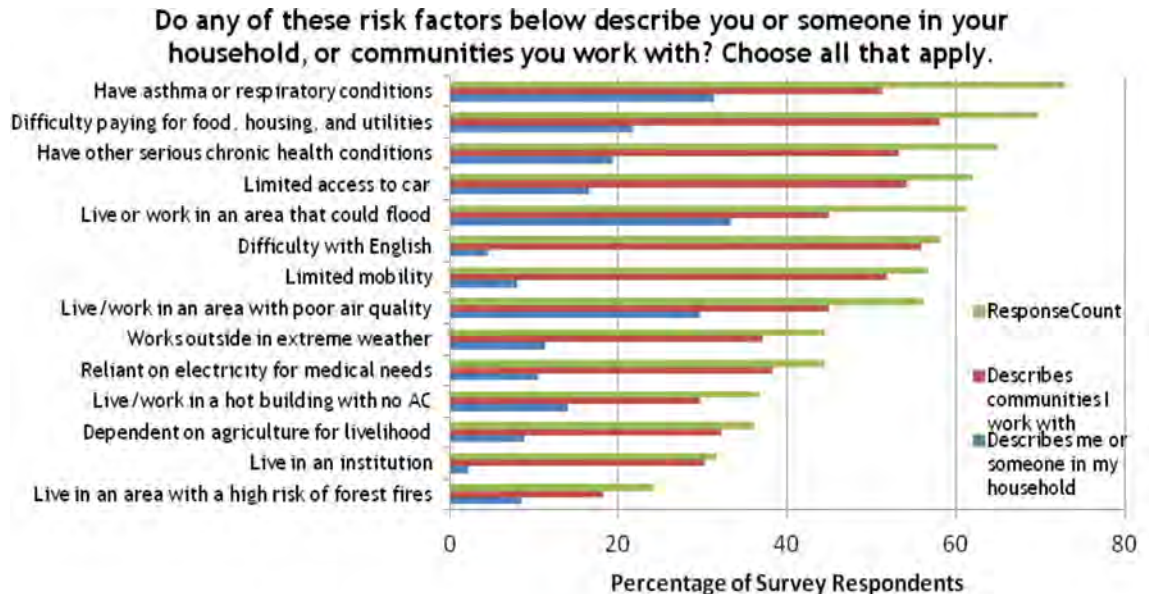
More than 400 residents responded to the survey between November 2012 and January 2013. We filtered the sample to just Bay Area respondents who identified that one or more climate vulnerabilities applied to someone in their own household, to a sample size of 350. The majority of respondents also worked with climate vulnerable communities through social services or community organizing. The following figures illustrate the demographic information and vulnerability factors identified by the respondents.

Based on the survey results Bay Localize formulated a regional workplan for community engagement and equity in climate adaptation planning. We peer reviewed these recommendations with thirty five social justice organizers and public health experts from around the region at an in-person convening held in January, 2013.

The full text of the survey is included following the figures.

## Demographics of Survey Sample





### Regional Workshop

In January, 2013 Bay Localize and the San Francisco Foundation hosted a Regional Workshop on Resilience and Equity to provide input and additional perspectives on the recommendations drafted from the survey results. The participant list is included below. Bay Localize is grateful for generosity of these organizations in sharing their thoughts and perspectives, and this report does not attempt to reflect the positions of these individuals or organizations.

Bay Area Regional Convening on Resilience and Equity  
January 22nd, 2013  
Participant List

Bay Area Health Inequities Initiative	Sandi Galvez	sgalvez@phi.org
Bay Area Joint Policy Committee	Bruce Riordan	bruce@bayareaajpc.net
Bay Localize	Kirsten Schwind	kirsten@baylocalize.org
	Corrine Van Hook	corrine@baylocalize.org
	Tatiana Chaterji	atiana@baylocalize.org
Breakthrough Communities	Carl Anthony	carlcanthony@gmail.com
	Paloma Pavel	PalomaPavel@earthhousecenter.org
Brightline Defense Project	Joshua Arce	josh@brightlinedefense.org
California Department of Health	Brooke Sommerfeldt	Brooke.Sommerfeldt@cdph.ca.gov
City of Berkeley	Marna Schwartz	mschwartz@cityofberkeley.info
Communities for a Better Environment	Nile Malloy	nmalloy@cbecal.org
Community Food and Justice Coalition	Eric Middleton	emiddleton@cafoodjustice.org
Contra Costa Health Services	Michael Kent	Michael.Kent@hsd.cccounty.us
East Bay Bike Coalition	Sandra Hamlat	sandra.hamlat@gmail.com
Ecology Center	Martin Bourque	martin@ecologycenter.org
Greenaction for Health and Environmental Justice	Marie Harrison	marie@greenaction.org
Greenlining Institute	Ryan Young	ryany@greenlining.org
	Janine Macbeth	janinem@greenlining.org
GRID Alternatives	Mara Meaney-Ervin	mervin@gridalternatives.org
Kresge Foundation	Lois DeBacker	lrdebacker@kresge.org
	John Nordgren	JNordgren@kresge.org
Movement Generation	Mateo Nube	mateo@movementgeneration.org
Pacific Institute	Catalina Garzon	cgarzon@pacinst.org
POWER	Alicia Garza	alicia@peopleorganized.org
Public Health Institute	Linda Rudolph	rudolph.linda@gmail.com
Rose Foundation	Jill Ratner	jratner@rosefdn.org
San Francisco Department of Environment	Adam Stern	adam.stern@sfgov.org
San Francisco Department of Public Health	Karen Pierce	karen.pierce@sfpdh.org
SolTrans Advisory Committee	Richard Burnett	burnett.richardl@gmail.com
SPUR	Laura Tam	ltam@spur.org
The San Francisco Foundation	Francesca Vietor	fvietor@sff.org
	Mara Wilson	mwilson@sff.org
	Becky Weinberg	bweinberg@sff.org
	Kate White	kwhite@sff.org
Tri-Valley CAREs	Scott Yundt	scott@trivalleycares.org
UU Ministries	Rev. Earl Koteen	ekoteen@uulmca.org
Urban Habitat	Lindsay Imai	lindsay@urbanhabitat.org
Youth United for Community Action	Annie Loya	annie@youthunited.net
West Oakland Environmental Indicators Project	Margaret Gordon	margaretgordon@sbcglobal.net



**Community Engagement and Equity in Bay Area Resilience Planning Survey Text**  
**Help Your Community Prepare for the Local Impacts of Climate Change!**  
**Please Answer this Quick Survey.**

This survey is for Bay Area residents. By participating you will give important and needed direction to our local governments.

Climate change is expected to hit the Bay Area in serious ways. Superstorm Sandy on the East Coast showed that climate change is already impacting millions of people. Help the Bay Area get ready!

Plans to prevent and prepare for the local impacts of climate change are being crafted now. Your input will help your community receive the necessary support.

You do not need to know about climate change to answer this survey -- it's more important to know about your community. This short survey has only five required questions (marked with an \*) and eight optional questions. It takes 3-10 minutes to complete.

**Background on Climate Change in the Bay Area**

Here are some ways climate change is expected to impact the Bay Area:

- Increased temperatures and more frequent heat waves posing many health problems
- Droughts which could impact our drinking water and food supplies
- Increases in food, water, energy, and housing prices, creating new hardships for low-income households
- Sea level rise causing Bay or coastal flooding and damage to infrastructure and low-lying areas
- More extreme weather, storms and heavy rain with flooding, landslide damage, and power outages
- Wild fires damaging housing, businesses and creating hazardous air pollution
- Loss of natural lands, plants and animals loved by those who call the Bay Area home
- While we can see many of these changes now, they are expected to become much more serious for our children and grandchildren's generations.

Taking action now can help reduce some of these predicted climate impacts. To develop equitable and effective plans, local governments need to hear from you.

This survey is designed by Bay Localize, an Oakland-based nonprofit building equitable and resilient communities in the nine-county Bay Area, in collaboration with the Joint Policy Committee. To learn more contact Kirsten Schwind, [kirsten@baylocalize.org](mailto:kirsten@baylocalize.org), 510-834-0420 or check out [www.baylocalize.org](http://www.baylocalize.org).

- 1. In what ZIP code is your home located? (Enter 5 digits)\***
- 2. How do you generally identify yourself? Choose as many as apply:\***
  - African American
  - Asian American/Pacific Islander
  - Latina/Chicana
  - Native American
  - White
  - I prefer not to answer this question
  - Other (please specify)
- 3. This survey is being distributed voluntarily through community organizations and residents. So that we may thank those who are helping to distribute it, please let us know how you heard about this survey.\***
- 4. Optional: If you are associated with one or more local community organizations, please list here (if not, leave blank):**
- 5. Climate change is likely to affect everyone in the Bay Area in some way.**

However, some communities and people will be impacted more than others, or have fewer resources to prepare for and recover from climate events.

**Do any of these risk factors below describe you or someone in your household, or communities you work with? Choose all that apply.\***

Describes me or someone in my household/ Describes communities I work with:

- Limited mobility (e.g. elderly living alone)
- Limited access to transportation to evacuate in emergencies
- Live in an institution (cannot evacuate on their own)
- Reliant on electricity for medical needs (refrigeration of medicine, etc.)
- Sometimes have difficulty being able to afford food, housing, and utilities
- May not understand emergency announcements in English
- Job requires working outside on a regular basis
- Dependent on agriculture for livelihood
- Live or work in a building that gets uncomfortably hot, with no air conditioning
- Live or work in an area that could flood
- Live or work in an area with poor air quality (dirty air)
- Have asthma or respiratory conditions (heat waves can make air pollution worse)
- Have other serious chronic health conditions
- Live in an area with a high risk of forest fires
- None of the above

**5. Here are some specific ways climate change may affect the Bay Area, in both urban and rural areas.**

**Which of these impacts are you most concerned about directly affecting you and/or communities you work with? Please select all that apply.\***

- Of most concern to me/Of most concern to communities I work with:
- Flooding from rivers, creeks, backed-up storm drains, or broken levees
- Flooding along the coast, bay, or delta from storm surges and sea level rise

- Other impacts of severe storms (losing power, landslides, road closures, etc)
- Prolonged heat waves (causing heat strokes and other health impacts)
- Bad air quality making it harder to breathe
- Drought causing less water in water systems, wells, rivers, creeks, and fisheries
- Losing crops from drought, resulting in lost farm revenue and jobs
- More expensive food, water, housing, and other basic goods
- Local wild plant and animal species dying off
- Wildfires endangering forests, homes, towns, and air quality
- Getting stranded in an emergency because of having no way to evacuate
- Emergency situations impacting ability to meet special medical needs
- Other:

**6. Optional: Which of the categories that you marked above concern you most, and why?**

**7. Optional: Are you or groups you know taking action to prevent or prepare for these impacts in the Bay Area? Please name and give a short description of the projects you know about.**

**8. Here are some steps that local government could take in creating a climate resilience plan. In this context “climate resilience” means the capacity to prevent, prepare, respond, recover, and adapt to local impacts of climate change. Would you personally be interested in getting involved in any of the following steps in climate resilience planning? If so, in what ways? Please note that you do not need to be an expert on climate change to help with planning - often knowing your community is more important.\***

**(If you would like us to follow up on your interest, please fill out the contact information at the end of the survey)**

Not interested/Offer opinion/Participate in ongoing process/Take a leadership role/I am already involved in this:

**9. Local governments and agencies in the Bay Area are starting to plan for how to prepare for climate change in our region. Below are listed some strategies that could help local government planners and vulnerable communities work together on equitable community resilience planning.**

**Based on your experience, please rate how effective you think each strategy would be helping local government planners and vulnerable communities work together.**

I'm not sure/Not very effective/Somewhat effective/Very effective:

- Educate vulnerable communities about local impacts of climate change
- Reach out to residents of vulnerable communities at the beginning of the planning process
- Partner with organizations in vulnerable communities in the planning process
- Establish leadership roles for representatives of vulnerable communities in the planning process
- Provide financial support for local organizations getting involved in planning
- Provide financial support for residents of vulnerable communities getting involved planning
- Build on the work of existing community needs assessments and proposals
- Encourage community coalitions to develop proposals together and advocate for them
- Collaborate on mapping local social vulnerability to climate change
- Map out how to best support existing resilience efforts in vulnerable communities
- Use social equity indicators in planning
- Ensure vulnerable communities receive an equitable portion of funds
- Hold community forums in vulnerable neighborhoods to get feedback on plans
- Require approval of plans by representatives of vulnerable communities
- Connect vulnerable job seekers with jobs building local climate resilience

**10. Optional: Would you like to say more about your responses above, or suggest other strategies for local government and vulnerable communities to work together to achieve equitable climate resilience?**

Thank you so much for responding to this survey. Your responses will help build climate resilience in the Bay Area. If you would like to get involved yourself, please be sure to enter your contact information below.

The more people who take this survey, the better prepared the Bay Area can be. We're especially interested in reaching communities that will be most impacted by climate change (have risk factors identified earlier in survey). Would you be willing to send this survey to people you know who are active in these communities? If so, please forward them the email or you received for this survey, or the following web link: [www.baylocalize.org/survey](http://www.baylocalize.org/survey). Thank you!

**11. Optional: If you would like us to contact you about the results of this survey and follow up steps, please fill in the contact information below. Your contact information will be used only by Bay Localize for this purpose and no other, unless you give us permission to share it (see next question).**

Name:

Organization:

City/Town:

Email Address:

Phone Number:

**12. Optional: Would you like Bay Localize to share your contact information with other local organizations or government agencies that may be interested in following up with you specifically about getting involved in local climate resilience planning?**

Yes

No

If you have any questions or comments about this survey please contact [kirsten@baylocalize.org](mailto:kirsten@baylocalize.org) or 510-834-0420 with the subject line “survey follow up.”

Again, thank you for your time!







**Bay Localize**

Building equitable and resilient communities