ARTICLE | WHY COMMUNITY ENGAGEMENT IS ESSENTIAL TO CLIMATE ADAPTATION AND RESILIENCE

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Introduction

Many communities and civil society organizations are raising their voices about the dangers of climate change, and are highlighting the disproportionate impacts it is having on equity-deserving groups (defined as those that experience significant collective barriers in participating in society, based on age, ethnicity, disability, economic status, gender, nationality, race, sexual orientation, transgender status, or other factors[1]).

Meanwhile, many governments and the United Nations have acknowledged that climate change poses an existential threat to humanity. They are releasing local, national, and international frameworks and action plans[2] that aim to mitigate future impacts through emission reductions and strengthen climate resilience and adaptation.

From research and our own experience working with communities and governments on climate action, we have learned that focusing on technical solutions only that are not people-centered and do not respond to the local context typically fail to build popular consent for a climate transition.[3] Similarly, when it comes to climate adaptation, top-down approaches that do not centre those most impacted can lead to increased inequity, while participatory engagement can help close existing equity gaps.

[1] Queen's University "Equity, Diversity, Inclusion and Indigenization" https://www.queensu.ca/hreo/sites/hreowww/files/uploaded_files/20201210KeyEDIIterms.pdf
[2] National energy and climate plans, EU countries' 10-year national energy and climate plans for 2021-2030: https://commission.europa.eu/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-energy-and-climate-plans_en
[3] I. GARCÍA and D. KHANDKE, "CITIES AND CIVIL SOCIETY AS ALLIES FOR THE ENERGY TRANSITION," The German Marshall Fund of the United States, Washington, 2019.

One of the questions we must grapple with is how residents can be meaningfully engaged in responding to climate change at each layer of governance. We know that engaging residents in climate action is not a 'nice-to-have'; rather, it is crucial to making individual, collective, and systemic decisions that ensure the possibility of an ongoing future on this planet.

In this paper, we focus on the role of community engagement in climate adaptation and resilience specifically. We share some of our insights, our lessons learned, and examples of effective community-driven climate adaptation efforts. We hope that this is the start of a conversation on how to strengthen equitable climate resilience through greater public participation.

Adaptation and Resilience

The United Nations Framework Convention on Climate Change (UNFCCC) defines adaptation as "adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change. In simple terms, countries and communities need to develop adaptation solutions and implement actions to respond to current and future climate change impacts. Adaptation actions can take on many forms, depending on the unique context of a community, business, organization, country or region. There is no 'one-size-fits-all-solution'"

Why engage residents and specifically those with lived experience

We have identified six main reasons why governments, community organizations, cross-sector coalitions and other institutions should engage residents as they develop and implement climate adaptation plans. While it is important to engage all residents, we put a particular emphasis on engaging those with lived and living experience navigating climate issues, as they are the ones with experiential knowledge of the issue.

WHAT DO WE MEAN BY EQUITY-DESERVING GROUPS AND 'LIVED EXPERIENCE'?

Same storm, different boats: While we are all experiencing the effects of a changing climate, the impacts are falling unevenly and unequally. Equity-deserving groups are disproportionately impacted by climate change despite having contributed least to the problem. Yet many climate adaptation efforts fail to consider equity-deserving groups and their unique expertise and lived experience, thus missing a crucial perspective.

These groups include:

1. **Young people** – The current and coming generations of young people will have to deal with the effects of the previous generation's actions for decades to come. Meanwhile, many young people do not have the right to vote in local or national elections and are often excluded from decision-making processes in other important ways that impede their ability to shape their future.

2. **Seniors, those living with disability/differently abled, and those with compromised health** – Disasters, such as heatwaves, wildfires or floods, have been increasing over the recent years and scientists are expecting a rise in weather extremes over the years to come. [4] But disasters are hard to plan for and require residents to be agile to respond to its effects. Several examples highlight the devastating impact on residents that require different support. For example, the majority of those who died during the Canadian heat dome 2021 in British Columbia were the elderly and those with asthma are most affected by wildfire smoke.[5] The floods in the West of Germany in 2021 resulted in the death of several residents of a care facility for differently abled people.[6]

[4] American Meteorological Society, Explaining Extreme Events in 2021 and 2022 from a Climate Perspective, 2023
[5] Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021 https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/extreme_heat_death_review_panel_report.pdf
[6] Human Rights Watch, German Flood Deaths Highlight Climate Change Risks for People with Disabilities, Inclusive Climate Action and Planning Needed after 12 Peris, 2021 https://www.hrw.org/news/2021/07/21/german-flood-deaths-highlight-climate-change-risks-people-disabilities

3. **Indigenous and northern communities, and communities in the Global South** – Many Indigenous communities are already bearing the brunt of the climate crisis and will continue to be disproportionately burdened. In Canada, the North is experiencing the effects of climate change at three times the rate of the South. Countless communities in the Global South are leaving their homes because their land has become uninhabitable due to heat waves or lack of access to water.

4. **People experiencing forced migration or homelessness** – These groups are least able to relocate when disasters strike and are also least able to adapt to new weather impacts, due to lack of shelter or ability to afford e.g. an air conditioner. These communities are oftentimes excluded from elections or participation and are therefore not able to partake in decision-making processes.

5. **Racialized communities and people living in poverty** - Due to environmental racism as well as historical systemic racism, these communities are more likely to live in places that are particularly vulnerable to floods and other climate disasters. These communities are also affected by energy poverty at disproportionate rates and have less capacity through savings or assets to respond to the effects of climate change.

6. **Women and LGBTQIA2S+ individuals** – Gender inequalities and societal gender norms are such that women and LGBTQIA2S+ individuals are disproportionately impacted by extreme weather events and face unique vulnerabilities and risks due to unequal power sharing, gender gaps and gender-based violence and discrimination. [7]

It is worth noting the intersectionality of these groups. A person is often not only representing one group alone. For example, a single father of two children with a compromised health might be living in poverty. That does not allow him to move to a greener neighborhood with better air quality to cope better with the increase in temperatures in his city.

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[7] Gender Data and Climate playbook https://data.org/playbooks/gender-data-and-climate/c/identify-and-act-on-the-gender-inequalities-linked-to-climate-change/

Engaging the community and centering the voices of those with lived experience is vital for our collective success for the following reasons:

1. **Firsthand knowledge of local places enables more effective climate adaptation**

Adapting our communities to climate change is a colossal task that requires new and transformative ways of thinking, doing and collaborating. It also requires tailored responses that are community-centered and rooted in place, as opposed to one-size-fits-all solutions.

Integrating the firsthand, place-based knowledge that communities hold is essential to developing climate adaptation solutions that can adequately address the challenges residents are facing. Engaging and co-designing with residents helps identify user-centered solutions that take into account the social and cultural context, behavioral considerations, needs, and barriers.

Centering the voices of those with lived experience also helps to ensure that actions taken will address historic inequities by minimizing harm towards these populations and targeting benefits to them.

2. **When communities are meaningfully engaged, they have a greater sense of ownership which leads to more action**

When community members are meaningfully engaged and are contributing their ideas and expertise, they will be more likely to support and participate in adaptation efforts. And given the scale and complexity of the challenge at hand, having broad support from the general population and deep collaboration across society is essential to generate change.

A key means to fostering shared ownership is rethinking the relationship between governments and communities. Residents are often considered within the realm of their personal and consumer choices, and are seen as objects of change rather than agents of change. Yet our experience shows that people want to extend their influence into policy and governance, shaping the cities they live in based on the knowledge, lived experiences and democratic rights they possess.

Communities that engage residents meaningfully as they frame problems, assess, learn, and roll out climate adaptation efforts can expect to have stronger community buy-in, increased public awareness and education when it comes to climate issues, and higher levels of action.[8] They will face less pushback and skepticism to climate adaptation initiatives, and will see improved implementation and maintenance over time. Engagement can also support communications and outreach efforts, as residents can help reach others to mobilize additional support.

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> Given a meaningful opportunity to have their say, most people would support action in the face of the climate breakdown that is unfolding in front of us. But our democracies, in their current form, are just not offering people that choice.
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> *- R. Willis, "Too Hot to Handle: can democracies handle climate change?" Bristol University Press, 2020*

3. Traditional ecological knowledge is vital to understanding climate issues and developing effective responses

Traditional or Indigenous local knowledge is often passed down from generation to generation by the people living on and caring for the land. It is informed by cultural memories, experiences of change, and by its community's values. Traditional ecological knowledge prioritizes sustainable practices that promote the well-being and health of the environment and the communities relying on the land.

In an approach known as Two-Eyed Seeing or Etuaptmumk[9], scientific research and traditional knowledge are increasingly being combined for a fuller picture of the ways in which the climate is changing, the impacts it is having on lands, communities and wildlife, and potential solutions that support adaptation and resilience. Adopting a two-eyed seeing approach can inform better climate adaptation practices, such as creating sustainable and healthy food systems or restoring grasslands and forests in the face of a changing climate.

[8] NetZeroCities, Deliverable 8.1: Desktop report on engagement. A NZC call to action for a participative transition to carbon neutrality and beyond, 2022.

[9] Institute for Integrative Science and Health http://www.integrativescience.ca/Principles/TwoEyedSeeing/

4. It leads to more equitable and just outcomes

The populations that are most vulnerable to climate change and at greatest risk when extreme weather events such as heatwaves, floods or droughts occur, have typically contributed least to the rising greenhouse gas emissions that are driving the crisis. This is the case at the local, national and global scales. These same populations are often excluded from decision-making processes and climate adaptation efforts in their communities, which can perpetuate existing inequities. Decisions that are made *for* residents instead of *with* residents can result in sub-par 'solutions' that may work better in theory than in practice.

By removing barriers to engagement for communities that experience or have experienced inequities and meaningfully including them in co-design activities, we can help close existing equity gaps including those related to race, gender, socio-economic status, and others.

There are a number of different forms of justice that can be advanced through more inclusive and participatory climate adaptation approaches,[10] in particular: distributive justice (allocation of costs and benefits), recognitional justice (respect for, engagement with, and fair consideration of diverse cultures and perspectives), procedural justice (who participates in decision-making), and restorative justice (addressing past and present injustices).

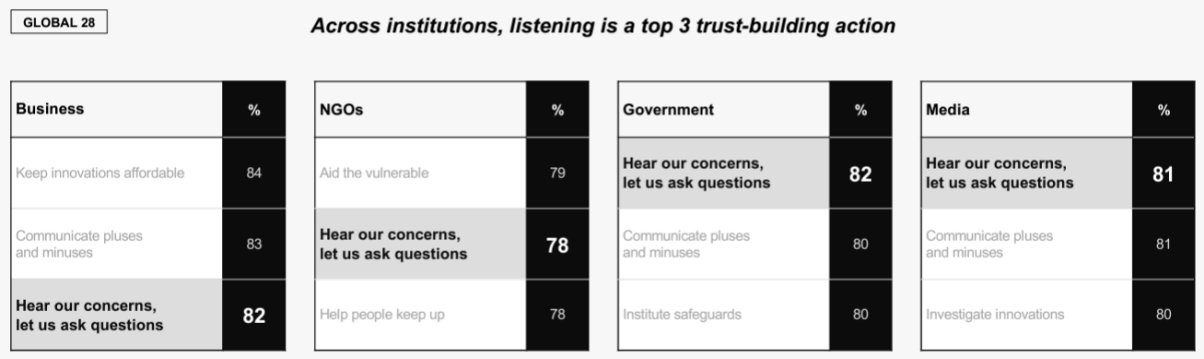
5. It strengthens trust in democracy

Existing democratic institutions, infrastructure, and processes were designed and established to deal with confined problems that have immediate impacts, not complex and long-term issues.[11] In their current design, democratic institutions generally seem largely unable to respond to the need for urgent climate action, in time and at scale, which has an impact on how these institutions are perceived and trusted.[12] Over the past years we have witnessed the continued erosion of trust in governments and other institutions. Among the top findings of the 2024 Edelman's Trust Barometer are that authority is in decline.

[10] S. Juhola, M. Heikkinen, T. Pietilä, et.al., Connecting climate justice and adaptation planning: An adaptation justice index, Environmental Science & Policy, Volume 136, 2022, Pages 609-619, ISSN 1462-9011, https://doi.org/10.1016/j.envsci.2022.07.024.
[11] G. Smith, "Can Democracy Safeguard the Future? | New book by Graham Smith," in Democracy and Climate Change: Challenges for Democratic Innovation, 2021.
[12] NetZeroCities, Deliverable 8.1: Desktop report on engagement. A NZC call to action for a participative transition to carbon neutrality and beyond, 2022.

Globally, governments are seen as far less competent and ethical than business. Only 51% of people worldwide trust governments.

When residents are engaged in climate action planning and implementation, it creates opportunities for engagement in the democratic process.[13] Listening to community concerns and inviting residents to ask questions increases trust in innovations.[14] It helps to rethink current forms of collaboration between government and residents, increases individuals' sense of agency, and aids democratic decision making. All of this, in turn, can help build trust and strengthen democracy.[15]



Source: 2024 Edelman's Trust Barometer

6. It supports a shift from despair and eco-anxiety to hope and action

Around the world, eco-anxiety is on the rise – especially among young people.[16] Given the impending climate disaster we face, emotions such as anger, despair, grief, and loss are entirely understandable. It is important to honour these emotions while not allowing them to control us or make us passive or apathetic.

Engaging in climate adaptation efforts and taking collective action in support of a more sustainable and just future is key to overcoming negative emotions and moving to a place of active hope. In the words of Joan Baez, action is the antidote to despair. Engaging residents in climate planning and implementation creates opportunities for building community connections and taking positive action together.

[13] G. Smith, "Can Democracy Safeguard the Future? | New book by Graham Smith," in *Democracy and Climate Change: Challenges for Democratic Innovation*, 2021.
[14] 2024 Edelman's Trust Barometer, p.30
[15] OECD (2022), Building Trust and Reinforcing Democracy: Preparing the Ground for Government Action, OECD Public Governance Reviews, OECD Publishing, Paris, https://doi.org/10.1787/76972a4a-en.
[16] Léger-Goodes T, Malboeuf-Hurtubise C, Mastine T, Généreux M, Paradis P-O and Camden C (2022) Eco-anxiety in children: A scoping review of the mental health impacts of the awareness of climate change.Front. Psychol. 13:872544. doi: 10.3389/fpsyg.2022.872544

International examples of effective community-driven climate adaptation efforts

Climate adaptation efforts can come in different shapes and sizes. These five international examples can be an inspiration for efforts that centre their local communities.

1. Vienna, Austria – A Participatory Budget on Climate Action

Engaging those who are particularly vulnerable to climate impacts (and in many cases have been historically excluded from these conversations) contributes to greater climate equity. In April 2022, the City of Vienna launched the Vienna Climate Team – Wiener Klimateam – to run a participatory budget process on climate action that includes deliberative and innovative elements. After the idea generation phase, all ideas that fulfilled the requirements entered the co-creation phase where idea-givers were invited to collectively develop project proposals with experts, artists, and city staff. The decision on which project proposals should be implemented is taken by a citizens' jury. Three pioneer districts are selected to test the implementation of the selected ideas. The Wiener Klimateam, viewed as a great success, is running for its third consecutive year. Find more information here: https://klimateam.wien.gv.at/

2. New York City, USA – Co-Creating a Resilience Plan

Led by WE ACT, an environmental justice nonprofit, the Northern Manhattan Climate Action Plan (NMCA) harnesses lessons from Hurricane Sandy to strengthen resilience in New York City. Acknowledging Northern Manhattan's disproportionate vulnerability to climate hazards, the plan was co-created by residents, city agencies, and other partners through a participatory process that took place between January and July 2015. Community input shaped the plan's core principles and proposed solutions.

The plan's framework rests on four pillars: energy democracy, emergency readiness, social hubs, and public engagement. Solutions range from community land trusts to cooperative housing investments, fostering active transportation, and establishing cooperatively owned microgrids. It aligns with existing municipal initiatives, amplifying efforts for equitable outcomes.

Through local advocacy and partnerships, the plan strives for ambitious results, ensuring delivery aligns with inclusive and participatory practices.[17] See the plan: https://www.weact.org/wp-content/uploads/2016/11/Final_NMCA_Print_UpdateNov2016.pdf

3. Freetown, Sierra Leone – Urban Reforestation

Freetown experienced rapid tree loss estimated at 500,000 trees annually since 2011, resulting in landslides and flooding endangering the local population. Mayor Yvonne Aki-Sawyerr's campaign 'Freetown the Treetown' aims to plant one million new trees by 2024 to avoid such disasters. Residents are paid to plant and monitor trees, which are tracked online. The initiative is funded with tokens sold on private and carbon markets. The city council also works with residents to raise awareness of the importance of its trees and engage the community in restorative activities. Approximately 35% of areas targeted for new trees or vegetation are informal settlements that currently have low coverage, directly impacting the life quality of underserved communities. Trees planted near schools, roads and in residential areas aim to improve air quality and heat island effects. The city is on course to meet its ambitious target by 2024 with a steady tree survival rate of over 80%. Learn more here:

https://www.c40knowledgehub.org/s/article/Freetown-s-highly-replicable-way-of-self-financing-urban-reforestation?language=en_US

4. Rotterdam, The Netherlands – Energy Transition

Bospolder-Tussendijken (BoTu), a district in the Dutch city of Rotterdam, is implementing an energy transition to improve residents' quality of life by 2028. The district faces several complex climate and socio-economic challenges. The BoTu initiative started in 2019 by bringing together residents, local initiatives, and informal social networks to seize the skills and knowledge that already exist in the community through the Asset Based Community Development (ABCD) approach. BoTu focused on: building a support network for residents; developing local capacity and green jobs for its energy transition; and addressing energy poverty and debt.

The initiative combines a number of approaches, such as sustainable energy transition, upgrading housing stock, climate adaptation

[17] C. Camponeschi, Sec. Climate Change and Cities, Front. Sustain. Cities, 12 September 2022, Volume 4 - 2022 | https://doi.org/10.3389/frsc.2022.933501
https://www.frontiersin.org/articles/10.3389/frsc.2022.933501/full

measures, and social inclusion and integration. BoTu weaves them together to find projects that achieve multiple benefits in a highly consultative process that is responsive to the needs of the most-impacted residents. The city's budget allocation for the project was €4.6m for the first five years. Find more information here: https://www.resilientrotterdam.nl/en/initiatives/resilient-bospolder-tussendijken

5. **New Brunswick, Canada – Weaving Indigenous Knowledge and Western Science**

In New Brunswick, Mi'gmawe'lTplu'taqnn Inc. (MTI) asserts Mi'gmaq treaty rights using Etuaptmumk or Two-Eyed Seeing, an approach conceptualized by Elder Albert Marshall that braids Indigenous and Euro-Western ways of knowing. MTI's leadership developed a New Brunswick Mi'gmaq Indigenous Knowledge Study Guide and used this framework to study the impacts of infrastructure and resource development projects on its community members. MTI conducts these studies for various projects, including park expansions, mines, and projects related to energy, infrastructure, and heavy industry. Community knowledge holders provide insights on land use and environmental changes over the past decades, which are then recorded using GIS technology. MTI compiles this data into a geodatabase, serving as a vital resource and benchmark for future environmental studies. Read more here: https://changingclimate.ca/regional-perspectives/chapter/1-0/

Conclusion

The importance of community engagement in climate adaptation and resilience cannot be overstated. As was unpacked in this paper, integrating residents' place-based expertise, fostering community ownership, and incorporating traditional knowledge not only enhance the effectiveness of adaptation efforts but also foster more equitable outcomes. Moreover, robust and meaningful community engagement strengthens democracy, builds trust, and mitigates climate despair.

To embark on this journey towards inclusive and equitable resilience, communities can take initial steps such as planning ahead and allocating adequate funding and resources to community engagement, inviting diverse voices to multi-sector leadership tables, using participatory approaches, and embracing engagement as an ongoing activity rather than something that is one-off. Crafting messaging that is inviting, accessible, and connects climate issues to community priorities such that it resonates with residents can galvanize participation.

The examples explored in this paper illustrate the transformative power of community engagement. By heeding these lessons and centring the voices of those with lived experience, communities can adapt to climate change while leaving no one behind.

Turtle Island (North America) is the ancestral home of Indigenous peoples of First Nation, Métis, and Inuit descent. We recognize that across this land Indigenous rights holders have endured historical oppression and continue to experience inequities that have resulted from the widespread colonialist systems and ideologies that perpetuate harm to Indigenous peoples to this day.

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