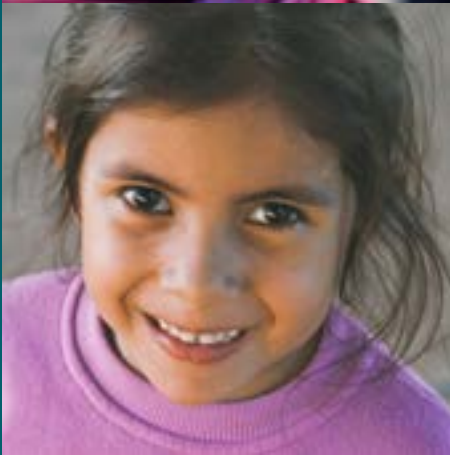Centre for
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Public Engagement on Climate Change

A Case Study Compendium

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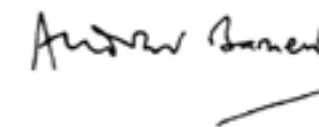Follow us @CPI_foundation

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Foreword

There can be no question that addressing the climate crisis without public engagement is simply impossible. The recent literature review published by Calouste Gulbenkian Foundation in conjunction with the Centre for Public Impact (CPI) leaves little room for doubt: public engagement work is an essential part of averting disaster.

We worked with colleagues at CPI to identify a wide range of examples of excellent work in this field, to flesh out the "practice" that informed the theory outlined in their report 'Public Engagement for Net Zero: A Literature Review'. The Literature Review identified these main areas of focus for effective public engagement work: communication, intervention and collaboration.

Each of these case studies illustrates some or all of these areas of work. The people delivering the projects are far apart and are working on contrasting issues and in very varied contexts. One thing they all share, however, is an awareness that the climate crisis is a problem with solutions as varied as the people who will be called on to help to deliver them.

Even more importantly, these projects highlight the expertise, insight and experience that emerges when work is anchored in a culture of mutual respect. It is this foundation – and the extraordinary results achieved – that makes this collection of case studies a critical source of wisdom for anyone building public engagement on climate change. We hope you enjoy learning more.

Andrew Barnett OBE
Director, Calouste Gulbenkian Foundation (UK Branch)
April 2021

Thematic Summary

Context

Over the last five years, an increasing number of countries around the world have adopted legally binding targets to achieve net-zero greenhouse gas (GHG) emissions at timescales compatible with limiting warming to 1.5ºC. Meeting these targets involve deep-seated transitions in economies, institutions, politics, governance processes, and people's behaviour. Given that these transitions directly impact people's lives and involve significant trade-offs that touch on public values, many are deeply contested. Decisions around this, unless based on an understanding of public attitudes towards risk, socioeconomic capacity, and the priorities of different sections of society, are unlikely to be successful. Public engagement is a critical component in building a collective public mandate for climate policy. It brings with it the opportunity to create a better, fairer and more inclusive society in which individuals and communities are actively involved in shaping the policies and decisions that affect them. While the importance of public engagement around climate policy is well established, it is less clear how public engagement processes should be structured and designed to achieve effectiveness, inclusion and impact.

This Case Study Compendium shines a light on eight examples of public engagement from across the world, covering a diverse range of topics that demonstrate the cross-sectoral nature of climate change issues. This includes public engagement programmes and projects focused on home energy-efficiency retrofits, food waste reduction, forest conservation, local net-zero targets, green participatory budgets, marine conservation, community energy, and sustainable waste management. Through research and practitioner interviews, each case brings a unique perspective to how public engagement can be set up and understood. Some programmes may operate through traditional public engagement workshops or campaigns organised by actors from government or the third sector. Others may derive from community-driven, community-led engagement initiatives. We found that each type of public engagement initiative holds different lessons for how legitimacy and trust can be built, what challenges and successes each comes up against, and the learnings and questions they raise.

Understanding how to engage the public on climate change

The case studies have been grouped into three broad categories. These illustrate the most prominent ways of understanding public engagement in the climate space, as studied in depth in our Public Engagement for Net Zero: Literature Review.

I. Interventions requiring large-scale public communication and buy-in

▼ BetterBuildings Michigan initiative, Michigan, US

▼ Food: Too Good To Waste Network, US

II. Formal deliberation processes drawing on public perspectives to decide policy priorities (e.g. mini-publics, citizen assemblies, participatory budgeting)

▼ Forest Investment Programme, High Forest Zone, Ghana

▼ Oxford Citizens Assembly on Climate Change, Oxford, UK

▼ Green Participatory Budgeting, Lisbon, Portugal

III. Place-based community-owned, community-led initiatives

▼ Community-managed Marine Conservation, Kuruwitu, Kenya

▼ Community Energy Cooperative, Schönau, Germany

▼ Sustainable Waste Management Cooperative, Pune, India

Through these case studies, we aim to provide policymakers, voluntary sector organisations, researchers, and others working on public engagement around climate change with a framework for unpacking the strengths and weaknesses of different approaches to public engagement. From these, we aim to spark a dialogue on how processes can be made more adaptive to evolving local conditions, more inclusive and socially just, and better able to embrace the complexity and uncertainty of climate issues.

I. Interventions requiring large-scale public communication and buy-in

The first two case studies outlined in the Compendium, BetterBuildings Michigan and Food: Too Good to Waste (FTGTW), involve national-level policy programmes in the US that focus on adopting home energy efficiency retrofits and reducing household food waste respectively. In order to be successful, these programmes require large-scale public awareness and buy-in, and shifts in current ways of living. Tackling domestic energy efficiency and food waste holds considerable potential for reducing GHG emissions. However, there are significant social and economic barriers to adoption, making public engagement critical but also challenging.

Key strengths and potential limitations: questions raised by different approaches to public engagement

- *Adaptability: Establishing place-focused experimentation and feedback loops with trusted messengers*

A key strength of both case studies lies in the fact that local community-based organisations were given complete control over the design and implementation of communication and outreach strategies. This allowed for the messaging to be contextualised to the local context

and to the needs and concerns of local communities. It also enabled communities to engage in conversations about the interventions with trusted local messengers. Further aiding its success, the communication strategies in both cases were designed with learning and continuous improvement in mind.

It was acknowledged that there was no one-size-fits-all solution for all households, even when there were similarities between them. In the BetterBuildings initiative, feedback from door-to-door campaigns fed back into strategy design around engagement, allowing the local partners to keep testing the effectiveness of its messaging on energy efficiency with different community groups. This information was also used to customise the energy efficiency retrofit packages to suit the concerns of households. In the FTGTW initiative, the households that were recruited to participate in the food waste reduction pilots were regularly asked to provide feedback, so that engagement could be improved as the pilots progressed, and support could be provided to ensure retention and uptake.

- *Inclusion: The need to acknowledge the wider social, economic and cultural factors driving behavioural decisions*

Both initiatives seek to shift individual behaviour and choices, primarily

through the provision of contextualised messaging, information, fiscal incentives, and peer-focused incentivisation and support. However, there is limited acknowledgement of the wider social, economic and cultural inequalities that drive decision-making in different communities. This is particularly pertinent in the area of food, where the high cost of fresh produce and some residents' limited access to healthy food, storage and cooking infrastructure, and income support play a significant role in shaping household food waste practices. In the area of energy efficiency, the measures seem to take a similarly restricted view of the wider context, as the initiative only targets owner-occupiers and excludes renters and those living in mixed-tenure social housing developments. This limitation raises the question of how national-level programmes aimed at large-scale awareness and buy-in can achieve their aims while also acknowledging and responding to wider societal inequities.

- *Complexity: The need to place responsibility for behaviour shifts on systems, and not individuals alone*

Both cases place the onus of changing behaviour and adopting energy efficiency and waste reduction measures on the household. In doing so, they do not explicitly acknowledge the role that businesses, government and other key stakeholders play in the problem. However, to address this would require a broader discussion of the policies, regulations and incentives that are required to better align the interests of different actors and of the need to create more equal systems of power-sharing in governance and decision-making. This raises a key question of how best a joined-up systems-level approach to public engagement can be co-shaped, wherein the roles of policymakers, governments, regulatory agencies, households, and businesses in changing behaviour towards the environment are clearly articulated.

II. Formal deliberation processes drawing on public perspectives to decide policy priorities

The next three case studies – Forest Investment Programme (FIP) in the High Forest Zone in Ghana, Oxford Citizens Assembly on Climate Change in Oxford, and the Green Participatory Budget in Lisbon – seek to provide two core conditions for setting policy priorities. Firstly, the space for deliberation and discussion across groups; and secondly, viewpoints and insights that are representative of the wider population's needs and concerns. Through a citizen forum, citizens' assembly, and participatory budgeting process, these cases provide helpful insights into the strengths and limitations to be borne in mind when designing different types of public deliberation processes to help define long-term policy priorities.

Key strengths and potential limitations: questions raised by different approaches to public engagement

- *Adaptability: The need to enable the reshaping and reframing of the discussion around values, priorities and lived realities of the public involved*

A principal strength of all three cases is that they are committed to a meaningful follow-up on recommendations emerging from the deliberative sessions. This is a key enabler of trust and legitimacy between citizens and their local or national government. It is important to note that they are able to do this through a tight and structured framing of the problem space in a manner that allows

clear, actionable recommendations to be elicited. However, the tight framing limits the scope of the dialogue, and is subject to exclusions when the process prevents the public from discussing the values, identities, socioeconomic realities, and priorities that shape their lived experiences. This raises the question of how these types of approaches can ensure they are open to reframing, reconsideration and negotiation by participants, such that they are more likely to bring up the broader root causes and challenges to policy adoption and uptake.

- *Inclusion: The need to shift the balance from being representative to being inclusive*

The three case studies either employed a process of self-selection or involved targeted recruitment processes that aimed to create representative samples of the larger community. However, as neither type of recruitment or engagement process specifically prioritises social justice, they may be at risk of reinforcing the inequalities that already exist within society. This may lead to inadvertently preferencing those who already have significant agency or capacity to engage. We can address this problem by actively reaching out to marginalised and minority groups, seeking to understand who is and who is not participating and why, and by making active attempts to counter exclusions through capacity-building, support, and creating safe, trusted discussion spaces.

- *Complexity: Embracing the complexity of climate change through clear messaging and sustained engagement*

A key strength of the Oxford Citizens Assembly and the Ghana FIP process is the fact that they clearly articulate the interlinked, interdependent nature of climate change issues. These discussions connect the urgent need for behaviour change with both short-term benefits and long-term environmental and socioeconomic outcomes, building an effective way to discuss a complex issue area with the public. The Oxford Citizens Assembly also clearly establishes the need for multilevel, multi-sectoral partnerships and collaborations across government, business, civic organisations, and the public. However, both cases span short timeframes, making it challenging for the public involved to build a comprehensive understanding of evolving issues, develop relationships, share experiences, challenge each other, or move from individual perspectives to a truly collective agenda.

On the other hand, the Lisbon participatory budgeting process offers a compelling example of an ongoing annual initiative that enables communities to collaborate and build relationships over the long term. However, the process falls short of communicating the complexity and interconnected nature of the projects being voted on and implemented year on year. This raises a question around how different types of formal deliberation processes can learn from one another and effectively communicate the complex, interlinked nature of climate change policy, while sustaining the public's interest and participation in the long term.

III. Place-based community-owned, community-led initiatives

The Kuruwitu Marine Conservation Initiative, Schönau Community Energy Project, and Pune Solid Waste Management case studies present different types of community owned and led public engagement initiatives. They all began, however, as small community movements, growing as they engaged the wider society, creating space for dialogue and deliberation outside institutionalised forums. These initiatives – grounded in local and collective values – yielded new narratives that changed the political discourse around who can and should own and lead resource management and service provision, and how this can be done.

Key strengths and potential limitations: questions raised by different approaches to public engagement

■ *Adaptability: Establishing community-led, demand-driven experimentation and learning*

In all three cases, community members across different regions led public engagement efforts themselves, as active learning processes. This allowed them the autonomy and opportunity to experiment with new ideas and practices, sense-check them against wider community needs and priorities, share learnings, and constantly engage in developing, improving and evolving the initiative as it grew. These learning processes are inherently focused on social, cultural and human capital, tapping into a deeper understanding of belonging, identity, and community self-expression.

In addition, in each case, the community actively engaged in articulating their experiences with intermediaries, raising further awareness and funding for the cause. This, in turn, enabled them to develop the requisite infrastructure for diffusing their knowledge and lessons learned into wider society and other similar community groups, through mentorship and training programmes.

■ *Inclusion: The need to balance openness with inclusion*

As each of the case studies has expanded to include new members, stakeholders and shareholders – as defined by each unique governance model – there is an underlying tension that exists between balancing bottom-up community priorities and place-bound origins against a larger system focused on business and efficiency. These transitions, unless carefully navigated, could differ very little from place-detached technical systems of the status quo. This emphasises the importance of clarifying the initiative's community goals and values, and identifying how they can be used as guiding principles in decision-making. Doing so will ensure equity and inclusion are not lost while striving for equal representation for all stakeholders.

■ *Complexity: Embracing the systems-level complexity of climate change*

All three case studies demonstrate how effective communication and discussion around sustainability and climate change can be facilitated, drawing attention to the links between short-term and long-term environmental risks and impacts. Consequently, they encourage successful action and sustained engagement from local communities on the systemic nature of climate/environmental issues. The changes in thinking, values and behaviour that these initiatives have created translate into broader environmental awareness and true ecological citizenship. However, not all grassroots initiatives have the agency to address the structural barriers to behavioural change, nor is there always a direct link between such initiatives and broader policymaking processes. This raises critical questions about the enabling conditions for grassroots community-led, community-owned initiatives to assume the primary role of place-based service provision or environmental protection at a scale that results in tangible impact.

Final remarks

The case studies in this Compendium shine a light on different approaches to public engagement around climate change, and the learnings from each case should be taken in its individual context.

However, in all these approaches there exist tensions and trade-offs that need to be navigated by the actors involved. In this summary, we have tried to raise some of the important questions that these different approaches provoke.

By raising these questions, and by shining a light on different types of practice, we hope that communities and practitioners will be better able to create favourable conditions for behaviour change in timescales compatible with limiting warming to 1.5ºC. Most importantly, we aim to create pathways by which the transition to a net-zero world is socially just, sustainable, and impactful.

Case Studies

Shining a light on different approaches to public engagement around climate change from around the world

BetterBuildings Michigan: Detroit, U.S.

Focus Area: Energy Efficiency (domestic)

Public Engagement Type: Interventions requiring large-scale public communication and buy-in

Scale: Neighbourhood; City

Region Type: Urban

Summary

BetterBuildings Michigan, part of the national BetterBuildings Neighbourhood Programme, was a pilot initiative to improve energy efficiency across urban homes in Detroit (in Michigan, U.S.) between 2010 to 2013. The initiative targeted households in 27 urban neighbourhoods across Detroit through door-to-door "sweeps" driving awareness on home energy efficiency upgrade options. Local community-based organisations were responsible for the marketing and outreach around the sweeps, which was followed by an energy assessment allowing homeowners to personalise their home energy upgrades to meet their needs and resource capacity. The initiative is estimated to have reached more than 11,000 homeowners in total, built demand for more than 2000 green jobs, and created an estimated USD 7.4 million in energy savings.

Background and Context

Michigan was hit hard by the financial crisis in 2009 and unemployment reached as high as 14.3%.[1] The American Recovery and Reinvestment Act of 2009 was a response to the high unemployment and poor economic conditions created by the global financial crisis and was designed to create jobs in new sectors.[2] USD 80 billion was allocated through the Act specifically for projects related to energy and the environment, with much of this money targeted toward improving energy efficiency in homes and buildings.

The nation-wide BetterBuildings Neighbourhood Programme, by the U.S. Department of Energy, presented initial awards of USD 452 million from this funding pot to 25 competitively selected state and local governments to ramp up energy efficiency building retrofits.[3] It was designed with the intention to address market and non-market barriers to home energy upgrades identified by the White House Council on Environmental Quality

(CEQ) in their 'Recovery to Retrofit' report, namely a) homeowners' lack of access to clear and reliable information on upgrades; b) homeowners' lack of financing; and c) lack of skilled workers to perform home energy retrofits.[4]

BetterBuildings Michigan was one of the state-led initiatives of the national programme, aimed at upgrading the energy efficiency of homes and buildings in Detroit between 2010 and 2013.[5]

The Initiative

BetterBuildings Michigan was implemented by the Michigan Energy Office and Michigan Saves—a non-profit organisation dedicated to making energy improvements easy and affordable—in collaboration with public, private, and non-profit partners throughout the state.[6] The programme consisted of three components: a) driving demand for energy efficiency upgrades, particularly in older homes built prior to 1970; b) delivering energy efficiency upgrades through partnerships with 130 commercial, industrial,

and small business owners; c) workforce development and financing to put skilled professionals back to work by "supporting and providing energy efficiency training".[7]

Between 2010-2013, the programme targeted 27 urban neighbourhoods (approximately 400 homes each) across Detroit, Michigan.[8] The neighbourhoods were organised in four different residential zones within the state, where each neighbourhood reflected a set of varied characteristics with regards to income distribution and building types (targeted building types included residential, commercial, industrial and public buildings). The programme combined citizen outreach, contractor scheduling, and short-term energy efficiency promotions and affordable loans in the target communities. It did this through a political-campaign style 'sweep' across neighbourhoods, targeting individual homeowners as well as local businesses.[9] The 'sweeps' involved an intensive, house-by-house campaign, designed to convince homeowners to complete an energy efficiency upgrade.[10]

To ensure learnings and identify best practices to inform other energy efficiency programmes in the state, each neighbourhood sweep tested different marketing and outreach strategies as well as financing-models for upgrades.[11] To this end, each sweep had a budget of nearly USD 290,000 from the U.S. Department of Energy for marketing and outreach efforts with the aim of targeting around one neighbourhood per month.[12]

1. How was the need for energy efficiency upgrades presented and communicated?

Before the Sweeps

The 27 urban neighbourhoods implementing the BetterBuildings programme across Detroit had strong community associations, and local community-based organisations were handed the reins on driving local marketing and outreach activities. These community-based organisations included municipalities, community action agencies, churches, employers, school districts, non-profit organisations and utilities.[13]

Prior to the door-to-door sweep, the community-based organisations involved were responsible for the regional marketing of the initiative. They reached out to residents through local news and media channels to drive awareness on the benefits of energy efficiency upgrades and the associated financial promotions available at the time, while also ensuring contractors were made aware of how they could engage with the programme. Messaging focussed on the increased comfort of homes following upgrades, along with community-level messaging encouraging homeowners to be less 'wasteful' of energy, was found to be particularly effective in convincing people to participate in the programme.[14]

During the Sweeps

The local community-based organisations went door-to-door in each neighbourhood to build homeowners' awareness about the benefits of increased energy efficiency, potential upgrade options, and the means to finance them. They attempted to "make contact with a home at least eight times through in-person visits, phone calls, and flyers" and even continued to engage with homeowners after the programme had ended to encourage more invested upgrades.[15] Collaborating with trusted community organisations also increased homeowners' willingness to engage in a dialogue, even when the programme was fairly new, around how energy-efficient homes contribute to saving money, and creating comfortable micro-environments that benefit its residents.[16]

Following the awareness drives, interested homeowners were given personalised home energy assessment reports via a consultation with trained local energy-specialists working with the BetterBuildings programme. The assessment report outlined key components in the home causing energy losses, for example air leakages or lack of adequate insulation, as well as an action plan with a range of energy efficiency retrofit options. Homeowners were then asked to determine what additional energy efficiency measures made the most sense for their home and budget. In each neighbourhood sweep, homeowners were offered several options of packages for their energy efficiency upgrade, allowing the programme to experiment with various ways to bundle efficiency measures.[17] Local contractors engaged with the programme were then brought on board to implement the home upgrades. This addressed a key challenge to increased uptake of home energy efficiency upgrades, namely the resource-intensive steps a homeowner traditionally needs to take to get appointments with individual energy specialists who address the different aspects and sources of a home's energy system. The BetterBuildings Michigan programme, on the other hand, provided home retrofit packages that addressed all the different components of making a home more energy-efficient at once.[18]

Ferndale Sweep

The first neighbourhood sweep of the BetterBuildings initiative kicked off in Ferndale, in November 2010, and concluded in January 2011. It included knocking on doors, distributing mailers, organising community group meetings, hosting in-home informational meetings for neighbours, and sponsoring a programme-wide press event with Michigan's governor. Strategically placed yard signs and magnetic signs with the national BetterBuildings logo on contractor vans attracted homeowners' attention and helped create significant word-of-mouth buzz about the programme. At the close of that sweep, 91 of the 420 homes (22 percent) had completed the base package—close to the anticipated 28 percent penetration rate.[19]

One testimonial from Edith Reed, a local resident who took advantage of the BetterBuildings Michigan upgrades, states "This programme is worth it. I was able to afford the improvements that needed to be done to save money, and my utility bills have gone down, my house is less drafty, and we're more comfortable."[20]

After the Sweeps

Post the programme, Michigan Saves, the local NGO partner for the BetterBuildings Michigan programme, shifted its focus to sustaining public engagement around energy-efficient buildings, through peer-to-peer exchanges and workshops. It also established ways by which contractors could continue to contact homeowners to support any further upgrades after the sweeps had ended.[21]

2. What was the extent and nature of citizen collaboration in the Programme?

Collaboration between target households during the BetterBuildings Michigan programme was facilitated by the local community-based organisation in each neighbourhood, and where capacity and resources allowed, this involved group workshops and meetings. However, the primary focus of the initiative involved separate and individual engagement with households through a door-to-door campaign.

However, it is important to note that across the overall programme, collaboration was actively encouraged and facilitated between local contractors in each neighbourhood. Michigan Saves actively engaged with the network of local contractors, offering them collective training and up-skilling opportunities.[22] This involved classroom training, on-site training and peer-to-peer networking opportunities focussed on building their skills and knowledge on programme requirements, business development and sales.[23] These collective training sessions helped contractors support and build relationships with each other, improving retention. It also helped improve programme processes, quality control, sales and installation processes.[24]

3. What was the level of action addressed by the public engagement?

Citizen engagement was facilitated at both an individual and community level to drive the uptake of home energy efficiency upgrades. Individually, investing in a more energy-efficient home was financially incentivised by mapping out homeowners' utility cost savings, and providing access to loans; at the community level, socialising the programme across the neighbourhood also boosted programme uptake. For example, when homeowners saw that their neighbours were receiving an energy efficiency upgrade provided by the BetterBuildings programme, this helped lead to enhanced engagement and uptake across the neighbourhood.

The secondary goal of the initiative was to promote local workforce development and demand for sustainable green jobs in both the construction and energy sector.[25] The competitive bidding process to bring local contractors on board the programme and comprehensive training sessions built the capacity of local workers to diversify their skills, knowledge and expertise in a quickly-evolving sector, also increasing their opportunities.[26]

The Public Impact

The programme is estimated to have reached more than 11,000 homeowners in total, and built demand for more than 2000 green jobs.[27]

Between 2010 and 2013, 6546 single-family homes and 113 multi-family units were upgraded. In addition, 12.9 million sq. ft. was upgraded in 84 commercial buildings with USD 7.4 million of estimated total energy cost-savings.[28]

Uptake rates of the base energy efficiency package (including home weatherisation and basic efficiency measures) was around 28% (approx. 120 households) per neighbourhood (approx. 420 households). Estimated savings was USD 300 – 400 per household per year.[29]

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below.

Enabling Adaptability and Learning

The BetterBuildings initiative was experimental by nature and was designed with continuous learning and improvement in mind.[30] The sweeps were undertaken as 'mini-experiments' to test how residents would respond to different marketing and outreach strategies, financing options and incentives. The goal was to learn from each sweep and use the outcome of these pilots to inform similar initiatives in the future. In keeping with this objective, monitoring and assessment of the sweeps were structured to measure the initiative in terms of its ability to meet learning objectives.

In addition, the initiative was designed with a clear understanding that there wasn't a one-size-fits-all option for households, even where similarities between them existed. To identify how to adapt the solution to the values and needs of each household, trusted community-based organisations were brought on-board to engage with the households. By grounding the learning process in local knowledge, through these relationships, the programme did well to ensure the focus of the learning and improvement was community-centred and not simply put in place to build efficiencies across the programme.

Overall, while the initiative was quite resource-intensive, it had a fundamentally place-focussed approach – a key attribute of its success. While the model was adapted in many states across the US, it was never the same across places or even within one place.[31]

Designing for Inclusion

The placed-focussed experimental nature of the BetterBuildings Michigan programme lends itself well to designing for deeper inclusion. The use of local community-based organisations and a door-to-door campaign process allowed the programme to reach people that may not have been identified by other actors using other methods. The outreach was aimed at reaching various groups and sub-groups of residents in the neighbourhoods. In some cases, this was done by enlisting programme ambassadors from among the residents; hosting open educational neighbourhood block meetings; offering additional rebates from the local utility etc.[32] The community organisations' established legitimacy in the eyes of local communities, and their understanding of local circumstances and politics was vital to engaging and building trusted relationships with communities across the socio-economic spectrum. However, there is limited in-depth information available on how marginalised, seldom-heard communities were engaged with, and how home retrofits were incentivised and financed in those cases.

Another important point to raise while discussing inclusion in the residential sector, is the 'principal-agent' problem that generally affects domestic energy efficiency programme uptake rates. To elaborate – in cases where tenants (the principal) pay the energy bills, the landlords/home-owners (the agents) are not incentivised to bear the cost of the upgrade. At the same time, the tenants do not typically have the autonomy to make decisions on home retrofits independently although it could greatly improve their quality of life and save on costs. In this sense, the BetterBuildings Michigan programme primarily targeted owner-occupiers. When the initiative included renters, the engagement proved more costly as any upgrade required landlord approval and sustained engagement, and in most cases did not end with an upgrade. Therefore as a group, renters were somewhat excluded, as were mixed tenure (social and private) housing developments. However, to address this would require a broader discussion around property law, housing policy, and regulation that are needed to better align the incentives and interests of landlords and renters, and the need to create more equal systems of power-sharing around building governance.
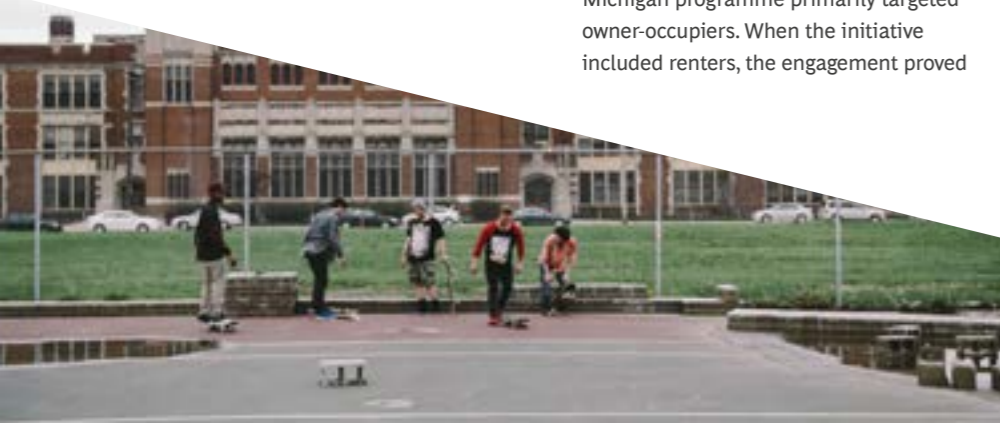
Embracing Complexity

The heterogeneity of the existing building stock, the evolving energy technology landscape and energy markets, and the varying ecosystem of actors and their associated incentives make designing home energy retrofit programmes highly challenging. In addition, engaging with home-owners and occupants on the benefits of energy efficiency upgrades, conducting energy assessments, economic analyses, and aligning individual incentives against environmental objectives and social considerations, makes intervening in the space all the more complex.

The BetterBuildings Michigan programme navigated significant challenges for communities around accessing trusted information, negotiating energy assessment processes, and managing implementation complexities through the door-to-door sweep. Each household was provided with relevant information, a personalised assessment of different energy retrofit measures and their suitability, and were able to discuss in-depth the variables that govern suitability, affordability and sustainability. The fact that these processes were facilitated by legitimate and trusted local organisations, with the retrofits being implemented by local contractors, actively countered the uncertainty and mistrust that typically prevents people from taking up energy efficiency upgrades.

However, in terms of areas needing further research, as outlined in the previous section, issues of ownership, building governance, and shared decision-making need to be addressed in order to achieve successful uptake of energy efficiency programmes and create large-scale public impact.

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Summary

Around 40 percent of food consumed in the U.S. is wasted, leading to increased greenhouse gas emissions and economic losses. From 2012 to 2014, the U.S. Environmental Protection Agency and the West Coast Climate and Materials Management Forum launched a pilot food waste reduction program for households called Food: Too Good To Waste. Seventeen local community organisations across fifteen communities in the U.S. used 'Community-Based Social Marketing' campaigns to push for changes in behaviour related to food waste. The pilots provided several learnings on types of messaging that resonated most with communities, the importance of in-person engagement over predominantly online strategies, and the importance of peer learning networks to share knowledge, resources and support among implementing partner organisations.

Food: Too good to waste (FTGTW) network, U.S.

Focus Area: Food Waste (domestic)

Public Engagement Type: Interventions requiring large-scale public communication and buy-in

Scale: Neighbourhood; City

Region Type: Urban

Background and Context

Minimising or reducing domestic food waste has huge potential to bring about both environmental and economic benefits, as it is the largest discard group of Municipal Solid Waste in the U.S.[1] Approximately 40 percent of the food produced or imported for consumption in the U.S. in 2010 was wasted and 97 percent of this is lost in landfills or to combustion with energy recovery.[2,3,4] As it decomposes in the landfills, the wasted food causes 20 percent of the total amount of U.S. methane emissions.[5,6]

Before 2012, the U.S. Environmental Protection Agency (EPA) had been running programs aimed at reducing food waste in the commercial and institutional sectors, such as the Food Recovery Challenge, but no effort had been made at the time to target households. "We realised that no one was doing anything focused on prevention on the consumer side." stated Ashley Zanolli, from EPA region 10's office in Seattle[7] Consequently, EPA Regions 9 and 10 convened the West Coast Climate and Materials Management Forum (CMMF) to start designing a residential pilot program in the U.S. against food waste.[8,9]

The Initiative

The plans for the Food: Too good to waste (FTGTW) initiative were put in place in 2011 by the CMMF, a partnership with twenty five state, city and county government members across western U.S., convened by the EPA.[10] Their focus is to develop and share ideas and strategies aimed at transforming sustainable materials and management policies and practices into climate actions.[11]

The FTGTW initiative drew inspiration from The Waste and Resources Action Programme (WRAP) sponsored project Love Food, Hate Waste in the United Kingdom.[12] FTGTW engaged households via a number of Community-Based Social Marketing (CBSM) campaigns aimed at supporting behaviour-change around food consumption practices that effectively reduce food waste and its negative impacts.[13] CBSM is "a simple four-step process which involves

a) selecting a behavior or activity and identifying the barriers and benefits to that behavior or activity,

b) developing a strategy to remove the barriers and promote the benefits of an activity using 'tools' proven to be effective in changing behavior,

c) piloting this strategy; and

d) conducting an evaluation of the strategy once it has been implemented across a community."[14] The initiative was also designed to collect and analyse results from the ongoing campaigns in order to facilitate the design of future food waste reduction CBSM initiatives.[15] In addition, the EPA was interested in the environmental benefits and how the pilots could be integrated into existing programs by local community organisations.[16]

Between 2012-2014, EPA introduced several pilot FTGTW projects across fifteen communities with seventeen local partner organisations. To prepare and plan these pilots, EPA conducted a significant amount of background research to identify desired food consumption behaviors and target groups for the messaging.[17,18]

1. How was the issue of food waste presented and communicated?

Before the FTGTW pilots

Before the pilot was implemented across the different regions, there was no targeted communication with communities on food waste prevention or reduction.[19]

To build a strategy around communication during the pilots, the EPA set out to identify possible behaviours that would resonate with households and could be used as targets to help reduce food waste. EPA reviewed available consumer behavior and sustainable consumption literature (with a focus on notes from the UK WRAP Program), held workshop sessions at a CMMF meeting with its members, and interviewed households that consciously practiced zero-waste behaviours.[20] Based on the combined findings of these assessments, five behaviours with the highest potential for impact with households were identified to be part of the final toolkit:

1. Get Smart: See How Much Food (and Money) You Are Throwing Away

2. Smart Shopping: Buy What You Need

3. Smart Storage: Keep Fruits and Vegetables Fresh

4. Smart Prep: Prep Now, Eat Later

5. Smart Saving: Eat What You Buy.[21]

To identify messaging and strategies for the identified behaviours, key barriers and benefits for each behaviour were analysed among different community groups. In addition, previous interviews with other food waste organisations in the UK, Minnesota, Portland and San Francisco were also reviewed.[22] Some toolkits used in the FTGTW pilots were chosen from existing guides, such as the meal planner and fruit and vegetable storage guide developed by the U.S. non-profit organisation Eureka Recycling.[23]

During the FTGTW pilots

The messaging materials were then piloted across three initial states in the counties of Boulder (Colorado), San Benito (California) and King (Washington) to further adapt the messaging to different audiences.[24] The partners who helped deliver the pilots were community and waste departments, and non-profits (housing groups), and the

engagement activities were dependent on the resources available to each organisation. The target population was families with young children (as they had been identified as the group that waste most food) and young adults (ages 18-30, who live a dynamic lifestyle). As cost savings were typically found to be important for families with young children, they were good targets, amenable to messaging around adopting eating older stock and leftovers. On the other hand, younger full-time workers were identified as a good target for messaging around 'buy less but better'.[25] Children were also found to play an important role in bringing the message of minimising food waste home to parents.

Different pilots had been located across the country, in both urban and rural settings, and involved diverse community groups (geographic, income and cultural).[26] Two examples are explored below – the pilot at King County was one of the earliest FTGTW pilot programs, which held many program learnings for the FTGTW team, while the pilot at Rhode Island was one of the later, more successful FTGTW pilot programs.

King County Pilot

In the King County pilot in Washington state, participants were brought on-board through a website, and provided with online resources on how the food waste issue connects to climate change.[27] Families with children in the 4th grade were the target audience. One tool was introduced each week in the five-week program, and teachers also provided the children with daily tips to discuss with their parents.[28] The county modified and improved their approach to outreach and recruitment over three years, as a response to feedback and lessons learned.

In the first year, EPA partnered with a local elementary school through the Green Schools program and a consulting firm.[29] [30] The pilot recruited 47 families via email, and the families that finished the five-week challenge (13/47) were given a grocery store certificate.[31] The following year, the campaigners attempted to scale up the campaign by dedicating a website and social media campaign to the project, with all the tools and strategies available online. However, the approach failed to retain participants, perhaps due to its 'only online' strategy that left all responsibility of completing the food challenge with the participants themselves.[32] In the final year, King County changed its outreach to be more relational with regular tabling and support sessions at farmers markets and grocery stores to offer support to those participating. The result was that 71 households were recruited, with a retention rate of 75 percent.[33]

Rhode Island Pilot

In Rhode Island, EPA partnered with the Rhode Island Food Policy Council in 2014 to carry out the FTGTW campaign for 40 households. They took a different approach to outreach and recruitment, aiming to tailor the strategy to local needs with feedback from earlier food waste pilots.[34] As the county is

so small, recruitment was done entirely through networking. Participants were from an upscale apartment complex and the lower income Providence Housing Authority[35] The FTGTW was made available in Spanish to reach local families, and interactions were personal, with program information presented in-person at gatherings with cooking demonstrations.[36] Each participant was given a scale, a bin, and a code number for entering their data. In addition, low-income participants received community credits as a further incentive to participate.[37] Three in-person group meetings with the participants were held throughout the six-week challenge, to offer support, and share experiences, results and tips on how to continue minimising food waste.[38] The pilot also inspired participants to continue to spread the message of reducing food waste on their own through networking with friends.[39] This has resulted in a 'train-the-trainer' model to be developed by the FTGTW Working Group to support a continued interest in the project, as Rhode Island is now aiming for a zero-waste goal.[40]

Comparing the pilots

From comparing the pilots' different approaches, it appears that in-person communication and intervention had a stronger impact on behaviour change, recruitment, and retention than social media or online interventions alone. However, media and online interventions did have an important role to play in achieving broader campaign objectives around increasing awareness and engagement with the community that were not initially part of the pilots.[41] The type of messaging that was most effective in changing people's behaviour towards reducing food waste, according to participants themselves, was messaging that focussed on 'not wasting money' and highlighting the amount of individual food waste a household contributed to.[42]

After the FTGTW pilots

The FTGTW program is still ongoing. The program's toolkit, information and implementation guides are still available on the EPA website.[43,44]

The EPA implementation guide provides community partners with detailed advice on how to implement the FTGTW program in their community. In terms of outreach, the guide recommends making plans that take into account 'appropriate communication

channels, venues and community partners for reaching the intended target audience'.[45] Personal contact, early and often, when delivering the messages was highlighted as particularly important to influence food waste behaviour change and committing participants until the end of the program. Using people who already exert influence in a person's social network to deliver the message was also recommended based on its high probability in reinforcing the message.[46]

"We are trying to create a social norm that says food waste is not aligned with our community values. We know that people receiving a message one-on-one are more likely to change behaviour, and that certain people in the community are influencers. Part of our effort is to identify communities within communities that will help spread the message." stated Viki Sonntag, behavioral economist and lead researcher in the EPA's Food: Too Good To Waste programme.[47]

2. What was the extent and nature of citizen collaboration in the Programme?

Citizen collaboration was facilitated through the community organisations who signed up to partner with the FTGTW programme. Strategies for engaging with the residents included gatherings and workshops with food and beverages, in order to share food waste avoidance strategies and personal experiences with wasted food (social learning), distribute tools and foster network commitment and behaviour change.[48] [49] The idea behind frequent engagement is explained by EPA as something that most likely will enhance the sense of belonging to a group and increase pro-social motivation.[50] Another engagement technique used was to engage participants through various learning techniques, such as hands-on workshops in which a chef presented measurement techniques and strategies.[51] This type of approach was chosen for its potential to reduce the knowledge barrier associated with minimising food waste.[52]

3. What was the level of action addressed by the public engagement?

Public engagement was primarily facilitated at an individual/household level, using messaging about the five behaviour change targets. The goal of the engagement at this level was to drive behaviour change that lasted beyond the end of the programme, as this had been found to be true following the UK WRAP campaign. Although it was not a motive of the FTGTW campaigns, getting families and friends to spread the message around food waste did happen organically in some pilots like in Rhode Island County.[53] The secondary goal of public engagement in the pilot initiatives was to learn lessons about how to scale up the campaign nationally, and to understand costs of different types of campaigns.[54]

The Public Impact

All 17 pilots were successful in providing new insights into the way behavior change programs that reduce food waste can be adopted.[55]

- Household reductions of up to 60% of edible food and 15-25 % of overall food waste are consistently demonstrated.

- In the King County pilot, fifty-three households participated and reported 27-39% reduction of edible food waste

- In the Rhode Island pilot, of the forty households that participated 48-55% reduced their edible food waste.

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below:

Enabling Adaptability and Learning

The Food: Too Good To Waste program operated an adaptive model of working, regularly seeking feedback from participants, and experimenting with different types of outreach and engagement strategies with different community groups based on rate of uptake. In addition, the programme tapped into the regional knowledge and community connections of local organisations by making them official partners in delivering and implementing the campaigns. This place-focussed approach of the program enabled better uptake with communities as they saw local community-based organisations as trustworthy and legitimate.

The overall campaign model was also open to feedback from local implementation partners, while the campaigns were on-going. Community partners and EPA staff set up a peer-learning initiative that enabled networked information-sharing. The peer-learning structure was set up in a way that the different partners could learn from each other by sharing successful updates, new resources being developed, or other lessons learnt through regular online and in-person check-ins. In some cases the partners also shared the costs of campaign development between them. Through such network models, the FTGTW partners were able to share formal and tacit knowledge around practice, build shorter and more effective feedback loops, and experiment and adapt the campaign in ways that are difficult to do in isolation.[56] The peer group learning network, today, is an active network of approximately 190 members across the U.S. and is led and facilitated by the EPA.[57]

Designing for inclusion

In an effort to build measurable impact on food waste reduction amongst households, the FTGTW pilots targeted households with the highest food waste consumption numbers and those who were likely to relate to the campaign messaging around the chosen behaviours. This meant that EPA's strategy was not to strive for universal participation, or an exact representative sample of the community. Instead, families with young children and young people with dynamic lifestyles, were the primary targets. However, different pilots made various efforts to involve communities and individuals from different socio-economic backgrounds, such as in the Rhode Island Pilot. In this case, active efforts were made to understand the values and incentives for marginalised communities to reduce food waste, and support networks were created to ensure they could discuss their experiences, challenges and identify collective strategies to keep food waste to a minimum.

While further information and learnings from the engagement with marginalised seldom-heard communities aren't publicly available, avenues for deeper research include understanding pilot communities as embedded in wider social, economic, and cultural structures that may prevent the adoption of less wasteful practices. For example, an individual's access to storage (eg: fridge) facilities, shopping facilities (eg: big supermarkets, local stores, farmers markets), costs of food in different places, access to income support, unpredictability of daily life are all factors that play significant roles in shaping household food waste practices. These variances require deeper study and understanding in order to systematically tackle food waste challenges.

Embracing Complexity

Reducing food waste is a vast, complex national challenge that isn't just associated with households. In order to tackle the issue effectively, a joined-up approach involving government departments, city governments, counties, households, supermarkets and companies is key. The FTGTW programme, through its focus on households, currently draws limited attention to the interdependencies between different actors and their decisions. For example, in grocery chains, the quantities of perishable food (typically vegetables, bread etc.) made available in single plastic packages can be quite high.

Purchasing even a single pack, in these cases, inevitably leads to some wastage when purchased by people who live alone or as couples, unless consumed quickly before its expiry date. In contrast, the prices of non pre-packed foods or smaller packages are comparatively high. Additionally, producers and sellers induce consumers to buy more than necessary by introducing discounts or special offers, particularly with perishable food items, thereby increasing the likelihood of food waste. However, so far there is limited evidence to suggest that actors across the food value chain were brought together in FTGTW pilots to discuss and identify their individual and collective roles in bringing down food waste.

In addition, a core objective of the FTGTW project was to evaluate and assess the success and impact of each pilot and what that meant for a scaled-up national campaign. As specific food waste challenges and engagement methods depend on what resources the participating organisations have, different levels and types of data were collected, complicating comparisons between them.[58] The cost of choosing to obtain detailed food waste data from the households for the purpose of impact measurement, could mean that participants are less meaningfully engaged as community organisations divert resources to measurement and build strategies to more effectively measure. Given the complexity and uncertainty inherent in measuring and comparing data across varied contexts, and further building an effective national strategy on the basis of local pilot learnings, it is likely better suited for campaigns to focus on continuous measurement to deepen engagement with communities rather than collecting evidence solely for the purpose of evaluating success, and extrapolating the results to make a case for scale.

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Forest Investment Program: High Forest Zone, Ghana

Focus Area: Forest Conservation

Public Engagement Type: Formal deliberation process drawing on public perspectives to decide policy priorities

Scale: District

Region Type: Rural

Summary

Ghana's Forest Investment Program was initiated by the Climate Investment Funds as part of a global program to address the trend of deforestation and forest degradation, reduce greenhouse gas emissions, and improve community livelihoods. The project took place in Ghana's High Forest Zone and was coordinated by Ghana's Environmental Protection Agency and Forestry Commission. Local community leaders took a leading role in public engagement and were responsible for creating awareness and acceptance for the program, facilitating dialogue, and building consensus for rules around its implementation. Through the project, farmers have committed to renewed reforestation efforts, and local communities have been given greater access and control of the use of natural resources through the establishment of five Community Resource Management Areas in the region.

Background and Context

Ghana's economy relies heavily on natural resources: over 70 percent of the country's population depends directly on natural resources for food, water, and energy. Almost half of the population lives in rural areas, and two-thirds of rural livelihoods rely on forest-related activities. Agriculture, forestry, and agroforestry account for more than 50 percent of land use and employ about 60 percent of the population, including 53 percent of women. However between 2000-2005, Ghana annually lost about 4 million hectares of forests[1].

In this context, Ghana's Forest Investment Program (FIP) was developed as part of a targeted program led by the Climate Investment Funds (CIF) aimed at addressing the loss of forests around the globe, reducing greenhouse gas (GHG) emissions, and improving the livelihood of people and communities in affected areas. The CIF is a multilateral climate fund that provides financing to developing countries for climate-resilient and low-carbon development. Its programs are implemented by five multilateral development banks, namely African Development Bank (AfDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IDB), and World Bank Group (WBG).[2] Ghana was one of eight countries selected to pilot the FIP in 2010, with funding approved by CIF in 2012.[3]

The Initiative

The FIP was delivered through a collaborative effort between the Ghana Environmental Protection Agency (EPA) and the Forestry Commission of Ghana, with oversight entrusted to the Ministry of Lands and Natural Resources. The Ghanian government chose to focus the investment in the High Forest Zone (HFZ) in the Western and Brong-Ahafo region of Ghana; a forestry region that has the highest carbon stocks in the country, alongside high rates of deforestation through agricultural expansion (particularly cocoa farming). The associated costs of this deforestation is estimated to be as high as 10 percent of the Ghanaian GDP.[4]

The Ministry of Lands and Natural Resources had identified the lack of inclusivity in management of natural resources, and the consequent lack of ownership, as the underlying factors driving deforestation and forest degradation.[5] The EPA and the Ghana Forestry Commission worked alongside community leaders in the HFZ to co-lead processes of public engagement. They did this through meetings with community members and a deliberative Citizen Forum process, which provided a platform for the community to share their views on the FIP and build consensus around the program's implementation.[6]

The main objectives of the FIP, which is still ongoing, are:

- To make the community aware of the dangers associated with the depletion of the HFZ,
- Identify ways to reduce GHG emissions from deforestation and forest degradation,
- Create by-laws to protect biodiversity and reduce poverty, and
- Outline ways to contribute to sustainable livelihoods through participatory planning.[7]

1. How was the need for forest conservation presented and communicated?

Before the FIP

To increase public attention around the FIP, local community radio announcements were made for two weeks on local stations. In addition, community leaders (chiefs, queen mothers and assembly members who operate as a linkage between government and the community) regularly met with community members to raise awareness around the FIP community meetings and the importance of discussing forest conservation and the future of community livelihoods.[8]

During the FIP

The process of recruitment and selection of participants for the deliberative Citizen Forum was organically built up over the course of two community meetings. These meetings were the primary channels through which communication around the objectives of the FIP could be shared with the community and community leaders.

The first of such meetings was set up between the community leaders, community members and project organisers (such as EPA staff and members of the Forestry Commission). The main purpose of this meeting was to discuss the broad objectives of the FIP and additional ways to engage the wider community in the debate around forest conservation. They also provided avenues for the project organisers to understand and clarify the role of trusted community leaders in the communication process.[9]

The second meeting didn't involve the FIP organisers, and was led entirely by

the community leaders themselves. The community leaders alongside the leaders of youth groups met with farmers who are key stakeholders invested in and partly responsible for the increasing deforestation rates in the district.[10] The objective of these meetings was for the community leaders to explain the cause and purpose of the FIP, and push for the groups' involvement in the Citizen Forum process. This meeting was a critical step in the run-up to the larger community engagement process, as farmers in the community were initially sceptical of the project and feared that the government's intention was to deprive them of their source of livelihood.[11] The intent behind having community leaders drive forward the conversation on the FIP, was to build trust and engagement around the process, and to encourage wider participation in the Citizen Forum.

Alongside the meetings, postings about the Citizen Forum were distributed at community information centres by community leaders and youth leaders, where those interested were able to sign up to participate. Participation was open to everyone, and community members were also invited through local radio announcements and the use of the gong-gong. The gong-gong is the traditional name of a gong-like instrument, which when struck, makes a resonant sound. It is used to call for community members' attention or announce important events and community meetings.[12] In this case, the gong-gong was used in several locations within the community to remind members to attend the Citizen Forum process.[13] The objective was to ensure as many community members as possible were aware of the FIP engagement process, and how they could participate. They were also made aware that food, drinks and a small stipend would be made available to compensate them for their time.[14]

After the FIP

The FIP is still ongoing. The outcomes of the initial community engagement meetings were published and broadcast through the media and in other public forums. This was to ensure that all community members were kept informed of the consensus building process and encouraged to participate in future stages.

2. What was the extent and nature of citizen collaboration?

The Citizen Forum session lasted for a period of about five hours and is reported to have been well attended.[15] There is limited information on the number of attendees, and details on who did and did not attend. The focus of the Citizen Forum session was to discuss the livelihoods connected to the HFZ and the rampant deforestation in the area, voice opinions, concerns and challenges among the community, and ultimately build consensus on the measures to be put in place on forest management practices.

Government staff from EPA and the Forestry Commission facilitated the meeting, ensuring everyone was heard. In order to achieve this, some principles were established to facilitate smooth and respectful discussion. This included:

- All participants have equal time and room to ask and answer questions
- In order to speak, hands need to be raised
- All views on the issue are seen as equal
- While group discussions were ongoing, individual conversations were not allowed[16]

The type of interactions between participants included dialogue, discussion and deliberation as well as structured Q&A.[17] The main focus of discussions was around clarifying the economic benefits of new forest management practices, in addition to their benefits to the ecosystem.[18] [19] Community leaders were heavily involved in consensus building around the devolution of natural resources management. Insights and Outcomes were communicated in the local language through traditional media, public meetings and a report.[20]

3. What was the level of action addressed by the public engagement?

Public engagement was facilitated at community-level to build collective buy-in on sustainable forestry practices across local communities in the HFZ. The objective of public engagement in the FIP was two-fold – Firstly, to raise awareness on the importance of natural resource management in the HFZ, for both livelihood sustenance and environmental reasons.[21] Secondly, to build buy-in and a sense of ownership within communities on the outcomes of the deliberation process and way forward on forest management and conservation.[22] However, it is important to note that the outcomes of the community deliberation session do not necessarily feed directly into policy, although recommendations from the session are shared with the EPA for consideration.[23]

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below:

Enabling Adaptability and Learning

The public engagement processes around the FIP were tightly framed and designed by the Ghana EPA and Forestry Commission. Traditionally, a tightly framed process includes bringing to community engagement sessions a clear idea of policy interventions to be considered, and enabling community discussion and conversation to identify the challenges and barriers. This allows the facilitating team to make the necessary recommendations on how those policy interventions can be designed better, based on the feedback of communities. Such tightly framed public engagement sessions provide the governing department with a clear idea of actionable next steps. However, it can steer the conversation away from communities' socio-cultural considerations and capacities for shifting behaviour. More loosely-framed discussions, while not offering easily actionable next steps, can enable more nuanced discussions on community priorities, values, skills and capacity; all factors which influence the uptake and success of policy measures. Middle ground in such contexts can be achieved, to some extent, by empowering community leaders and groups to use their knowledge of the context to define and develop the parameters of discussion in public engagement processes. However, it would be important to also ensure inequalities and informal hierarchies within the local community are not further reinforced, and efforts are made to be inclusive of the different sub-groups within the community.

Ultimately there is insufficient public information to confirm the level of autonomy the community leaders and other local groups were given in directing the public engagement process in the Ghana FIP. However, in many public engagement cases that involve close engagement with community leaders, their autonomy is traditionally a necessary precondition to their participation and involvement.

Designing for Inclusion

The Ghana EPA and Ghana Forestry Commission recognised that public engagement processes with communities living in the HFZ should be co-implemented with trusted community messengers, as they have a greater understanding of the local context, community dynamics, concerns, and engagement gaps. Therefore, the community leaders were empowered to take on the primary role in developing awareness and creating dialogue around the core features of the FIP. Youth groups also engaged with farmers (the stakeholders most affected by FIP) to discuss the initiative. In this way, communities themselves took an active role in spreading the message, raising awareness and building discussion.[27, 28] This led to high rates of community participation in the Citizen Forum process, and fostered greater acceptance for the identified policy measures.

However, while efforts were actively made to raise awareness and invite participation, there is less clarity on whether a concerted effort was made to understand a) who did not/ were not able participate in the community meetings or the Citizen Forum process b) why they were unable to or chose not to do so and c) what additional efforts would make the process more inclusive for these groups. In many cases, those who choose to participate in public engagement

processes are those who already have clear ideas on the issue being discussed; and/or have confidence in their individual skill-set, knowledge and expertise to engage; and/or don't have caring or work-related responsibility at the time of the engagement processes. When the associated exclusions inherent in the design of public engagement processes that allow for 'self-selection' aren't taken into account, the process is less likely to be truly inclusive, and there is limited public information available on how the Ghana FIP tackled potential selection and coverage bias.

On the point of facilitation of the Citizen Forum process, active efforts were made to facilitate conversations in the Citizen Forum in an inclusive way (i.e. each participant had equal time to ask and answer questions, all views were considered equally and individuals were asked to raise their hands so as not to speak over one another). However, details around the consensus-building process and final voting remain limited. Voting processes, unless facilitated carefully, can favour majoritarianism and can replicate internal politics of the region and of community groups, rather than being truly inclusive. Therefore, where possible, public engagement processes should make active efforts to counter this in favour of prioritising inclusion.

Embracing Complexity

Communities in the HFZ depend on the

forest for their livelihoods, and were both an actor in and victim of environmental degradation and deforestation. The communities were also wary of government policies and top-down decision-making processes.[29] In this context, working with local community leaders and other trusted community groups, the Ghana EPA and Ghana Forestry Commission brought together messaging around forest conservation alongside its interdependencies with sustaining livelihoods, economic gain, and environmental resilience. These discussions linked the importance of urgent behaviour change with both short-term economic gains and long-term environmental and livelihood-related outcomes, building an effective way to discuss a complex issue area with community members. Trusted relationships with messengers, and avenues for sustained long-term community deliberation around complex challenges, in particular, are vital to practices being adapted to the needs and requirements of changing times and contexts, and for the overall programme to remain successful. In this case, as an on-going initiative, the Ghana FIP provides an interesting opportunity and example to gather learnings around how public engagement around forest conservation can be sustained and supported with the local communities of the HFZ region in the long-term.

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Oxford Citizens' Assembly on Climate Change, Oxford, UK

Focus Area: Net-Zero Emissions

Public Engagement Type: Formal deliberation process drawing on public perspectives to decide policy priorities

Scale: City

Region Type: Peri-Urban

Summary

In January 2019, Oxford City Council members unanimously declared a climate emergency and agreed to create a Citizens' Climate Assembly to help consider new carbon targets and additional measures to reduce emissions. The Assembly was tasked with responding to the following question: "The UK has legislation to reach 'net zero' by 2050. Should Oxford be more proactive and seek to achieve 'net zero' sooner than 2050?", as well as discussing five key themes that the council had control and influence over: buildings, transport, renewable energy, biodiversity & offsetting, and waste reduction.[1] 42 residents from Oxford took part in two weekends of structured deliberation. Assembly members heard from experts, and were presented with three visions of possible futures for Oxford, developed by the City Council, and asked to vote on a series of specific pre-prepared questions. The Council responded to the recommendations from the Citizens' Assembly through their Sustainability Strategy and Action Plan, setting out clear targets and actions to cut emissions in buildings, transport, energy, waste and expand biodiversity across Oxford with the objective of achieving net-zero emissions across Oxford by 2030. A Climate Emergency Budget that commits new and additional funding of £19 million was also established to deliver on the Sustainability Strategy.[2]

Background and Context

The UK government passed a law committing the UK to achieve net-zero GHG emissions by 2050.[3] This target has important socio-economic ramifications and will require significant and disruptive changes in public behaviour and consumption patterns. Following the UK net-zero commitment, a number of local authorities across the country declared a climate emergency, and initiated citizen deliberation processes to enable public input on acceptable local net-zero strategies.[4]

Oxford was the first City Council to initiate a Citizens' Assembly on climate change in the UK. Citizens' Assemblies give citizens the time and opportunity to learn about and discuss an issue in detail, before reaching conclusions and arriving at workable recommendations of what should be done.[5] The approach is intended to help counteract divisiveness, shift power away from politicians and lobbyists, and increase the likelihood that different public perspectives are heard.

Oxford City Council have been keen advocates for participatory forms of decision making and the Assembly process was also broadly supported by local environmental and civic groups in the region.

The Initiative

In January 2019, Oxford City Council unanimously passed an amended motion declaring a climate emergency. As a result of this, Oxford City Council became one of the first local authorities in the UK to establish a Citizens' Assembly on Climate Change.[6]

An independent cross-party advisory group was set up to provide governance and oversight of the creation, structure and operation of the Assembly. The advisory group included a councillor from each of the main political parties on the City Council, together with Oxford-based environment and democracy experts, and representatives from local industry.[7] Ipsos MORI, a UK-based market research agency, was appointed to undertake the recruitment of participants and provide overall facilitation.[8]

The objective of the assembly was to assist the City Council in developing its mandate, strategy and budget on carbon abatement measures for 2020-2024, and interim targets to achieve net-zero. It was also hoped that the Assembly would give the Council some influence over other key carbon emitters such as universities and big businesses.

1. How was the climate change discourse presented and communicated?

Before the Assembly

In advance of the Oxford Citizens' Assembly, participants received a 16-page briefing pack, explaining the Assembly process alongside a basic introduction to climate change, net zero, and implications for the Oxford context.[9] The briefing pack also contained a myth-busting section on climate change to clarify common climate-related myths, clearly articulating that the existence of climate change was not up for debate during Assembly sessions. This could have influenced the recruited participants'

decision to participate (42 out of the 50 recruited participants joined the Assembly proceedings over the two weekends. The absenteeism of the 8 remaining participants was not investigated).[10] The information presented through the briefing-pack was fairly simple, to-the-point, and easy to understand, although it was acknowledged that more could have been done to make the content engaging and tailored to participant understanding and interest.

During the Assembly

The Assembly participants engaged with the broader question: "The UK has legislation to reach 'net zero' by 2050. Should Oxford be more proactive and seek to achieve 'net zero' sooner than 2050?", from three thematic lenses (using less energy; making more clean energy; improving the quality of the environment) further divided into five sectors (buildings; transport; renewable energy; biodiversity & offsetting; waste reduction) relevant to key GHG emission sources in Oxford.[11, 12] Participants agreed that the narrowed framing allowed them to build a more focussed understanding of the issue and generate meaningful recommendations.

The information on climate change was presented to the public through a mixture of expert speakers (including academics, environmental groups and Council representatives), with efforts made by the oversight panel to ensure a balanced picture of the challenge and response options in different sectors were presented to participants. All expert speakers emphasised the urgency, seriousness, and also the fixability of the challenge, thereby shaping the tone and content of the deliberation that followed to be positive and ambitious.[13]

The sector-specific expert sessions were fairly technical, presented by technical stakeholders and practitioners, which is likely due to the Assembly process being set up with the objective of gathering recommendations to inform Council policy. Interestingly, however, the technical conversation seemed suited to the Assembly members as Q&A sessions and deliberation processes showcased keen engagement and interest on what was viable, feasible and cost-efficient. Feedback forms also showed high levels of satisfaction with the facilitation and speaker presentations from the Assembly.[14] On recruitment of the Assembly members, it is important to note that, like many local authorities, Oxford has an existing panel of residents used for consultations. Most members of the Assembly were recruited through the panel, with gaps in representation filled through a secondary stage of street recruitment. The assembly participants were stratified across gender, age, ethnicity, disability, and area

of residence within Oxford, to serve as a representative microcosm of the population of Oxford. Other variables were monitored but not used as selection criteria such as social grade, educational attainment, working status, length of Oxford residency, and environmental and political attitudes.[15]

After the Assembly

At the end of the last session each participant was given a well-researched take home pack with additional resources to guide them on taking personal or community action, or simply starting conversations about climate change with others.[16]

On communicating with the wider public, Oxford Council published the timetables, videos of the expert speaker presentations and deliberation synthesis sessions, on their local authority websites. Also included were all materials supplied to Assembly participants, and the composition of the Advisory Committee.[17] This kind of practice can show participants and the wider public how the exercise feeds into the broader democratic process, and build support for, and discussion about, the wider role of citizens' assemblies in democratic politics.

2. What was the extent and nature of citizen collaboration in the Assembly?

Participants of the Oxford Climate Assembly were provided with a controlled collaboration space in which to develop recommendations, based on a rigorous process of considered and informed deliberation. The deliberations were bolstered by the Council's repeated emphasis on the importance of the Assembly process, with clear explanations of how the recommendations will be responded to.

In the first weekend of the Assembly, each presentation slot consisted of between one and four main presentations (of up to 10 minutes) plus additional shorter presentations (usually three-minutes), regular icebreakers, individual reflection, frequent opportunities to work in small groups and occasionally as one large group (plenary) helped to vary the discussions. As a take-home task for participants in the three weeks before the next Assembly session, they were asked to talk to family, friends, colleagues; discuss how important different issues were to them; and think through a

prioritisation. All videos of the sessions were also made available online, for reference and to aid external discussion.[18]

The second weekend was devoted to deliberation, a visioning activity and prioritisation across different courses of action. Courses of action spanned areas that the Council had direct control over, where it was able to work in partnership with other statutory bodies and where it could influence others. The weekend culminated in a series of voting exercises. Assembly members were presented with three visions of possible scenarios, ranging from least to most ambitious. Members were asked to vote which scenario they would like to live in. Given that the objective of the Oxford Assembly process was to inform the City Council's Strategy and Budget, the design of the sessions along a tight, specific set of scenarios and policy options did well to streamline the conversation to deliver clear messages on citizen recommendations for action.[19]

3. What was the level of action addressed by the public engagement?

The Assembly sessions and the participant discussions considered the responsibilities of the City Council, businesses, institutions, and individuals. In this sense the process was underpinned by a multi-faceted understanding of the behaviour change needed, and the recommended policy options were targeted at addressing action at the individual, community and systems level.

The primary objective of the public engagement through the Assembly process was to produce a set of recommendations that informed Council policy and budgets. The emphasis through the facilitation of the sessions was on guidance and steering of the participants; the Assembly itself was not designed to establish specific policy interventions (for example, no technical engagement with trade-offs and budgeting was required), but rather to indicate citizen preferences on the direction interventions should take, and the intensity of action deemed publicly acceptable. The Assembly process also provided the Council some influence over other key carbon emitters such as universities and big businesses.

The Public Impact

The Assembly recommended that Oxford City Council take on a leadership role in the climate crisis and aim to achieve net-zero emissions sooner than 2050. In addition, sector-specific recommendations were made on how the Council could cut emissions in buildings, transport, energy, waste and expand biodiversity across Oxford. The Council was also asked to build a shared strategy to reach net-zero emissions that showcased the roles played by local and national government, businesses, and individuals. In response, the Council has taken the following actions:

Developed a Sustainability Strategy and Action Plan on how the Council and City will achieve net-zero emissions by 2030, by raising the energy efficiency of new homes and community buildings, cutting transport emissions, boosting renewable energy installation, expanding biodiversity across the city, and increasing public engagement with recycling, in keeping with the Assembly's recommendations.

Established a Climate Emergency Budget that commits new and additional funding of £18 million of capital investment to deliver on the Sustainability Strategy, plus £1 million operational funds. This amount was set aside in addition to the £84 million of ongoing investment to tackle the climate emergency in Oxford.

Instituted an organisational change within the Council, through the set up of a cross-departmental panel dedicated to better coordinating the response to climate change.

Set up a Zero Carbon Oxford Partnership to involve major emitters in the city in developing a shared vision and plan towards a Zero Carbon Oxford. A Zero Carbon Oxford summit is also being planned.[20]

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below:

Enabling Adaptability and Learning

A Citizen Assembly, when designed and commissioned to foster collective learning, dialogue, and deliberation, can build trust between citizens and the government, produce better and fairer policies, and act as a catalyst for better partnerships. However, most Citizen Assemblies require a significant financial and time commitment on part of the commissioning body, alongside a commitment to meaningful follow-up on the recommendations. In the case of the Oxford Climate Assembly, the Oxford City Council clearly and regularly articulated the purpose of the process and how it would feed into policy, budget and strategy. These steps enabled the Council to foster legitimacy and trust through the design and implementation of the Assembly. As a consequence of the clearly articulated objective, however, the Assembly sessions were tightly framed, which has its advantages and disadvantages. The advantage is that the final recommendations delivered clear messages to the Council on the action they should take, in typically contentious areas of policy, enabling diligent action. However, it is important to note that such a tightly scripted framing of the policy context presented by technical experts, and the choice of pre-constructed scenarios to choose from, has the propensity to set the language, content and tone for what is and isn't discussed. In this case, it is likely that this potentially held participants back from discussing lived experience and personal priorities.

Similarly, the framing of the overarching question, or more subtly the choice of external speakers, may also dictate deliberation processes, options considered, and the recommendations themselves. It

is critical for the Assembly process to allow for sufficient flexibility and iteration in the design, to flex and accommodate new ideas and feedback from participants. When this isn't the case, it could restrict sustained public engagement on the issues discussed, as the process doesn't adequately recognise and value different ways of knowing, being, and learning. Partly, this is a result of the role the Assembly was perceived to play, which is to produce recommendations to inform policy making, rather than as a tool to start a wider public dialogue. However, by upholding this narrative, the Council likely misses the opportunity to have a broader discussion on the role citizen assemblies can play in instituting sustained two-way learning, on complex value-laden issues such as climate change. A way forward might involve commissioning and designing an Assembly as one part of a wider public engagement and learning process, as a way to bolster government legitimacy and design truly inclusive policy action and public impact.

Designing for Inclusion

The approach to Inclusion in recruitment for the Oxford Climate Assembly involved using stratified random sampling to identify a representative sample of the population from the Council's existing citizen panel. This was supported with a second round of street recruitment to fill in the gaps in representation. It is, however, important to note that random stratified sampling is only as inclusive as the database it uses to recruit participants (for example, if it uses the electoral register, a database of landlines, or a database of addresses it excludes people who are not on this database). Further, the diversity and representativeness

of the Assembly was heavily contingent upon the selection criteria chosen (for example, the criteria of socioeconomic group, employment status, educational attainment or political viewpoint could have been included as selection criteria but were not in this case). Unless criteria such as educational attainment is used to diversify the sample, it is likely that the process sees an overrepresentation of educated, middle-class participants, skewing the areas of interest and discussion, and consequently the final recommendations. We also know relatively little about those who turn down invitations and their reasons for doing so. It is therefore unclear whether the process systematically excludes particular groups, and what difference their inclusion may have on the deliberations.

Importantly, deliberative processes bring a diverse group of people together who start to understand and appreciate the realities of each other's lives, and a Citizen Assembly provides a critical opportunity to move the discussion away from individual preferences to conversations on the greater collective good. In that sense, considerations of inclusion within the Oxford Assembly design could also have been more explicit, such as asking participants to share personal experiences, values, and thoughts on climate policies through the process, in acknowledgement that their knowledge and experience is valued as much as that of other technical experts. Further opportunities to mix and build relationships informally at the outset to create the right conditions for people to feel included could have aided this process and serves as an important area for further discussion and research.
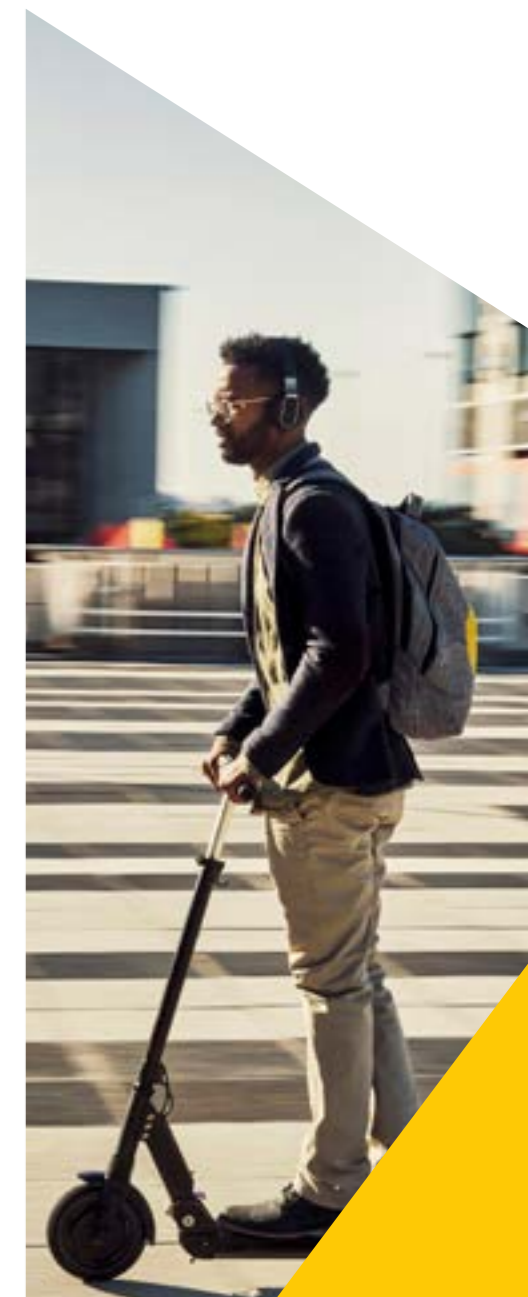
Embracing Complexity

Climate change is a complex and wicked challenge to tackle within a Citizen Assembly process. Climate change is difficult to clearly define, has multiple interdependencies, and is constantly evolving. In addition, as it has no clear solution, policy actions can have unintended consequences, and no one actor is responsible for all aspects of the challenge. Structuring deliberation around the subject is therefore inherently challenging.

The Oxford Climate Assembly did well to focus the challenge on place-based issues relevant to Oxford City and the participants in the room. The sessions also clearly articulated that the Council can only go so far in reducing the climate impacts within the region without multi-level multi-sectoral partnerships and collaboration with local businesses, institutions, and citizens. This enabled the participants to understand and engage with the interlinked nature of the climate challenge, and the need for co-design and collaboration in policy identification and implementation.

The Assembly also provided adequate background information and take-home readings, and expert advice to enable the public to engage in informed deliberation and reach meaningful decisions about the future course of action. However, with an issue as complex as climate change it may always be possible to debate whether two weekends of dedicated deliberation are sufficient, and whether more time and more resources could have supported a richer understanding of the process. The Draft Citizen Assembly Standards put together by Involve in collaboration with a number of deliberative democracy practitioners suggests that the climate emergency warrants investment in a longer process; one in which people have time to come to an understanding of the challenging issues, develop relationships, share experiences, challenge each other, consider new information and move from an individual perspective to consider what may constitute a vision for the greater public good.21 It is therefore important to always question how an Assembly process can aspire to meet those objectives more effectively and comprehensively, in the longer-term.

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Summary

In 2008, Lisbon was the first European capital to adopt participatory budgeting at municipal scale, empowering its citizens to use parts of the Council's budget each year for projects that benefit their community. In line with Lisbon's increasing interest in environmental goals, and following its recent win of the European Green Capital Award in 2020, Lisbon decided to transform its participatory budget into a green participatory budget which would focus exclusively on proposals for a more sustainable, resilient and environmentally-friendly city. The Lisbon Green participatory budget uses a hybrid model of citizen engagement, focusing on in-person engagement for discussion and debate and web-based platforms for voting and proposal submission. The annual process culminates with the integration of the winning projects in the City Council's Plan of Activities and Budget, which are approved by the City Council and the Municipal Assembly, and subsequently implemented.

Green Participatory Budgeting: Lisbon, Portugal

Focus Area: Sustainable Planning

Public Engagement Type: Formal deliberation process drawing on public perspectives to decide policy priorities

Scale: City

Region Type: Urban

Background and Context

The focus on tackling climate change across EU countries began two years before the Lisbon Participatory Budget (PB) process was set up, when the European Council set specific areas for priority actions in its 2005 revision of the Lisbon Strategy, its action and development plan for the EU economy.[1] One of the priority areas specified was 'climate change and energy policy for Europe', which led to a number of climate-based targets being enacted in the legislation of European countries by 2009.[2, 3, 4]

Lisbon has a strong track record in achieving ambitious sustainability targets, having managed to reduce CO2 emissions by half between 2002 and 2014, and energy and water consumption by 23 percent and 17 percent respectively between 2007 and 2013. This achievement resulted in Lisbon becoming the first capital in Europe to sign the New Covenant of Mayors for Climate Change and Energy in 2016, incentivising further climate action from the city.[5, 6] An added incentive on improving climate targets came when it was announced that Lisbon had won the European Green Capital Award for 2020.[7, 8]

The Initiative

Lisbon introduced PB at municipal level in 2008; the first European capital to do so. The PB process allows the city's inhabitants to annually discuss, propose and vote for how a portion (the specific amount is clarified annually) of the City Council's budget is to be used. The PB process is open to everyone in the municipality of Lisbon over the age of 16 years, including officials/representatives from companies, charities and non-governmental organisations in the city.[9,10]

The PB process is also open to non-residents who visit or work in the city, and nearly a quarter of the votes are from this group.[11]

Following Lisbon's win of the European Green Capital Award 2020, the City Council decided to focus its PB process "exclusively on proposals that contribute to a more sustainable, resilient and environmentally friendly city" – a Green PB. The Green PB, which follows the existing Lisbon PB approach, is supported and managed by the consultant firm South Pole and EIT Climate-KIC's City Finance Lab, a body of the European Union.[12, 13, 14] In 2018, a pilot 'Green PB for Schools' project involving 5 schools from 5 regions in Lisbon was carried out, to learn how to best apply an environmental lens to PB, and also learn how to roll out Green PB across all Lisbon schools. The city also established the Lisbon Commitment, in 2018, which invited over 200 local Lisbon companies that had already made green commitments, to make further commitments for the period 2020-2030.[15]
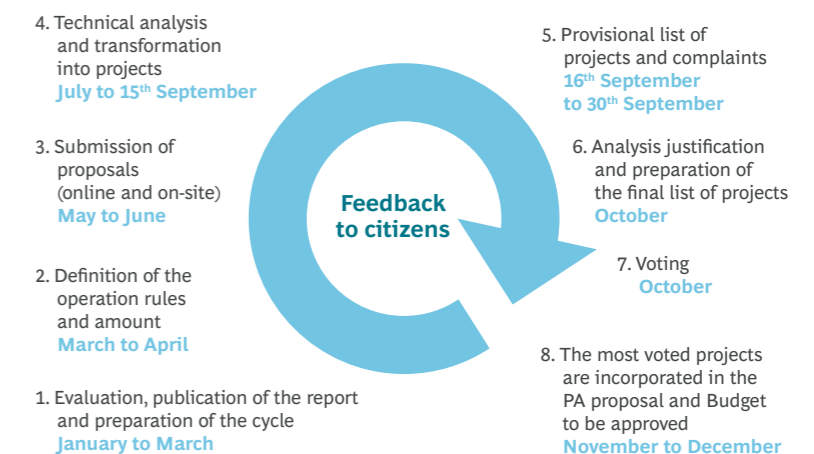
NB: Due to the Covid-19 pandemic, Green PB was not implemented in 2020 and is likely to restart in 2021. The rollout of the wider schools PB has also been delayed.1 However, since the Green PB process is expected to replicate the current Lisbon PB process, the sections below analyse the current Lisbon PB, including details on Green PB where available.

The total budget for the Green PB process is EUR 5 million, which was divided into two project types – 'Structural' (EUR 150,000-500,000) and 'Local Projects'(EUR 50,000-150,000).[16] The PB cycle opens in May, with several decentralised sessions and online engagement processes held across the city, inviting project proposals. In July, a technical analysis of the proposals is carried out by the municipal team, to narrow down

Participatory Budget

Join at www.lisboaparticipa.pt

4. Technical analysis and transformation into projects
July to 15th September

3. Submission of proposals (online and on-site)
May to June

2. Definition of the operation rules and amount
March to April

1. Evaluation, publication of the report and preparation of the cycle
January to March

Feedback to citizens

5. Provisional list of projects and complaints
16th September to 30th September

6. Analysis justification and preparation of the final list of projects
October

7. Voting
October

8. The most voted projects are incorporated in the PA proposal and Budget to be approved
November to December

the proposal list. A Provisional Project list is then published, against which voting commences in October. At the same time, a week-long complaints process is opened to register and address any complaints on the technical analysis process. In November, the annual cycle closes with a public presentation of the winning projects. This is followed by an evaluation, feedback and redesign process for the next cycle between January to March.[17]

1. How was the need for (green) participatory budgets presented and communicated?

Before the initiative

Between 2008 and 2019, the participatory budgeting opportunity was communicated to Lisbon residents mainly through 'word of mouth' (42.7 percent through family and friends).[18] Further, as an on-going annual process widely covered by traditional and online media, the public in Lisbon were well-aware of the PB process timelines, how to participate, and also how to oversee the implementation of civic projects identified through the process.[19]

During the initiative

Communication strategies inviting participation in the Lisbon PB have been redesigned and improved over time, in keeping with regular self-evaluation results and feedback from its participating residents.[20] Initially, to promote participation, the Council built an internet portal, through which citizens could receive information, and eventually also submit proposals and vote. Several online awareness and information campaigns were also run on the Lisbon PB process, inviting participation. However, as noted in the 2018/19 annual report of Lisbon PB, participation was seen as being dominated by a specific age-group of citizens. Therefore, more recently, the aim has been to make the Lisbon PB 'more transversal and inclusive' with several initiatives carried out in order to involve population groups traditionally further removed from this type of active citizenship process, namely, youth, seniors and migrants. (translated from Portuguese).[21] This includes a 'de-digitisation' of processes, with the establishment of several in-person, physical meeting opportunities for citizens, such as workshops, Participation Assemblies and polling stations, to avoid excluding those without access to phones, computers or the internet. Awareness was also driven through traditional news media and SMS campaigns, with proposals and voting also invited through SMS.[22]

Other communication strategies used during Lisbon PB were developed over time and included:

- Communication Kits – templates to use when promoting projects or information about the Lisbon PB, made available to download on the website
- Websites – Lisbon Green PB website (3000 registered), Camara Municipal de Lisboa (CML) website (4800 subscriptions)
- Media outlets (articles and advertisements in local newspapers) and social media.
- Leaflets/information distributed via GP surgeries and sports events
- Lisbon PB Bus, to drive around Lisbon and offer information, discussions and voting facilities, recently replaced by a 'Bike PB'[23, 24]

In the 'Green PB for Schools' pilot in 2018, the students were engaged on the topic of climate change and environment issues through messaging around the intergenerational nature of the challenge.[25, 26] The message was presented and communicated through the curriculum and active learning sessions led by teachers, professors and PB staff. For example, games were used to show students how to save water and protect water resources.[27] The

students were given 12 pre-chosen eligible projects which came under 6 themes.[28] The final projects were chosen after a voting process in which all the students participated.

After the initiative

After the annual close of the Lisbon PB process, the CML website provides information and updates on the development of projects selected, enabling citizens to monitor implementation. The portal also provides reasoning behind delays, if any.

2. What was the extent and nature of citizen collaboration in the PB process?

In terms of enabling citizen collaboration, The Lisbon and Green PB processes have designated Participatory Assembly sessions to discuss proposals and cast votes on eligible projects. Here, citizens are organised into several smaller discussion groups at random. Each discussion group is joined by a moderator from the Council, who facilitates discussion around the quality of the proposal. Only proposals that are voted for by the discussion groups are put forward for technical eligibility checks by the Council.[29] However, since there is no limit to the number of proposals that can be submitted at this stage, there is a tendency for most proposals to be put through to the next stage by the groups. Each proposal is appraised on quality, with discussions around its individual merits and demerits, but does not involve discussions around trade-offs between proposals nor are prioritisation decisions made between them.[30]

All proposals that come through the Assembly process, including the ones that are submitted online (which do not go through a process of deliberation), are shared with the Council's PB team. The PB team takes the proposals through a process of filtering, analysis and merging, relisting

them as specific 'civic projects', and inviting public voting on them. As this filtering process is conducted by the Council rather than the citizens, the process was initially viewed as discretionary, and was prone to wide-ranging complaints. To counter this challenge to its legitimacy, since 2012, the Council PB team has contacted citizens who submitted proposals to check with them before merging proposals. In addition, the Council also opened up a complaints forum alongside releasing the Provisional Project list to allow citizens to raise any issues with the rejection or mergers of their proposals. Once the process of voting closes, the projects with the most votes are presented at a public ceremony.[31]

3. What was the level of action addressed by the public engagement?

The public engagement was targeted primarily at individual and community-level, with the onus placed on individuals to engage further at community-level in order to gather votes on important civic projects.

The objectives of the (Green) Lisbon PB are to promote citizen engagement and participation in city decision-making processes; accelerate awareness and investment in (sustainable) local projects; encourage greater dialogue between citizens and officials and enhance transparency and accountability around the Council's activities.[32]

The Public Impact

The evidence suggests that there is active citizen participation in the Lisbon PB process, leading to the commissioning of projects also related to sustainability and the environment among others.

Between 2008 and 2018, 303,208 citizens voted in the Lisbon PB, and 36.3 million euro was invested through 11 Participatory Budget cycles.

As of 2019, 25.2 million euro worth of projects have been concluded, or are at implementation stage.[33]

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below:

Enabling adaptability and learning

The Lisbon PB process has gradually evolved over the years, in response to citizen feedback and annual self-evaluation processes, a significant benefit to it being a long-running annual process. The learning process has led to a) changes to the public engagement and awareness-building process around Lisbon PB to include different community groups and create more avenues for in-person engagement; b) changes to the proposal filtering process conducted by the Council, and the introduction of the complaints and review component; and c) changes to simplify the rules of participation with active efforts made to reduce barriers to participation.[34] The range of changes speak to the benefits of long-term sustained public engagement with robust feedback and evaluation loops in improving programme processes and outcomes. The constant adaptation also builds flexibility in the programme, making it simpler to introduce new mandates to the existing PB model, such as the recent prioritisation of sustainable, resilient and environmentally-friendly projects through the Green PB initiative. By adapting and building on an existing institutional structure, the ability to engage with citizens and sustain the urgency and momentum for green projects long-term is likely to be stronger than if a completely new initiative had been launched separately.[35]

In addition, the Lisbon PB is widely discussed across the country, with lessons shared among several other Portuguese municipalities. In many cases, these municipalities are actively looking to counter some of the challenges encountered by the Lisbon PB process by experimenting with

how they design and set up their own PB processes. For example, Condeixa and Trofa have designed a multiple vote system that encourages citizens to read and discuss all the projects submitted before the final vote, rather than merely voting on their own project.[36] The Lisbon PB process has also heavily borrowed experiments from its neighbours, while adapting them to suit its needs. For example, inspired by the Cascais PB, the Lisbon Council adopted the use of SMS as a primary voting tool, although it also introduced the PB Bus to reach more communities, when it was deemed impossible to reach an agreement with all telephone companies operating in Lisbon.[37]

Designing for inclusion

The Lisbon PB has made many efforts to democratise public engagement and participation in both the proposal submission and voting processes over the years. In the first two years, all participants – except the group that used the polling stations – had attained a degree in higher education. The age range of participants also shifted from 35-65 years in 2008 to 26-35 years during the 2009 and 2010 cycles. By constantly monitoring and evaluating the demographic characteristics of the participants, the City Council was able to actively identify new avenues to design in further inclusion. This involved a 'de-digitalisation' of the process and enabling the use of more in-person options to meet and discuss proposals. The objective was to reach out to senior citizens and those with limited access to computers, internet and smartphones, such as migrants and citizens from lower socio-economic backgrounds. To reach young people, the Lisbon Schools Green PB pilot was launched. In addition, some approved PB projects are in themselves designed to help with integrating disadvantaged groups into societies. Some examples include entrepreneurships and training courses for people with disabilities, or minority community groups.[38, 39, 40]

It is important to note, however, that there are certain inclusion gaps in the way that the current deliberation processes in the Participation Assemblies are structured. Primarily, they do not push citizens to discuss key city-level priorities across the proposals, in acknowledgment of the limited participatory budget involved. This leads

to limited discussions around the needs of different citizen groups, and trade-offs between prioritising one project over the other. These value-laden decisions are instead made by the City Council, in a technical evaluation process that only aims to check feasibility and reduce redundancy across proposals.[41] It is unlikely that this process is conducive to true inclusion and the quality of deliberation among the public potentially needs to be made much more robust in subsequent cycles. While achieving this is challenging given the scale of the PB initiative, it can be addressed by involving and partnering with grassroots organisations, NGOs, Councillors and other community representatives. Partnering would also counter the current tendency to favour organised groups with greater mobilisation/ voting capacity, by providing greater steer on how marginalised groups or unequal redistribution needs across the city can be prioritised. Overall, it is important to note, that a specific emphasis on issues related to social inclusion and redistributive justice would be critical to ensuring socially just outcomes from the Green PB process.

Embracing Complexity

Participatory Budgeting processes, in general, are less well-placed to adequately address complex issues, as they tend to focus on short-term individual projects in disconnected sectoral realms. This narrowed objective prevents them from effectively addressing multi-sectoral issues such as inequality as well as long-term intergenerational issues such as climate change. Navigating past these challenges will require significantly more attention and resources. These can be dedicated to developing long-term communication plans around how citizens can be comprehensively engaged on issues of climate-focussed city planning and policy, through collaboration and deliberation. Further, the resources must also prioritise building the capacity of municipal staff/ partner organisations to facilitate a more nuanced engagement process. As the Green PB process in Lisbon commences post the COVID-19 restrictions, it will be an interesting example to learn from in terms of how it navigates these challenges.

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Community Managed Marine Conservation: Kuruwitu, Kenya

Focus Area: Marine Conservation

Public Engagement Type: Place-based community-owned, community-led initiatives

Scale: Coastal Village

Region Type: Rural

Summary

In the early 2000s, overfishing and unsustainable fishing practices had resulted in declining fish numbers in Kuruwitu, a coastal community in southeast Kenya, threatening the livelihoods of local fishers. To resolve this, the community set up the Kuruwitu Conservation and Welfare Association (KCWA) in 2003. KCWA engaged in public group discussions with local fishers on how to improve fishing practices, which led in 2006 to the establishment of the first Locally Managed Marine Area (LMMA) in Kenya. Along with the local Beach Management Unit, KCWA has utilised a range of public engagement methods to build awareness and understanding across the wider community on sustainable fishing and conservation practices and alternative community livelihood opportunities. Today, the LMMA is jointly run by KCWA and local partner organisations. Fish have grown in abundance, size and diversity, as has the biodiversity of the Kuruwitu region, creating numerous jobs and helping the growth of ecotourism. In addition, building on the success of the Kuruwitu LMMA, 20 other LMMAs have been set up along the Kenyan coast.

Background and Context

Kuruwitu is located 40 kilometres north of Mombasa, and is a popular tourist destination on Kenya's north coast. It is made up of three coastal villages and six fishing landing sites, with a population of around 7,000 people.[1] Kuruwitu's economy depends predominantly on fishing and ecotourism, with subsistence farming and other small-scale businesses making for a smaller secondary income source. Kuruwitu is home to a diverse marine ecosystem comprising coral reefs, platforms and lagoons as well as multiple endangered species of turtles, reefs and seagrass beds.[2]

Since the early 2000s, Kuruwitu fishers have been very concerned about the decline in fish numbers near the landing sites.[3] It was evident that this was due to overfishing and destructive fishing activities. The fishers were being compelled to explore areas outside the reef to look for more fish, or to resort to the use of illegal fishing gear – including small-meshed nets, monofilaments and spearguns – to make their catches. Further, excessive and unregulated harvesting and the collection of live fish, live corals, and ornamental fish by commercial fishing organisations was threatening the fish nurseries of the reef.[4] The fishers' concerns for the sustainability of their livelihoods pushed the community to look for effective means to protect Kuruwitu's fragile marine ecosystem.[5]

The Initiative

The Kuruwitu Conservation and Welfare Association (KCWA) was set up by local resident Des Bowden and fisherman Dickson Juma in 2003, with the aim of protecting the Kuruwitu-Vipingo area from overfishing and at the same time improving the lives of the local community. KCWA brings together 550 families across the six fishing landing sites, made up mostly of artisanal fishers. Artisanal fishing consists of various small-scale, low-technology, low-capital fishing practices undertaken by individual fishing households.[6] In 2006, KCWA closed off 30 hectares across Kuruwitu landing sites from unsustainable inshore fishing and habitat destruction, establishing the first Locally Managed Marine Area (LMMA) in Kenya, through a community-led movement.[7]

To deliver on the environmental, socioeconomic and cultural goals of the LMMA, various collaborations and partnerships have been put in place involving the community, government, and other relevant actors. This led to the setting up of a co-management area plan that today covers nearly 10,000 hectares.[8] The stakeholders include the local Beach Management Unit (BMU), the Kenyan State Department of Fisheries, the Wildlife Conservation Society (WCS) and the Kenyan not-for-profit organisation Oceans Alive. At the time, the newly-established BMU regulations provided a legal means for communities to assert their rights as co-managers of community natural resources.

The overall objective of the LMMA is to balance the needs of the community with conservation goals. In particular, these include:

- Preserve marine ecosystems by creating an LMMA and promoting sustainable fishing practices
- Increase employment opportunities and diversify livelihoods for the local community
- Improve community wellbeing and living standards by promoting environmentally-friendly projects and initiatives that increase household income[9]
- Increase opportunities for young people in the community
- Influence and educate other coastal communities, leading by example.[10]

1. How was the need for marine conservation presented and communicated?

Before the Initiative

The local fishers in Kuruwitu recognised the need to address the economic threat that unsustainable fishing practices were posing to their livelihood. From the time of KCWA's establishment in 2003 up until 2006, the fishers were engaged in focus group discussions on ways by which they could experiment with different types of sustainable fishing practices. It was through these discussions that a proposal was made for the creation of an LMMA.[11] At the time, there were no other LMMAs along the Kenyan coast to serve as a precedent.

In 2006, the East African Wildlife Society, which is a conservation NGO, arranged an exchange visit for the Kuruwitu fishers to Tanga in northern Tanzania, to facilitate learning and provide firsthand experience of an LMMA in operation. The LMMA in Tanga is a community-managed marine area set up by the Tanga Coastal Zone Conservation Development Programme alongside the local community. There, the Kuruwitu fishers had the chance to discuss and share experiences on marine conservation with their Tanzanian counterparts.

During the Initiative

Communication around the LMMA initiative in Kuruwitu was put together by the community members of KCWA and the BMU. They signed a memorandum of understanding, which clearly defined their respective roles and responsibilities. KCWA was responsible for the overall management of the LMMA, including managing ecotourism. Therefore, most of the communication was primarily facilitated by the KCWA committee and its subcommittees through regular participatory learning sessions with the wider Kuruwitu community. Much of this focused on visits to the site and activity-focused sessions to discuss and showcase the various components of the LMMA. The BMU, on the other hand, which was responsible for sustainable fishing, licensing, and enforcing fisheries regulation, covered those topics in separate learning sessions.

After the Initiative

The LMMA initiative in Kuruwitu is still ongoing, and consistent efforts are made by the community members of KCWA to reach out to the growing Kuruwitu population and build awareness of the LMMA and sustainable fishing practices.

In addition, since the establishment of the Kuruwitu LMMA in 2006, 20 other LMMAs have been set up in Kenya, and a few others have been set up in Eritrea and Djibouti, after visits to Kuruwitu for learning exchange programmes. KCWA is also working with Oceans Alive to build toolkits that will help support LMMA managers in planning, setting up, and improving LMMAs in their regions and with their communities.[12]

To build broader, more widespread awareness, a documentary film "Kuruwitu – Between a Rock and a Hard Place" was put together in 2011 by the African Environmental Film Foundation (AEFF). The film discusses marine ecosystems, overfishing, aquarium trade, the benefits for fishers from creating no-fishing zones, and the ways in which a sustainable marine tourism industry can provide alternative livelihood options for coastal communities. In 2018, the AEFF made another similar short film entitled "Kuruwitu – The revival of a Kenyan reef", which covers the more recent aspects of the initiative.[13]

2. What was the extent and nature of citizen collaboration?

Collaboration among KCWA members

On becoming aware of the fishing community's frustrations with depleted fish stocks and livelihood opportunities in Kuruwitu, Des Bowden and Dickson Juma set up a range of discussions between the community and marine conservation experts to address the problem. These sessions focused on ways in which the six landing sites across the 10km coastal stretch of Kuruwitu could be better protected, and the livelihoods of the local fishers improved. A summary of those discussions was put together in a report, which was presented to the rest of the local fishing community at Kuruwitu in a well-attended inaugural meeting. At this meeting, the local fishing community agreed to formalise their ability to co-manage the marine resources in their region, by setting up KCWA and voting in a committee consisting of elders, fishers, fishmongers, and a few house-owners, with equal representation from the six landing sites. Des and Dickson were voted in as Chairman and Vice Chairman respectively.

This group commenced work to establish the LMMA in Kuruwitu, sharing the responsibility for setting up, managing and running the area. Through the course of this work, KCWA membership was opened up to the local community and expanded to include over 1,000 people. Today, KCWA is managed by a 15-person committee, which is composed of an executive committee and subcommittees on the environment, enterprise, education, security, and welfare, each one headed by a local community member. It is a requirement that at least one-third of all committee members are women.[14] Decisions are taken in a participatory manner, and if any issue arises, the committee calls for assembly meetings to resolve conflicts with the support of landing site representatives.

Collaboration between KCWA members and the wider community

As KCWA membership has expanded, its objectives have evolved. It was initially set up to give the local fishing community a formal voice in the management of marine resources and to mobilise against aquarium fishing. This involved developing a co-management scheme through extensive consultation with fishers, who were the key stakeholders driving the initial establishment of the LMMA. Focus group discussions were also facilitated to develop a plan of action on the restoration of coral reefs, ecotourism, and sustainability. In each case, KCWA identified and encouraged participation of the relevant members of the community.[15, 16]

Today, KCWA continues to ensure the ongoing inclusion and participation of new stakeholders or beneficiaries of the LMMA through active communication and invitations to participate in decision-making. New stakeholders include Vipingo Ridge, which is developing an emerging ecotourism destination; Centum Ridge, which is developing a city in the area; and Mombasa's cement factory. These new stakeholders are being consulted as part of the collaborative development of an updated co-management plan. This process is led by KCWA and the BMU and aims to redefine the objectives and long-term goals of the LMMA as circumstances change.[17]

KCWA also looks to create alternative sustainable sources of employment and income for the wider local communities of Kuruwitu. These processes consist of interviewing community members so they can share their perspectives and aspirations for the community. Subsequent focus group sessions involve either attending training sessions, or visiting, exploring and discussing the LMMA, and sustainable marine conservation issues and activities.[18] These sessions have improved community cohesiveness, increased members' knowledge of their rights and responsibilities, and enabled them to mobilise effectively for collective action.

KCWA also provides job opportunities for the wider community, either directly in relation to the management of the LMMA or through its offices. For example, KCWA appoints and trains scouts from the community to patrol the LMMA and ensure only sustainable fishing practices are being undertaken. Some of the community are also well trained in biodiversity assessments, and they regularly monitor the conservation area. The objective of these training programmes is to strengthen and sustain local institutional capacity and empower the community to run projects without relying on external support.

Further, KCWA runs a number of initiatives to support ecotourism. It compensates the community for finding turtle nests and looking after them until the eggs are hatched. A monitoring team of trained community managers oversees this exercise. KCWA works closely with Bureni Turtle Watch, the Mwanamia Turtle Project, and Oceans Alive to fund these efforts, and is also supporting a collaborative effort to build a rehabilitation centre for injured turtles. Additionally, KCWA owns and runs shops at Vipingo Beach and sells various locally made products, crafts and furniture. Most crafts are made from driftwood, beach waste, or derelict dhows. Initial training sessions with a professional carpenter were organised for the community, and the community members now run these sessions themselves.

3. What was the level of action addressed by the public engagement?

The public engagement process targeted action at the individual, community and systems level. It achieved this in two ways: firstly, by building awareness of sustainable marine conservation and its benefits to fishing communities and livelihoods; and secondly, by empowering the community to manage its own marine resources successfully and without external interference. In doing so, the communities were able to reinvest in local community development and protect their livelihoods from being encroached upon by larger industry players.

Public Impact

KCWA, the BMU, the Kenyan State Department of Fisheries, WCS and Oceans Alive developed a co-management plan for the Kuruwitu LMMA, and now run the initiative jointly, successfully promoting the sustainable use of marine resources.

With fishing prohibited within the LMMA, fish have grown in abundance, size and diversity. In 2015, the Kuruwitu community reported bigger and better catches in the areas just outside the protected zone. Research confirms that, compared to the 2006 baseline, there have been increases in fish biomass by 400 percent, coral cover by 30 percent, and seagrass by 12 percent.

In 2018, over 180 turtle nests were protected and one of three proposed turtle hatcheries was built on Kinuni beach.

Biodiversity has increased dramatically in Kuruwitu, making the region a destination for ecotourism and creating numerous jobs.

Since the establishment of the Kuruwitu LMMA, 20 other LMMAs have been set up across Kenya, empowering local communities to manage natural capital.[19]

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below:

Enabling Adaptability and Learning

The process of public engagement and grassroots mobilisation to establish the Kuruwitu LMMA was the first of its kind in Kenya and owed little to any earlier models of engagement. It was adapted flexibly, through experimentation and dialogue with the local fishing communities of Kuruwitu. KCWA operates an open membership model for the local communities, and decisions are made collectively with wide consultation across Kuruwitu, taking into account the needs, concerns and aspirations of community members, business owners, and other beneficiaries and stakeholders of the LMMA.

KCWA and the LMMA are both entirely community-led and community-managed initiatives, where the community members drive the process of decision-making and participate in the implementation and delivery of those decisions and plans. This allows them the autonomy and opportunity to be experimental in identifying projects, testing them out to understand the wider community interests and income-generation opportunities, sharing learnings across groups, and either expanding those projects or trying new initiatives. This flexibility has allowed for the uptake of diverse and innovative sustainable marine conservation activities and livelihood opportunities in Kuruwitu, including training and awareness-raising on sustainable fishing practices, local biodiversity assessment jobs, and craft and furniture making using beach waste and derelict dhows.

However, it is important to note that KCWA is still largely dependent on grant funding and is currently working to build fixed and regular income streams through ecotourism to sustain its operations. Enabling the same levels of flexibility and adaptation, and feedback loops between KCWA members and partners and community members may prove challenging in this context, as they seek to balance the needs of the community against those of tourism. KCWA is sufficiently well established and embedded in the community to manage these tensions, but it would nevertheless require conscious and careful navigation.

Designing for Inclusion

In establishing the LMMA, the public engagement processes were adapted to suit the different groups and communities in Kuruwitu. There were active consultations to discuss with communities their aspirations for Kuruwitu, their livelihoods, and how best they could be part of the community's transformation. There were also very specific discussion sessions to engage the fishers, being the main group whose livelihoods were affected by incumbent fishing practices. The engagement was open and inclusive in the sense that it was not confined to committee rooms but also took place in the form of site visits and activity observation sessions. This approach encouraged discussion among the groups, and made the engagement process visible and accessible to the wider community.

Primarily, however, the public engagement activities in Kuruwitu tend towards favouring openness, which in some cases could be to the detriment of true inclusion. For example, KCWA consults with new and emerging tourism businesses and stakeholders such as beach resorts and factories. They also consult with those owning land on the beach, who often do not live within the community but are based in Kenya's capital Nairobi or abroad for much of the year.[20] While these are important stakeholders, it is unclear how the outcomes of these consultations are balanced and prioritised against community-related goals and objectives. This reinforces the importance of clarifying community goals and values for Kuruwitu, and using that as a guiding principle in decision-making, to ensure that equity and inclusion are not lost while striving for equal representation for all stakeholders.

Embracing Complexity

In Kenya, advancing livelihoods for rural communities while tackling marine conservation challenges is a complex undertaking. There are multiple environmental, social and economic factors that need to be addressed in order to ensure a more sustainable way of living for the communities involved. In Kuruwitu, this would mean addressing the "widespread poverty and subsistence lifestyles, climatic variability and seasonality, lack of access to finance and technology, restricted access to resources and assets, particularly a lack of land tenure".[21]

In its public engagement, the LMMA did not attempt to address the breadth of these issues, although it successfully drew attention to the importance of urgent action to sustain community livelihoods. Initial public engagement and interest was generated by concern over factors such as the loss of income for the fishers. Through strategic partnerships with local organisations, this allowed for broader discussions with communities on marine ecosystems and the long-term effects of current practices on their livelihoods. The Kuruwitu LMMA initiative holds many lessons on how effective communication and discussion around sustainability and climate change can be facilitated. It serves to highlight the links between short-term and long-term environmental risks and impacts, and consequently drives successful action and sustained engagement from local communities around those issues.

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Community Energy Cooperative: Schönau, Germany

Focus Area: Clean Energy

Public Engagement Type: Place-based community-owned, community-led initiatives

Scale: Town

Region Type: Rural

Summary

ElektrizitätsWerke Schönau (EWS), a community-owned energy cooperative, was founded through extensive community engagement and mobilisation after a dispute between the local community and the region's incumbent nuclear power provider. Driven to action in the aftermath of the 1986 Chernobyl disaster, the community advocated strongly for a regional transition to clean energy. Through regular and systematic community engagement, and after two referendums, they successfully set up EWS and took over operations of the local electricity grid themselves. Today, EWS has 185,000 supporters nationwide. The initiative demonstrates how grassroots activism can galvanise action and earn the trust of a local community, transforming into a broader, large-scale environmental movement. It also shows how relatively unconventional methods of public engagement, such as electricity-savings competitions, awards showcases, and documentary films, can capture the imagination of the public and contribute to transforming public behaviour.

Background and Context

Citizen involvement in the clean energy movement in Schönau took root in April 1986 when news of the catastrophic nuclear disaster in Chernobyl reached Germany. The Chernobyl disaster caused a radioactive cloud of precipitation to drift over western Germany, contaminating water supplies, food, and soil systems. At the time, much of Germany's electricity also came from nuclear and coal-fired power plants. In this context, Ursula Sladek, a Schönau resident and schoolteacher, along with her husband and other local residents, founded a grassroots local action group, Parents for a Nuclear-Free Future. The group's objective was to build awareness of the ecological and health hazards of nuclear power generation, cut the community's energy use, and lobby the local utility to forgo nuclear power in its mix. The next steps involved widespread community engagement, fundraising, and experimentation around ways by which Schönau could become a proponent of nuclear-free clean energy generation.

The Initiative

ElektrizitätsWerke Schönau (EWS), founded in 1994, is a community-owned energy cooperative located in Schönau, a rural town in southwest Germany. In 1991, the incumbent local utility in Schönau offered to renew its licence to operate the local grid earlier than planned. Sladek and the action group members made various efforts to use the contract renewal opportunity to push for an inclusion of environmentally-friendly measures in the utility's licence, through a change in the pricing model. However, the utility refused. This served as a turning point and catalyst for Sladek and the action

group members, as they decided to take over operation of the grid themselves. Over the course of the next decade, Sladek and the citizens of Schönau took the utility to court, participated in two referendums (winning 85% of the town vote in the second referendum), set up EWS, and ultimately won the right to operate the grid for 20 years. The liberalisation of the electricity market in 1998 allowed EWS to provide electricity nationwide.

As of 2021, EWS produces and distributes clean energy across Germany to over 185,000 people, while also supporting a number of technical and market innovations.[1] It owns wind and solar parks, as well as gas and electricity grids. In addition, its philanthropic wing continues to support and finance multiple small-scale sustainable energy projects, from household energy to storage units and collectives.[2]

1. How was the need for clean energy presented and communicated?

Before EWS was set up

The members of Parents for a Nuclear-Free Future engaged the citizens of Schönau in dialogues around clean energy and the need to transition from nuclear power to sustainable energy sources, through various conventional and unconventional means. Members who were engaged in the initiative early on held energy-saving consultations and provided information at information stands. They published energy-saving tips across local media outlets and organised electricity-saving competitions. The competitions ran from 1989 to around 1995 and would offer prizes such as holiday trips. Some of the community who

participated saved as much as 50-60% on their power bills.[3, 4]

Members also went door to door to exchange energy-efficiency tips and hold monthly seminars in Schönau. They organised aid for a children's cancer clinic in Kiev to raise awareness of the dangers of nuclear power. Additionally, they popularised their cause more widely, with interesting activities such as assembling a cabaret group called "Wattkiller" that went on to tour the region. Within the membership, there were four or five members who focused on discussing the work the group did at 50-60 venues per

year, communicating the message about clean energy through word-of-mouth and direct engagement.[5] The scale and sense of purpose shown by the grassroots movement was impressive, particularly given that Schönau is a small rural town. Some of the early members stated that their actions were not initially aimed at taking over operation of the electricity grid. This objective developed over time as it became clearer that community demands for energy-saving tariffs and renewable energy were not going to be considered by the municipal council or the incumbent grid operator KWR.[6]

Media coverage at this stage of the movement was vital, as it provided publicity when members could not afford marketing campaigns. It was also felt that media coverage of prizes and other activities provided greater legitimacy than a traditional marketing campaign.[7]

After EWS was set up

Once EWS was established, it committed itself to developing clean energy sources

by helping to finance community energy initiatives and small businesses who were interested in renewable energy production. EWS reactivated small hydroelectric power plants, and supported investments in combined heat power plants and photovoltaic systems. They did this by offering guidance on potential government subsidies and information on the potential for alternative energy sources.

EWS also published its own magazine and newsletter, covering a variety of issues related to clean energy. They launched multiple campaigns on topics such as solar energy, carbon taxes, and divestment in order to raise awareness and make often complex issues accessible to the public. EWS continues this work even today, and materials on their website are updated frequently.[8] According to Sebastian Sladek of EWS, the campaigns were not aimed at making money for the company, but rather at building awareness among the public. The idea is that people can learn how to play their part in the green energy movement and take personal responsibility,

if they are made aware of how to do so. EWS does not promote green electricity simply as a concept, and its campaigns convey the idea that everyone is needed to make the movement a success, outlining how people can get involved.[9]

In 2007, the story of Schönau and EWS was presented on film to make the story accessible to a new generation of climate action groups. The one-hour documentary covers the setting up of the local community action group and the establishment of EWS, concluding with its tenth anniversary in 2004. It is intended to inform other communities and campaigns about the initiative and motivate civic engagement. The film has attracted both national and international attention. Up until today, the EWS considers one of its primary responsibilities to be advancing the participation of people and communities in energy distribution and production, not just in Schönau but throughout Germany and beyond.[10] It fulfils this responsibility by regularly engaging the general public through seminars on clean energy and

energy transitions. Further, the Schönau Energy Initiatives, together with the Schönau Council, have established an awards showcase for the "Electricity Rebel of the Year'', which has run from 1999 until today. It is awarded at the Schönau Electricity Seminars, where the original group of EWS members engage with a new generation of energy action groups, who carry on the idealism of the EWS with their own actions and projects.[11] EWS also focuses on the use of social media to extend the reach of its campaigns.[12]

2. What was the extent and nature of citizen collaboration?

After Chernobyl, a number of concerned parents in Schönau, led by Ursula Sladek, banded together to set up Parents for a Nuclear-Free Future. They drove forward collaboration with the citizens of Schönau through their knowledge of the local sociopolitical context and their close relationships with its inhabitants.[13] These relationships proved particularly powerful in the way that they mobilised the community in the pre-referendum campaigns. The action group ran a very locally focused door-to-door campaign and organised several community awareness drives. The referendums themselves showed strong community support, which strengthened the action group's standing in its ongoing efforts.[14]

Even when the action group decided to establish EWS and take over operation of the grid, they first set about proving to the community that they were up to the task by having a PV unit installed on the roof of a house, as well as a hydroelectric station for a company generating the electricity needed to cover its production.[15] Discussions around the progress of these projects were held regularly, with the learnings being widely shared. The action

group also organised visits to the generation units for the residents of Schönau and the region's schoolchildren, enabling a better understanding of renewable energy technologies while also showcasing the feasibility of the initiative.[16]

In the first half of 1997, the action group launched a collective campaign to raise the additional money needed to buy the grid from the old operator.[17] The community of Schönau, led by the action group, contacted some of the biggest German advertising agencies, going on to collaboratively develop a fundraising campaign for the Schönau Energy Initiatives.[18]

Today, EWS is a cooperative with a large and dispersed ownership structure, with more than 6,000 members from across Germany. While EWS views the cooperative structure as "the most hands-on, democratic form of ownership", in practice its large size means that it is impossible for all its members to be involved directly. Ulrich Drescher, a member who participated in the transition from collective business to cooperative, says that attendance at its annual meeting is limited to only 300 of the more than 6,000 members. "It's those who have the time, money, and desire to come," he says.[19]

3. What was the level of action addressed by the public engagement?

The community engagement process targeted action at the individual, community and systems levels. The objective of the initiative and the engagement was primarily to promote the production of clean energy and steer away from nuclear power. Initially, the level of action involved raising awareness and fostering knowledge exchange with other concerned citizens of Schönau on how to cut electricity consumption; ultimately, it incentivised more people and communities to join the wider clean energy movement.

The Public Impact

The EWS became the energy supplier in Schönau in July 1997 and since then has offered the town's inhabitants energy-saving tariffs and steady remuneration for local ecological electricity generation.

Today, there are more than 185,000 supporters across Germany who buy green electricity from EWS, free of any links with coal and nuclear power plant operators.[20]

EWS has set up a large solar plant in Schönau, making it the town with the densest concentration of solar power in Germany.[21]

From March 2015 onwards, EWS owned almost 100% of the biogas share across Germany. As with electricity, part of the gas price is used as a "sun cent" to promote ecological energy production.[22]

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below:

Enabling Adaptability and Learning

The organic, experimental, and flexible nature of public engagement around the creation of EWS in Schönau allowed for the grassroots action group set up by Ursula and Michael Sladek to learn and evolve as the movement expanded. Much of its success can be attributed to the learning mindset that Ursula and Michael Sladek and the initial group of members brought to the initiative. The group went up against a large incumbent utility company and successfully took over operation of the local grid, while building their own knowledge base of the complex laws and technologies around energy supply, and trying things that had never been tried before. The group suffered some defeats along the way, but also picked themselves up, trying different avenues and engagement strategies to build awareness and momentum over a period of 15-20 years.

Flexibility and experimentation were designed into the way the local action group operated from the start. Initially, the group drove awareness and built messaging around why nuclear power was harmful, subsequently moving on to more positive framings of what they stood for

as an alternative to nuclear energy. They began by exploring ways to cut energy use and reduce overall demand, which involved monthly seminars and door-to-door campaigns promoting energy efficiency. They also experimented with driving action by distributing energy meters to measure usage and encouraging peer-to-peer competition among the residents of Schönau to see who could consume the least energy. But given the small-scale impact of these measures, they shifted their focus to the other end of the funnel, to the electricity grid. Initially, they engaged in discussions with the local utility, encouraging it to move away from nuclear provision. However, this engagement came to a standstill, because the utility refused to do so. Over the next 10 years, the local action group raised funding, galvanised action from Schönau's 2,500 citizens, built local momentum and awareness, took the utility to court, prevailed through two local referendums, and eventually gained the legal right for EWS to operate the grid.

Overall, it appears that the experimental and learning mindset remains an integral part of EWS and its culture, as it currently experiments with financing new technologies, expanding its philanthropic initiatives, and supporting other local grassroots community energy initiatives

Designing for Inclusion

The objective of the public engagement process was to drive action among the entire resident community of Schönau, through wide-ranging community activities and by focusing on community relationships in the small town where everyone knows everyone else. EWS still makes extensive efforts to also reach out to towns across Germany with advice on how to set up their own community-owned energy companies, pointing out the importance of focusing on small projects that are feasible. Further, a significant percentage of EWS's profits is reinvested in small-scale citizen energy projects, from household generation to energy storage units and other locally owned grids. It also

supports a number of local training and education initiatives and energy projects in developing and emerging economies. The annual dividend is capped at 3.5% of the profit, and the shares of new members are limited to €1,000 a head, so as to discourage members who are only interested in the money and are not committed to the wider cause of clean energy and energy justice.[23]

Today, a four-person Board (elected every three years by EWS members) makes key decisions on the activities of EWS, and while efforts are made to engage all the members, EWS has grown too large for all members to be directly involved. While this is inevitable, given the scale of EWS's operations, it is important to identify ways in which the collective democratic ideals of what began as a community action group can be maintained as the cooperative grows and expands.

Embracing Complexity

The local action group in Schönau achieved a complex systems transition over the course of more than a decade by slowly harnessing community support through targeted focus on a single issue, gradually expanding the scope of the movement and the associated community engagement. Founded in the context of Chernobyl, the community movement began by concentrating exclusively on abolishing nuclear energy. It later widened its scope to embrace renewable energy sources, formulating a broader mission around energy justice and overall sustainability.[24] For example, it conducts campaigns and makes awards that reflect its original anti-nuclear stance. At the same time, it effectively links those messages with co-benefits in terms of community regeneration, green jobs, cost of living, and quality of life, both internally within its membership and externally. In this sense, its current public engagement campaigns also explore the interlinkages and interconnectedness of the technical, social and cultural aspects of an energy transition, and what that means for communities and those driving the initiative.

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Waste Management Cooperative: Pune, India

Focus Area: Waste Management

Public Engagement Type: Place-based community-owned, community-led initiatives

Scale: City

Region Type: Urban

Summary

The Solid Waste Collection and Handling (SWaCH) Cooperative Society was formed in 2008 as a public-private partnership to tackle the growing problem of solid waste management (SWM) in the city of Pune, in India. It is a workers' Cooperative run by informal waste workers*, which receives infrastructure and policy support from the Pune Municipal Corporation. Having begun as a workers' movement focused on establishing informal waste workers' right to safe and secure livelihoods, the SWaCH Cooperative has evolved organically to be a critical actor in Pune's SWM system. It achieved this through awareness-raising exercises, demonstrations, and grassroots mobilisation around waste worker rights and SWM, and by instituting a democratic governance process involving all its 3,500+ waste workers. It has attained significant success in improving the SWM system in Pune, while also uplifting and protecting the livelihoods of its 3500+ informal waste worker members. Due to the SWaCH Cooperative's initiatives, today, 60 MT of waste is diverted away from landfills per day, with 80-85% of the waste generated in the city being recycled/processed, resulting in annual GHG emission savings of approximately 50,000 tonnes of CO_2.

Background and Context

The city of Pune, the 8th largest city in India and one of the fastest growing urban agglomerations in the country, has struggled with managing its waste over the years. Waste levels grew from 300 tonnes per day in 1991[1] to 1700 tonnes per day in 2016.[2] Prior to 2005, the municipal waste collection system in Pune involved residents making use of public containers to dispose of their daily waste, and informal waste workers scavenging from the containers to find recyclable items to sell. Waste segregation at source was virtually non-existent, and the collected waste was transported by the municipal workers to open dump sites & landfills. The lax waste management system led to high levels of pollution and public health concerns in the city, while also creating unsafe and unsanitary working conditions for formal and informal waste workers in the city.[3, 4]

Informal waste workers in Pune are among the most vulnerable and marginalised communities in the country. In the early 1990s, around 800 informal waste workers from across Pune assembled for a "Convention of Waste Workers" and formed their own Union – Kagad Kach Patra Kashtakari Panchayat (KKPKP), meaning 'Paper Glass Tin Pickers' Union.[5, 6] Over the years, KKPKP focused on increasing its membership, running targeted campaigns to bring public attention to waste management, while also advocating for integrating informal waste workers into the municipal system.[7] In 2008, KKPKP's efforts received wide recognition and the Pune Municipal Corporation (PMC), the civic body that governs Pune, signed an agreement with KKPKP, paving the way for the Solid Waste Collection and Handling (SWaCH) Cooperative Society to be established.[8, 9]

The Initiative

The Solid Waste Collection and Handling (SWaCH) Cooperative is a pro-poor partnership aimed at establishing itself as a self-sustaining social enterprise of waste workers, focussed on sustainable solid waste management (SWM) and waste worker rights.[10] It began as a pilot in 2005, led by the KKPKP. The operational costs of running the initiative (equipment, vehicles) are covered by the PMC, while waste workers are paid by customers (through a user-fee) and scrap recyclers (to whom they sell recyclable material). Initially only focused on uplifting the lives of waste workers, the SWaCH Cooperative has since diversified its actions to also provide SWM services such as composting, responsible disposal of e-waste, cleaning up the city's water bodies through organised activities etc. By late 2007, the State Government mandated the implementation of Municipal Solid Waste Laws 2000, across all cities, which acted as a catalyst for the growth of the SWaCH Cooperative.[11]

1. How was the importance of SWM and waste workers' rights presented and communicated?

Before SWaCH was set up:

KKPKP's early members commissioned several studies to quantify the economic savings amassed by the efforts of informal waste workers, for the PMC. These were published in local journals, as well as discussed on public platforms of well-established NGOs, creating a strong foundation from where KKPKP was able to present its case. The studies estimated:

- Informal waste workers collect approximately 144 tonnes of recyclable scrap before it is transported, thus saving approximately INR 16M (approx. USD 220,000) per annum in transportation costs alone.

- Increased transactions between informal waste collectors and their local retail scrap store amounted to an estimated daily income contribution of INR 375,000 (approx. USD 5,100), generating an estimated annual income of INR 185M (approx. USD 2.5M)[12]

KKPKP employed a host of measures, including organising and mobilising waste workers through public rallies and demonstrations, to convince the PMC to provide administrative and policy support for its user fee-based door-to-door waste collection pilot. The PMC, after in-person consultation sessions with key stakeholders (municipal officials and elected representatives), accepted the proposal. The pilot was able to demonstrate the larger impacts of formalising this working arrangement with informal waste workers. During the pilot, 1,500 waste workers transitioned from rummaging through landfills to providing door-step services to 150,000 households a day.[13] The success of the pilot cleared the way for the formal setting up of the SWaCH Cooperative and the subsequent signing of a formal partnership agreement with the PMC.[14, 15]

After SWaCH was set up:

The SWaCH Cooperative communicated the needs of Pune's waste workers to the PMC, while also engaging with the public to create wider awareness about safe & environment-friendly waste management practices.

The SWaCH Cooperative runs regular campaigns and webinars to promote its environment-friendly SWM approach, and establish the legitimacy of its waste worker members, and the crucial role they play in keeping the city clean. Their website acts as the key node for facilitating such campaigns with a consolidated repository of resources – pamphlets, fliers, and posters, both in English and the local language. The website hosts a dedicated section on short films and documentaries highlighting the cause the SWaCH Cooperative is fighting for as well as the challenges it faces. Videos on meetings and consultations on waste and recycling, involving both the SWaCH Cooperative members and the public are also published on the website. The SWaCH Cooperative regularly leverages social media platforms to promote its activities to the wider public.[16, 17] Their outreach team, comprising 160+ coordinators, also liaises directly with stakeholders through door-to-door campaigns.[18]

The waste workers themselves are the most critical actors in driving public engagement around waste management. On their daily rounds they speak to people about their work, advise them on best practices on waste management, and also seek on-the-spot feedback.[19] They also regularly do media events and participate on international platforms to discuss their work and cause.[20, 21] The SWaCH Coopertive's initiatives are still ongoing today and are regularly adapted to the most pressing environmental issues at the time.

2. What was the extent and nature of citizen collaboration?

Since its inception, the SWaCH Cooperative followed a coordinated outreach strategy to engage, involve, and act in synergy with the City's policy aspirations. Through demonstrations, petitions, meetings, and research advocacy, they engaged with the PMC to keep pushing for institutionalisation of their members into the formal municipal waste management system. Through community outreach and media campaigns, documentaries, and awareness campaigns, the SWaCH Cooperative involved the city residents in the cause, gaining wider acceptance and support.

Collaboration among waste workers

The SWaCH Cooperative, when initially set up, was small and depended on its payroll staff to work on specific geographic areas in the city to engage with other waste workers. The staff were responsible for reaching out to the waste worker community, building awareness on the need for formalising their work status and being able to access health and welfare protections, and driving up membership. The SWaCH Cooperative follows a democratic governance process led by a Board consisting of founder members, and Pratinidhis (representative leaders from the waste worker group). Pratinidhis are elected on the basis of an in-person show-of-hands voting system from among the 3,500+ waste workers associated with the SWaCH Cooperative. The board facilitates and builds the capacity of the Pratinidhis for self-governance. Decision-making is based on a consultative process and grassroots waste workers can influence decision-making and prioritisation through their representative leaders.

As its membership grew, the SWaCH Cooperative began onboarding its members via thematic orientation programs at Union offices, regular workshops, training on grievance redressal processes etc. The thematic sessions focused on areas such as health or education and were participatory in nature, providing the waste workers with an opportunity to share their knowledge and experiences.[22] With time, the SWaCH Cooperative also brought the family members of the waste workers within its ambit by providing them with work opportunities within local teams. The prospect of working in a formal office set-up and transitioning away from manual waste picking and its associated health risks was seen positively by waste workers' families, leading to successful uptake and deeper engagement.

Collaboration between waste workers and the public:

The SWaCH Cooperative runs periodic campaigns that bring waste workers, NGOs, and city residents together on a common platform to raise awareness and enable interaction and discussions on waste management issues and policy.

One key initiative was the Red dot campaign, which was initiated to build awareness around safe and hygienic sanitary waste disposal practices. The need for such an initiative was first pointed out by waste workers in one of their regular consultation sessions with the Board. Daily, the SWaCH workers collect ~20,000 Kg of dirty diapers and sanitary pads. Exposed sanitary waste is harmful for the health of waste workers who need to segregate it from other scrap.

Door-to-door campaigns for 30,000 city residents were organised, raising awareness on how sanitary waste could be wrapped and marked with a red dot. To facilitate easy uptake, the SWaCH workers themselves also made paper bags labelled with red dots, which they sold for a nominal amount during their rounds.[23, 24] Waste collection vehicles were also fitted with red-dot marked compartments, that acted as a daily reminder of the campaign.[25] Posters were put up in public places and t-shirts, mugs and gift items carrying similar messaging were also made widely available.[26] The SWaCH Cooperative also runs various workshop sessions on menstrual health & sanitary disposal.

The SWaCH Cooperative also initiated the "Send it back" campaign in 2013, where sanitary pads were sent back to the companies that manufactured these products (including Kimberly-Clark, Procter & Gamble) to nudge them to think more responsibly about disposal and packaging waste when developing their product strategy. The awareness raised through this move has led to SWaCH workers now actively engaging with Procter & Gamble to find ways for product packaging to be repurposed as degradable red-dot disposal bags.

Another initiative is the Recycling Trail – a shadowing field exercise organized by the SWaCH Cooperative, where volunteers follow SWaCH's waste workers on their door-to-door rounds and get first-hand experience on the waste management value chain in Pune. It is a voluntary activity wherein interested individuals/organisations/institutions can formally sign up through the SWaCH website.[27, 28]

3. What was the level of action addressed by the public engagement?

The community engagement process targeted action at the individual, community and systems-level. The objective of the initiatives and associated public engagement, carried out by SWaCH was to protect the rights of informal waste workers in the city, and work in close partnership with the PMC to manage SWM in Pune. Their secondary objective was to raise wide-spread awareness on the issues of SWM and waste worker rights with the public, and other communities of informal waste workers across the country.

The Public Impact

Through SWaCH initiatives, 60 MT of waste is diverted away from landfills every day, with 80-85% of the waste generated in the city being recycled/processed, resulting in annual GHG emission savings of approximately 50,000 tonnes of CO_2.[29]

The SWaCH Cooperative's door-to-door collection model has helped PMC save ~ INR 900M rupees (USD 12.5M) per year in labor, processing and transportation costs, which is 46 percent of the capital budget for Pune's SWM system.[30]

KKPKP and the SWaCH Cooperative's efforts also helped with socio-economic upliftment of its 3500+ waste worker members, from formalising their work contracts and getting them access to health and welfare protections to supporting their families and children access loans, scholarships, vocational skills training etc.

As the SWaCH Cooperative's contract with the PMC is due for renewal in 2021, the waste workers have gathered signatures from 600,000+ households in Pune to be submitted to the PMC, a testament to the levels of support they have built among the residents and the important role they play in city's waste management value chain[31]

The SWaCH Cooperative has influenced policy decisions on SWM beyond Pune, and elements of the SWaCH model are being implemented across other Indian cities.[32]

Further Considerations and Learnings from this Case

From CPI's extensive work on public engagement, we have found three important drivers to public impact that are relevant to discuss when designing public engagement processes around climate change: Enabling Adaptability and Learning; Designing for Inclusion; and Embracing Complexity. We discuss the relevance of each to the case study below:

Enabling Adaptability and Learning

The SWaCH Cooperative is a worker-led initiative where the 3,500+ waste workers are empowered to make decisions on the focus areas of the sustainable waste management campaigns, and where and how they will be run. As was outlined with the Red dot campaign on sanitary waste, the issue was first raised by one of the waste workers in a consultation meeting with the SWaCH board. Post the meeting, various initiatives and sub-campaigns addressing the issue were run by the SWaCH members. This included large-scale awareness campaigns, media engagement and workshop sessions. Since the SWaCH members conduct door-to-door waste collection services daily, they are also well-placed to experiment with and test campaign-related messaging, and relay learnings back to the wider group. In this way, the democratic decision-making structure, and the bottom-up delivery model provides waste workers the autonomy to tailor their strategy in a flexible and adaptive manner, that allows them to experiment and learn along the way.

This flexibility also enables them to more effectively deal with exigencies and uncertainties. During the COVID-19 lockdown, the SWaCH Cooperative modified its outreach and services to suit the restrictions. For example, several additional information leaflets in both English and Marathi were posted on the website to raise awareness on how to sort and collect waste during the lockdown. The SWaCH Cooperative also promoted several short videos through its website and social media platforms to engage the public's support. For example, some videos featured SWaCH workers holding placards such as – WE stayed at work for you. YOU stay at home for us and help.[33]

Designing for Inclusion

The SWaCH Cooperative was designed for inclusion and justice from the outset. The driving force for the initiative was KKPKP's efforts to bring its marginalised waste worker members within the formalised ambit of the municipal waste management system, which it achieved while also driving the uptake of SWM across the city. KKPKP made it their goal to provide formal recognition to its waste worker members by providing them with ID cards, lobbying with the PMC to consider waste worker rights, while also

providing basic economic services such as insurance, micro credit to them. At the same time, the waste workers operated autonomously, making independent and collective decisions on their work hours and on campaigns, a freedom that they had been unable to enjoy in their earlier mode of operation. Further, efforts were made to involve and support the families of the waste workers in gaining access to education, vocational training in order to help them earn a stable source of income.

While the overall initiative has driven forward the tenets of inclusion and justice, the internal governance model with representative leaders speaking for the waste workers, unless facilitated consciously, could breed majoritarianism with a tendency to favour more vocal spokespersons and/or feed interpersonal politics over broader inclusion goals within the waste worker community.

Embracing Complexity:

Keeping the city clean and pollution-free in a cost-effective manner by managing the burgeoning waste and keeping the waste disposal process environmentally friendly was a challenging prospect in itself, before adding in the complexities of providing worker protection and rights

to marginalised informal waste workers. In addition to this, the areas of waste management, public health, pollution, worker rights etc. are each handled by different government departments, further limiting the success of interventions. However, the SWaCH Cooperative managed to bring together these various objectives, and align their work model to address the broader value chain of SWM in Pune, and highlight the interlinkages and interdependencies between them. This enabled the SWaCH Cooperative to drive a successful advocacy campaign and subsequently partner with the PMC.

The SWaCH Cooperative also seems to have made efforts to drive forth a similar narrative with city residents. According to SWaCH workers, many residents of Pune were already quite aware about SWM, however making them understand the urgency of this issue was a major challenge.[34] Following a coordinated strategy that involved citizen-led volunteerism and proactive outreach campaigns, the SWaCH Cooperative works continually to present a big picture view of SWM and the roles that the waste workers can play and the role that citizens and businesses can also play in the system.

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