Assessing the Transformative Potential of a Sociocracy-Informed Climate Change Adaptation Lab in Lund, Sweden

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Abstract:

Effective climate change adaptation necessitates enhanced public participation as there is a need for the voice of people to be meaningfully incorporated to facilitate transformational adaptation, contend with complexity, and avoid maladaptation. Despite this, widespread participation in climate change adaptation governance in Global North countries like Sweden is currently restricted by rigid power dynamics, even in spaces that purport to be transformationally participatory. In essence, there is an apparent gap between the needs identified in the literature and how practitioners actually carry out participation. This thesis aims to address this gap by developing a methodology for facilitating a climate change adaptation lab that can open these closed and invited spaces to challenge all forms of power from the bottom-up and thereby contribute to transformational change in the context of climate change adaptation. The transformational potential of the proposed lab is evaluated through the establishment and facilitation of two labs in the municipality of Lund in Sweden, utilizing the methodology of sociocracy. Interviews with experts in participatory climate change adaptation, sociocracy, and the Swedish context also supplement these findings. The conclusions of this thesis point towards the significant transformational potential of a sociocracy-informed climate change adaptation lab, while underscoring the need for further research into novel methodological approaches to participatory climate change adaptation.

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Popular Scientific Summary

A rise in dangerous weather events, such as floods and extreme heat, due to climate change is inevitable, even in Southern Sweden. Many researchers suggest that one of the most appropriate ways to deal with this challenge is to meaningfully incorporate more people into decision-making processes ensuring solutions come from the bottom-up. These same researchers stress that this could have transformational effects. Transformational change refers to change that initiates new systems rather than simple adjustments to existing ones. Many scholars also stress that this transformational change is required to successfully adapt to climate change.

However, the idea of better incorporating more public voice into the decision-making process is not new. Nonetheless, ineffective measures persist, which often means that public participation in Sweden is nothing more than a one-way passage of information, wherein the lay public maintains a limited ability to meaningfully affect outcomes. Even in spaces that purport to fix this problem, the outcomes of these processes have thus far been insufficiently transformational. Accordingly, this thesis intends to learn from these past miscalculations to develop a novel climate change adaptation lab that utilizes the organizing principle of sociocracy.

Inspired by past research on urban living labs, a climate change adaptation lab is an experimental space that brings together experts, the lay public, and municipal workers to test and implement climate change adaptation policies. The question of whether this novel, created, space, of a climate change adaptation lab could act as a point for transformational change guided this thesis, as well as the question of what effect sociocracy had on this potential. The inclusion of sociocracy is consistent with the theoretical underpinnings of the thesis. Sociocracy is a method for distributing decision-making and power horizontally, limiting processes that previously hindered transformational spaces. Some of these past hindrances include a lack of co-creation, the ability for certain interests to take over, and agenda-setting decisions such as an inability to provide sufficient time for deliberation, amongst others. The researchers also link these processes with complex systems theory, ultimately arguing that the processes of the proposed lab are more in line with the various aspects of this conceptualization.

The idea is that these sociocracy-informed climate change adaptation labs could be a permanent participatory space. However, due to limited resources and time, the thesis

attempted to exemplify these spaces using two impermanent labs, in Lund, Sweden, which the researchers analyzed through an after-survey distributed to participants. Additionally, along with the surveys, the researchers conducted a series of interviews with experts on participatory climate change adaptation, sociocracy, and the Swedish context to supplement the findings from the labs.

Ultimately, utilizing Gaventa's (2006) prescription for transformative change—and the findings from the various methodologies—this thesis concludes that a sociocracy-informed climate change adaptation lab can contribute to transformational change and that sociocracy motivates this. Moreover, this transformational possibility connects to the lab's ability to systemically challenge hidden and invisible power structures that have limited participatory spaces in the past, which opens a previously closed space that can provide the opportunity to challenge power through securing proper deliberation and voice. While the limited scope of this research equally limits its applicability, it nonetheless can serve as a starting point for further discussion on unorthodox solutions to participatory climate change adaptation, including the necessity of the inclusion of horizontal structures like sociocracy.

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List of Abbreviations

CCA	Climate Change Adaptation
SMHI	Swedish Meteorological and Hydrological Institute
ULLs	Urban Living Labs

1. Introduction

Climate change has evolved into an unprecedented societal and existential threat to humankind. As the final lines of this thesis were written, news broke that globally July 2023 was the hottest month on record, with mean global temperatures temporarily exceeding the 1.5 degrees Celsius threshold (Copernicus, 2023). Despite this, the most recent IPCC (2023) report points towards insufficient adaptation measures that, despite some progress made, are becoming an increasing complication because of maladaptive practices and difficulties related to adapting to complex shifting climate patterns. At the same time, the debate is growing on who ought to be at the forefront of climate change adaptation (CCA) efforts and if *transformative adaptation*, which implies a systemic change of economic, political, legal, or social nature (Filho et al., 2020; O'Brien & Sygna, 2013; Kates et al., 2012) is the only way forward as an alternative to the system that generated climate change in the first place. One alternative to the current pathway, as argued by various scholars (Hügel & Davies, 2020; Sarzynski, 2015; Wamsler, 2020), is enhanced and meaningful citizen participation in CCA policymaking. Sweden has set ambitious climate goals for climate change mitigation, aiming to become climate neutral by 2045 (Government Offices of Sweden, 2021). However, when it comes to CCA, efforts have thus far been inadequate, and there are several organizational challenges, especially on the local level, which plays a vital role in CCA efforts (Kristianssen & Granberg, 2021; Sveriges Riksdag, 2017). Taken together, this lack of bottom-up participatory CCA represents a considerable barrier to Swedish adaptation efforts.

1.1 Preface

Rittel and Weber (1973) refer to societal problems like these as *wicked problems*. Rittel and Weber (1973) define wicked problems as unique social planning-related problems with no obvious solution, where various actors are involved, presenting with high dependencies on other problems, that are surrounded by a vail of complexity, ambiguity and uncertainty and that society needs to address through a systems' approach. Climate change represents a wicked problem, and there is no obvious solution to move forward. However, simply, systemic problems like climate change require systemic solutions (Meadows, 2011), such as changing the way Global North countries like Sweden undertake participation.

Participation, not only in the context of CCA but as a broader concept relevant to various fields of governance, has been coined in many ways. Terms like *public participation*, *civic engagement*, *stakeholder engagement*, and *community engagement* are all used to refer

to a mode of governance that calls for a more inclusive approach to decision-making by involving actors that are directly or indirectly affected by an issue or policy implication (Sarzynski, 2015). Practitioners use public participation as an umbrella term that incorporates a wide range of ways through which they consider public participation when it comes to decision-making and governance (Hügel & Davies, 2019). A professional working with public engagement in the local context (Regional Worker, Interview, 2023) pointed out that ideally, participation is highly inclusive, gathering input but also allowing for agency for different groups of people. Indeed, as illustrated by Thomson (2003), public engagement through co-creation can generate a participatory landscape of shared authority, thus altering predominant hierarchical patterns. Public participation can be a tool that initiates transformative societal processes (Suphattanakul, 2018) and connects to the detrimental shift from government to governance or what Healy (1992) refers to as the *communicative* turn in planning as a method for decision-making by including more stakeholders to address urban complexity.

Experimentation, as highlighted by Hilden et al. (2017), represents a driver for societal transitions and a means to set the foundations for democratizing transition governance through a more iterative and trans-disciplinary approach. The present thesis draws from urban experimentation in urban living labs (ULLs) and its transformative potential, introducing the concept of CCA labs as experimental spaces and processes of deliberation that experiment with a shift toward a transformational approach to climate change governance by leading to more permanent and inclusive participatory spaces. The proposed sociocracy-informed CCA labs could act as a permanent, horizontal space to bring together the lay public, experts, and municipal workers, to experiment and implement CCA measures from the bottom-up. While sociocracy—which Rau & Koch-Gonzalez (2018) define as "a set of tools and principles that ensure shared power" (ibid., p.1)—constitutes the method for organizing and running the proposed labs.

1.2 Aim and Research Questions

In order to investigate the potential of these labs, the researchers established and ran two labs in Lund, Sweden, in early 2023. The findings from these two labs—along with supplementary interviews—are the primary methodology for this thesis to answer its research questions. The theory is that a sociocracy-informed CCA lab can act as a permanent created space that challenges all forms of power from the bottom-up and thereby contribute to

transformational change in the context of CCA. The focus and the implementation of the CCA labs through the methodology of sociocracy are in the Swedish context, however, the aim is to draw conclusions and suggest alternative pathways beyond that. The aim of the thesis is reflected through the following research questions:

> Research Question 1: To what extent can a climate change adaptation lab be a space for transformative change?

This mixed exploratory and descriptive research question examines how participatory experimentation around CCA aligns with transformative approaches.

> Research Question 2: How do the principles of sociocracy affect the processes of the lab?

The second exploratory research question investigates the potential of a sociocracy-informed CCA lab to initiate transformative change by shifting the prevalent governance approaches to CCA by raising the public's voice in policymaking and shifting the power dynamics.

1.3 Relevance

Essentially what this thesis proposes is a new methodology for practising participation for CCA at the local level. The novel contribution comes by combining a CCA lab with the methodology of sociocracy. Although sociocracy has been around as a method for decision-making, especially in organizations, it is underutilized in the context of public participation and CCA. The thesis discusses sociocracy in relation to power and voice, investigating the potential of shifting the current dynamics towards a more deliberative approach to inclusive decision-making for CCA governance. At the same time, the thesis aims to produce an outcome that will be useful for Swedish municipalities in finding alternative pathways for meaningful and enhanced public participation in planning and specifically for CCA where, as the thesis demonstrates, a more inclusive approach to governance is significantly lacking.

1.4 Overview of Chapters

The **first chapter** of the thesis introduces the topic by presenting the background, the aim of the study and the relevant research questions it addresses, as well as the relevance in the field of CCA. **Chapter 2** lays out the theoretical underpinnings of the thesis project by discussing the concepts of complex systems and power. Amongst others, it relates current

undertakings to Arnstein's (1969) ladder of participation and Gaventa's (2006) power cube. It also explores the current findings on ULLs and sociocracy. **Chapter 3** frames the study and lays out the methodology followed to respond to the two research questions guiding the project. **Chapter 4** presents the results from the evaluation survey, which was the primary method for evaluating the two participatory labs that are the project's central focus. It also introduces the findings from the supplementary interviews. **Chapter 5** discusses the project's findings concerning the main theoretical components of the thesis discussed in Chapter 2 and the reality of the Swedish CCA governance context, summarising the responses to the two research questions. Finally, **Chapter 6** offers final conclusions, including suggestions for further research.

2. Theoretical Background

This section explores the theoretical underpinnings of this thesis. It will discuss the relationship between bottom-up, localized decision-making, and complexity theory, and relate this to transformational change. It will also utilize Gaventa's (2006) definition of power and transformational change to discuss participatory spaces. Finally, it will relate these two concepts to existing scholarship on ULLs and sociocracy.

2.1 Complex Systems

Systemic problems like climate change require systemic solutions (Meadows, 2011). The ubiquitous pressure and release model (Wisner et al., 2014) provides a foundation for looking into these alternative—transformative—governance solutions that can promote effective CCA. The pressure and release model demonstrates the nexus between vulnerabilities and hazards, indicating that disasters result from the interplay between root causes, dynamic pressures, unsafe conditions, and hazards (Wisner et al., 2014). Ultimately, this model validates investigations into the underlying systems that turn natural hazards—which will inevitably rise to due to climate change—into disasters. .

However, if current systems are replaced or transformed into new ones that can appropriately respond to this challenge, then it is fundamentally counterproductive to initiate ones that perpetuate top-down exercises of power. Capra & Luisi (2014) argue that in a complex system characterized by dynamic interactions, exercises of power through domination, via a top-down hierarchy, are antithetical to systems thinking. CCA efforts take place in these complex dynamic systems. Subsequently, they argue for a power activated around empowering others, specifically empowering and facilitating the interactions and connections that make up the system and expanding networks of cooperation wherever possible (ibid.). These two forms of power manifest in real life through top-down bureaucratic government decisions being disseminated to the public. In contrast to these top-down organizations are ones that prioritize mediation and facilitation, like participatory mini-publics and the proposed CCA lab.

It is worth noting that not all hierarchy is counterproductive, in fact it is inherent to complex systems, but power through domination exercised in a hierarchy is. In fact, work done by Ford et al. (2016) in the Canadian Arctic demonstrates that one risk of community-based adaptation projects is it creates a perception that CCA is a purely local task, without it being supplemented by action at a regional and national level. Nonetheless, Meadows (2011)

contends that the purpose of hierarchy is for the structures at the top to assist the originating ones at the bottom. However, this has largely been flipped in the field of CCA with those at the bottom servicing the top (Phillips, 2021). Cole & Thakore (2021) contend that the very notion of good governance in the modern age implies bottom-up decision-making, that incorporates a range of perspectives, wherein the decisions taken at the lower levels are matched by those at the top. Their work specifically highlights how these bottom-up pathways have strengthened resilience in marine governance.

In a complex system, resilience—a central concept in CCA (Berkes et al., 2009)—is not a static state but rather a "metaphorical quality—a name used to represent outcomes and processes that emerge in relation to intersecting difficulties" (Atallah et al., 2021, p. 884). In other words, resilience is contingent and dynamic, and CCA can be seen as a political process wherein different actors with multiple, subjective, ever-shifting—potentially conflicting—preferences and circumstances traverse and resolve these circumstances (Beck et al., 2014; Eriksen et al., 2015). In the book *Thinking in Systems: A Primer,* Meadows (2011) straightforwardly lays out that "once we understand the relationship between structure and behaviour, we can begin to understand how systems work" (Meadows, 2011, p. 1). Therefore, it is worth considering what behaviour structures of power incentivize. For instance, if a system is constructed in a way that encourages power through domination, then these conflicts are contested. However, if it is done in a way wherein everyone is heard and facilitation and participation occur, then different parties can better cooperate and compromise.

Proposals for planned relocations provide an illustrative example of this reality. When top-down government organizations proposed relocating communities in New Orleans after Hurricane Katrina, there was immense pushback leading to the projects' scrapping and the community remaining less resilient (Campanella, 2018). Contrastingly, in Manizales, Colombia, when citizens organized together and deliberated over resettlement within the city, they generated a plan everyone could accept (Wamsler, 2014,). Whereas in New Orleans, those within the hierarchies could not impose their plan given a lack of local understanding, instead creating conflicts and thereby leaving the communities more vulnerable to rising sea levels that will result from climate change.

A system that encourages conflict and contestation is electoral politics which is one of the main avenues for most in the Global North to engage on many issues including CCA

(Vráblíková, 2016). Along with encouraging conflict and contestation, the design of these systems ultimately obfuscates their original capacity to act as truth-tracking devices (Habermas, 2005). Truth-tracking, in this instance, refers to the inherent ability of the system to push toward truth (ibid.). Instead, Chambers (2021) argues that purer forms of democracy, such as participatory mini-publics, can act as better manifestations of this potential. Moreover, she notes that the *truth* will always be contested and contingent, and there is significant research (e.g. Dryzek et al., 2019; Gastil et al., 2008) demonstrating that if it is contested in open, deliberative, democratic spaces, people tend to act as "rational problem solvers pursuing evidence-driven solutions to political problems" (Chambers, 2021, p. 152), thereby increasing the likelihood that new, transformative, systems will come out of these processes that reflect the systemic challenge of climate change.

In further contrast to these electoral conceptions of CCA, Bächtiger et al. (2018) describe *deliberative democracy* as a form of collaborative decision-making that places a central emphasis on deliberation. They define deliberation as "mutual communication that involves weighing and reflecting on preferences, values and interests regarding matters of common concern" (ibid, p.2). The above definition points towards a high degree of connection between deliberation and participation, and some scholars suggest that deliberative democracy developed from a bigger conceptual pool of participatory democracy (Floridia, 2014).

Dryzek and Niemeyer (2019) argue that there are three ways through which deliberation is beneficial for CCA governance. For one, deliberation helps to integrate diverse perspectives to address complexity (ibid.). Further, they argue, it generates alternative channels for feedback on the state of governance while raising issues of the common good over powerful material interests (ibid.). Finally, it can bring forth the voices of marginalized groups, the most vulnerable, as well as raise concern over the state of future generations which ought to be considered and brought up more concisely in the debate on climate change. Existing channels for governance practices are not enough to change the course of business as usual. Additionally, novel and more effective channels of public pressure that also bring along a priority shift from material interests to the common good have an impact by adding further pressure on powerful actors.

Furthermore, Dryzek and Niemeyer (2019) suggest a combination of top-down and bottom-up innovations with the concept of mini-publics as a central idea as formulated by

Dahl (1989). Mini-publics, as imagined by Dahl (1989), refer to a representative group of citizens coming together to deliberate on an issue and inform decision-making. Mini-publics can range from citizen juries to planning cells, deliberative polls, as well as their more radical and widely discussed today form of citizen assemblies (Escobar & Elstub, 2017). Citizens' initiatives and their direct democratic processes and spaces for decision-making and setting agendas, such as popular assemblies, can push for a shift towards a more deliberative turn in CCA governance while actively addressing issues of power in planning by combating the very mechanisms that channel it.

Moreover, if made permanent these deliberative spaces can act as a space for iterative change. Due to the complexities involved with adapting to climate change, many scholars (e.g. Ayers et al., 2014; Esnor & Berger, 2009; Phillips, 2021) stress the need for a shift away from the *projectization* of CCA towards more permanent, solutions that can, among other functions, promote iterative learning. Projectization is a pejorative term that refers to a situation when a top-down implementing actor enters a community to initiate a project with a limited time frame (Vallejo & When, 2016). Subsequently, once the project starts, ineffective monitoring and evaluation mechanisms are created and neither the objectives nor the original plan are sufficiently updated (Bakewell & Garbutt, 2005; Vallejo & Wehn, 2016). Instead, the project continues as initially designed with no regard to whether it is working or if there are any unintended consequences (Bakewell & Garbutt, 2005). Then, after a few years, all partners move on without creating any long-term sustainable change (Vallejo & Wehn, 2016). While this is an overgeneralization, it nonetheless reflects a prevalent reality (Ayers et al., 2014; Phillips, 2021).

In opposition to this *projectization* are programs that are started and run by those within a given community and established on a more permanent or semi-permanent basis, meaning they can be updated as circumstances and knowledge change. Given the scientific complexity of a problem like climate change, accurately predicting future consequences is an impossibility. This unpredictability means CCA practitioners need to contend with significant uncertainty when considering future risks. Kong et al. (2020) maintain that one way to overcome this problem is by incorporating a system of social learning. Social learning, in this instance, involves facilitating learning through social interactions between local actors (ibid.). As Glaas et al. (2022) revealed, locales that undertake these bottom-up processes are more likely to better adapt to climate change.

Simply put, deliberative, dynamic, iterative, processes are better equipped to deal with complexity. Given the importance placed on connections in complexity theory, to fully understand one agent in a system, one would need to understand everything about everything it interacts with, which is an impossibility (Capra & Luisi, 2014). As no one single element can understand the whole picture, it is imperative to incorporate as many feedback loops, redundancies, and diverse perspectives as possible (Kaufmann & Hill, 2021). Putting more data into a top-down command-and-control system does not improve outcomes because there is simply too much information for individuals within a hierarchy to completely grasp (Cavallo & Ireland, 2014). Therefore, it is imperative to recognize and accept unknowns and potential shortcomings of centralized, hierarchical systems that follow from that, which connects with the near-universal acceptance within CCA of the need for more localized, bottom-up processes (e.g., Braams et al., 2021; Fazey et al., 2020; Hendriks, 2009). Centralized, hierarchical systems cannot carry out these locally-led processes.

These unknowns are complicated by feedback delays inherent to complex systems. Feedback delays mean that by the time a problem within a complex system is evident, it is often challenging to resolve (Meadows, 2011). One way to lessen this phenomenon is, again, to have decision-making closer to the source (Phillips, 2021). Approximate knowledge is easier to gain if systems involve as many of those that the decisions are being made about as feasibly possible (Berkes et al., 2009). In the space of CCA, this manifests through community-based adaptation, which "deliberately engages people in a collaborative decision-making process that attempts to better align adaptation planning with the needs, interest, local knowledge, and cultural context of residents" (Leichenko & O'Brien, 2020, p. 164).

Leichenko & O'Brien (2020) also stress that this community-based work lessens the chance of maladaptation. Maladaptation refers to an "action taken ostensibly to avoid or reduce vulnerability to climate change that impacts adversely on or increases the vulnerability to systems, sectors, or social groups" (Barnett & O'Neill, 2010, p. 211). Phillips (2021) also contends that bottom-up initiatives are also better able to incorporate wider issues—like socio-economic inequality—which again lessens the chance of maladaptation. In sum, programs that are led by as many local perspectives as feasibly possible are one way to better contend with feedback delays and avoid maladaptation.

This feature of bottom-up systems to avoid maladaptation corresponds to the scholarship on cybernetics. While this field is broad, one of its key insights is that one way to

contend with the feedback loops inherent to complex systems is to build in multiple feedback mechanisms (Heylighen et al., 2006). In other words, to incorporate points at which information and reactions are fed back into the system. Therefore, the most appropriate thing to do is to facilitate connectedness and networks of exchange that can act as these points of feedback (Bodin et al., 2019). When systems properly integrate these feedback loops—i.e. they come from the bottom-up—monitoring, evaluation, and learning becomes a key feature of the system itself rather than relying on individual MEL experts to analyze individual projects.

Additionally, through the facilitation of these connections, new systems can emerge. Given the desire for transformational change in these complex human systems—it is worth exploring this emergence and how novel systems form from the bottom-up. Emergence refers to properties of systems that cannot be reduced to the behaviours of individual parts (Heylighen et al., 2006). Emergence happens through relationships (Berkes et al., 2009). Therefore, it is imperative to facilitate relationships and connections if there is a desire for transformational change rather than expecting a new system to emerge from top-down systems that do not facilitate these relations (ibid.). Moreover, in emergent systems adaptation is formed through "local rules between interacting agents [creating] higher-level behaviour well suited to its environment" (Johnson, 2002, p. 7). This definition of adaptation emerging through local interactions reinforces the need to shift away from top-down command and control systems towards new ones that can meaningfully contend with complexity and facilitate these bottom-up interactions.

2.2 Power

It is worth taking a moment to consider how power manifests when these more bottom-up processes are enacted, because—as this section will demonstrate—history and decades of scholarship indicate that simply creating these bottom-up spaces alone is not enough to achieve transformational change. CCA is a highly socio-political process (Eriksen et al., 2015). Through it, change is defined and framed through a dynamic interplay of knowledge, authority and subjectivity that eventually dictates which social actors obtain a more significant role than others in CCA efforts. Gaventa (2006) presents a framework that helps to conceptualize these different manifestations of power in relation to participation through the interplay between levels, forms, and spaces of power (Gaventa, 2006,). This

framework is represented by a Rubik's cube, demonstrating the dynamic interplay between the different components of power, as seen in Figure 1.

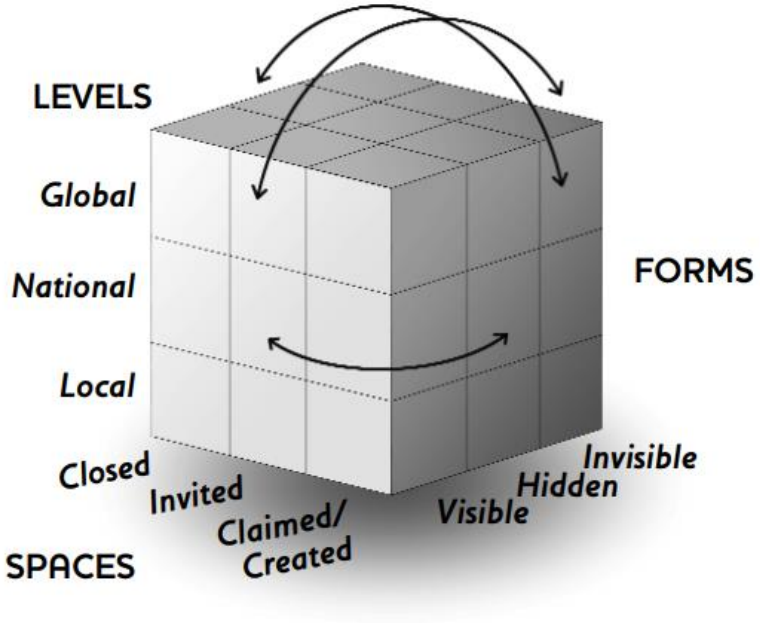


Figure 1: Power Cube (Gaventa, 2006, p. 25)

Regarding spaces of participation, Gaventa employs Lefebvre's (1974) theorization of space as a social production, with power shaping their boundaries, thus leading to the formation of *closed spaces*, where decision-making is not inclusive, to *invited spaces*, spaces of regulated institutional-led participation and *claimed* or *created spaces*, where people generate their own meanings outside the prevalent institutional norms. Levels or places of power can range from local to national and global (Gaventa, 2006). Finally, forms of power vary from visible to hidden and invisible. VeneKlasen & Miller (2002) argue that these forms of power act as mechanisms that shape participation and set in motion various processes such as conflict, marginalization, or resistance of social groups. Visible forms of power are connected to more transparent and formal decision-making processes, while hidden power relates to procedural and agenda-setting decisions. Invisible power is connected more to the shaping of the societal norms that define the psychological and ideological boundaries of participation and generate barriers to change by exacerbating marginalization and injustices (Gaventa, 2006; VeneKlasen & Miller, 2002).

Taking this all together, Gaventa (2006) argues that transformational change happens

> "when [social movements or social actors] are able to link the demands for opening previously closed spaces with people's action in their own spaces; to span across local and global action, and to challenge visible, hidden and invisible power simultaneously" (Gaventa, 2006, p. 30)

This thesis intends to develop and assess a CCA lab, which can act as a created space that is less limited by hidden and invisible forms of power than analogous settings, in order to provide space for participants to challenge all forms of power from the bottom-up and thereby contribute to transformational change. The implications from the power cube framework are pertinent to citizen empowerment and the initiation of meaningful participatory processes that are locally owned. These projects have the potential to generate new landscapes of participation that are directed toward responding to complex contemporary issues that decision-makers alone fail to address efficiently (Cuthill & Fiel, 2005). However, this implies that these processes are also a product of co-creation. The activities initiated for developing capacities for empowerment follow a methodology that adequately responds to the need for alternate power domains and shifts in organizational structures. Becker (2014) argues that actors involved in projects seek *guarantees* that some form of change will succeed, which has often not been the case. The rest of this section will utilize Gaventa's conception of power to consider why some of these spaces have been unsuccessful in obtaining these transformational changes.

One of the recently created participatory spaces with the most theoretical transformational potential—analogous to the proposed CCA lab—are citizens' assemblies (Braams et al., 2021; Gerwin, 2018). The 2017 Irish Citizens' Assembly on climate change provides an exemplary case to explore how hidden and invisible power can weaken these created spaces. Although not all, many scholars remain skeptical that the effects of the Assembly were sufficiently transformational (Courant, 2021; Davies et al., 2021; Farrell et al., 2019; Fitzgerald et al., 2021). Looking at various manifestations of hidden and invisible power within the space provides a lens to answer why the recommendations that came out were not transformational. These insights from the Irish case provide a theoretical foundation for the proposed CCA lab methodology.

For instance, one example lies in the framing of the question the Assembly considered—"how the state can make Ireland a leader in tackling climate change" (Torney,

2021, p. 384)—which members of the Irish parliament set (ibid.). Climate change is not really even a single issue, but rather a set of complex interacting problems that touches nearly every aspect of society (Mulvad & Popp-Madsen, 2021). Therefore, having such a broad question and a short time frame of four days meant the Assembly could merely engage with the topic on a superficial level (ibid.). Simply put, proper deliberative processes take time, which the Assembly was not afforded (Curato et al., 2017; Lasker & Weiss, 2003).

Moreover, the judge who ran the proceedings was known to shut down contentions that arose between participants (Courant, 2021). Impeding contestation is completely counter to the standard of prolonged, contested deliberation that is fundamental to these spaces and represents a vital step in obtaining the optimal solution (Gerwin, 2018). Additionally, a survey of participants after the Assembly revealed they wanted more, with fewer topics, and more time spent on each issue (Devaney et al., 2020). Nonetheless, despite this sentiment, the hidden choice of the topic framing and time allocation remained unmodified, limiting the Assembly's capacity.

In addition, various research suggests that citizens turn to others to help them frame and shape their political opinions, particularly with an issue as complex as climate change (Druckman & Nelson, 2003). This phenomenon, also known as the framing effect, "occurs when in the course of describing an issue or event, a speaker's emphasis on a subset of potentially relevant considerations causes individuals to focus on these considerations when constructing their opinions" (Druckman & Nelson, 2003, p. 730). Thereby, the potential of participatory spaces is contingent on the extent to which participants expose each other to transformative ideals, opinions, and frames. This reality means each participant retains considerable power to open up and close down policy options (Blue, 2015).

It is worth noting that the list of speakers in the Irish case was chosen by an *expert advisory group,* with little influence from participants, and all twenty-one speakers were either academics or *exemplars* of climate action (Torney, 2021). While there was a process for Irish citizens to submit opinions, the expert advisory group also filtered these (ibid.). The inclusion of so few non-scientific experts produced the effect of closing down certain policy solutions. Bentz et al. (2022) argue that if processes like these do not explicitly consider entrenched power, then they risk cooptation by those with a vested interest in upholding the status quo. Moreover, Druckman & Nelson (2003) contend that deliberations with a limited range of perspectives are unlikely to affect elite framing. Instead, climate change is more

likely framed as a value-neutral scientific problem, which does not require systemic change (Blue, 2015). However, there is no neutral framing for climate change, as it is inherently a political issue intrinsically linked to power (Eriksen et al., 2015; Torney, 2021). Although it is difficult to even conceptualize the systemic change required to deal with an issue as complex as CCA, this problem will remain unresolved without challenging the very idea of impartial scientific advice (Latour, 2017). Ultimately, if those who sought transformational change had better illuminated these entrenched, invisible, ideological boundaries, the potential for transformative change would have been more significant.

The Irish Citizen's Assembly reveals that when creating new spaces, actors must contest hidden, agenda-setting powers, as well as invisible power that limits whose voice gets heard if these spaces are going to produce transformational outcomes. In other words, just because a new transformative, participatory, space opens does not mean the work of challenging power is complete. Experiences with citizens' assemblies in other jurisdictions encountered comparable obstacles (Carson, 2013; Giraudet et al., 2022; Wells et al., 2021; Wells, 2022), and other research from participatory spaces illuminates an equivalent bias towards status quo views (Blezer & Abujidi, 2021; Buono et al., 2012; Byrne, et al., 2022; Palacios, 2016). Ultimately, showing it is critical to provide the space for as wide of a range of voices as possible so that these participatory processes can realize their transformational potential (Bentz et al., 2022; Brink & Wamsler, 2018; Hochachka, 2022).

While much of the preceding analysis focused on an expert versus non-expert distinction, this is just one of the numerous ways to assess the suitability of the range of voices heard in a participatory space. In fact, most scholars on these spaces agree that their legitimacy is tied, in part, to their level of representativeness in terms of things like race, age, and gender (Gerwin, 2018; Lang, 2007), and few argue this is an unimportant consideration. Whose voice is heard matters and this prevailing sentiment is often actualized through better representation.

However, despite its purported transformational potential, solely increasing the number of marginalized people in an organization is not enough to improve outcomes (Benschop & Verloo, 2006; Howland et al., 2021). Expanding representation alone establishes the positions and perspectives of non-marginalized people as the ideal that marginalized people should aim for, which reinforces gendered, racialized, classed, colonial, etc. processes (Baines, 2010; Benschop & Verloo, 2006). Missing the embedded nature of

these processes represents an obstacle to transformative change, as it reproduces the dominant norms.

Instead—drawing inspiration from Crenshaw (1989)—Palacios (2016) proposes practitioners should not *just* ask "who is there?" (ibid., p. 360) but also "are conditions present that allow the voice, presence, and worldview of marginalized people to be guaranteed?" (ibid., p. 360). Since the 1970s, there has been considerable gender studies work into the dynamics that exist between men and women in settings like meetings and other analogous spaces to participatory processes. For instance, nearly fifty years ago, Aries (1976) demonstrated how in group settings, men interrupt women, dominate conversations, and ultimately just take up more space. Importantly, there is not much to suggest this reality has significantly improved (Canedo et al., 2021; Madsen et al., 2020). Men also push for more centralized hierarchical control (Berdahl & Anderson, 2005), dismiss female concerns, and demean women by undertaking actions like calling them girls (Martin, 2006).

Further, these concerns are not just confined to gender. People with LGBTQ identities report a similar inability to wholly participate due to microaggressions, intentional misgendering, purposeful ignoring, tokenizing, and more (Brower, 2016; Galupo & Resnick, 2016). Similarly, racialized people describe situations where they stop offering opinions because their white colleagues never illicit or regard them (Martin, 2006). These transgressions are not minor as they reduce people's voice and cause them to withdraw (Brower, 2016). Ultimately, the research on this is extensive, and several more pages of examples could follow—which is further complicated by the complex ways these overlapping identities interact and intersect forming diverse experiences (Crenshaw, 1989)—but the fundamental assertion is clear that there are more barriers than merely having more representative bodies.

To put it simply, despite the importance placed on it, more representation does not necessarily mean a wider range of voices are heard (Fletcher et al., 2015). Therefore—given that exposing stakeholders to as wide a range of views as possible is necessary for transformative change—limiting whose voice is heard in these ways, even if the room itself is representative, limits the transformative potential of any participatory process. Despite this, Palacios (2016) demonstrates how implementers of public participation have thus far insufficiently considered ways to lessen these problematic expressions of invisible power.

Ultimately, there is significant power in the hands of those implementing the participatory processes, particularly when it goes unchecked or when they give preference to one stakeholder over another (Ansell & Gash, 2008). For instance, participatory planning is notorious for the ability of business interests to take over discussions using tactics like complex, insider, and legal language (Few et al., 2007). Additionally, Few et al. (2007) illuminate how business interests shaped a UK preparedness plan by imparting their language into the document over other stakeholders. The initiating actors offering businesses a disproportionate influence, even if other stakeholders are present, is another way unchecked power can limit the transformational potential of participatory governance.

Moreover, one of these stakeholder perspectives that governments and large institutions tend to favour is their own. These organizations are notoriously inflexible and unreflexive, preferring to focus on fixing external problems and actors rather than on how their own "patterns, interests, assumptions, and blind spots may perpetuate existing power structures and patterns of interaction" (Bentz et al., 2022, p. 499). This rigidity manifests in the realm of participatory democracy, in part, through a reluctance to hand over power, meaning participation is habitually nothing but consultation or a one-way passage of information (Buono et al., 2012 Fenton et al., 2016; Few et al., 2007; Lasker & Weiss, 2003).

Cattino & Reckien (2018) argue that the positive environmental outcomes from participatory processes are not guaranteed but are dependent on the span of involvement, communication, and collaboration, as well as the degree of power delegation to participants. There are several ways to model these levels of participation (e.g. Fenton et al., 2016; Mees et al., 2019). However, perhaps the most applicable model is still the ladder of participation from Arnstein (1969), which can be found in Figure 2.

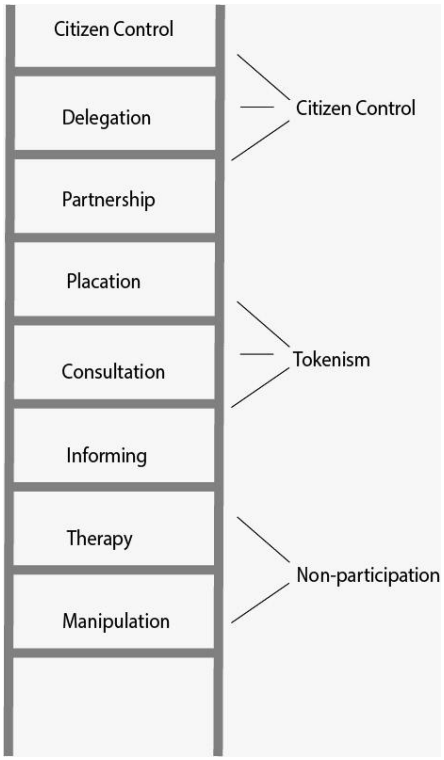


Figure 2: The Ladder of Participation (Own-edit adapted from Arnstein, 1969, p. 217)

In the article *The Ladder of Participation*, Arnstein (1969) poignantly lays out how "there is a critical difference between going through the empty ritual of participation and having the real power needed to affect the outcome of the process" (ibid., p. 216). She uses a ladder to illustrate how this participation can range from *nonparticipation* to *tokenism* to *citizen power*. The implication is the more participatory, or more control citizens have over the process, the higher up they are on the ladder (ibid.). A discussion of where Sweden fits on this ladder is in the results section. But for now, what is worth noting is that there is an apparent gap in the rhetoric on participation and how institutions actually carry it out with many falling in the bottom-half (Slotterback & Lauria, 2019). Lasker & Weiss (2003) describe this disparity as implementing actors treating local people as *customer*s or *clients* rather than collaborators, which ultimately neutralizes the local knowledge that is so often seen as indispensable in CCA (Naess, 2013).

A lack of meaningful engagement is not just undesirable in a normative sense, but Fenton et al. (2016) use a series of case studies in Swedish municipalities to demonstrate how people disengage from processes if they feel like their voices are not being heard. Again, if people are not showing up to these engagements and airing their views, then their

transformative potential is limited. This principle is not purely theoretical either, as the Swedish cases that Fenton et al. (2016) examined demonstrated how the more bottom-up processes led to more valuable outcomes. While people always have power, the ability to structurally set the terms for how much voice people get in a particular process, and thereby how much agency they feel they have, represents a power that those occupying positions in institutions hold over people. Therefore, actors need to challenge this power when others exercise it in a way that is not empowering local people to open up space for transformational change.

However, this is not to suggest that actors within these organizations are consciously committed to upholding the dominant cultural paradigm. On the contrary, Baines (2010) uses the case of a development project between a Global North and South university to show how even explicit commitments and considerations to decolonial and anti-sexist principles were not enough to overcome some of their effects due to a lack of systemic change. One of the examples Baines (2010) provides to advance this assertion comes from the reproduction of colonial dynamics due to gendered organizational practices. Essentially, the organization was unwilling to pay for the children of women to travel with them to the host country in the Global South, instead conceding that they should only take brief trips to reduce the time spent away from their families. Subsequently, the project reproduced problematic neo-colonial relations of having someone execute decisions about a context they had spent little time in, despite protests from those involved (ibid.). While the work did not take place in the context of participatory governance, it serves as a cautionary example of how institutions, despite everyone's best efforts, can reproduce problematic, unwanted patterns if there is no consequential way to enact systemic change.

In essence, mainstreaming through representation is based on the idea that the eradication of differences and discrimination is possible by allowing groups to advance without conflict and with little effort from those in the predominant position (Blum & Smith, 1988; Childs & Krook, 2008; Lewis & Simpson, 2012). Cockburn (1989) characterizes this perspective as "giv[ing] disadvantaged groups a boost up the ladder, while leaving the structure of that ladder and the disadvantage it entails just as before" (ibid., p. 217). Applying this perspective exposes how these raced, classed, colonial, gendered, and heteronormative relations are embedded into organizations and are not something that actors can easily manage out, but rather are contingent, constantly acted out, and heavily tied to discourse (Baines, 2010; Lewis & Simpson, 2012). Baines (2010) notes how people employ these

dynamic discourses to rationalize and justify actions taken against them as well as their own (in)actions within organizations. Meaning when these discourses are centred in problematic ways they then have the effect of alienating and excluding those who belong to marginalized groups, thereby discouraging participation and lowering transformational potential (ibid.). Additionally, if these structures are unreflexively left intact, this necessarily reinforces present conditions, restricting the ability for change. Accordingly, to unlock this transformational capacity, actors within participatory governance systems must analyze and confront the complex ways institutions themselves are gendered, racialized, classed, etc.

Adopting this view of power being acted out and embedded in interactions, relations, and discourse necessitates a recognition that all actors within a given setting maintain the ability to challenge invisible and hidden forms of power, including ones in participatory governance (Lewis & Simpson, 2012). Since people cultivate these dynamics through both deliberate and inadvertent relations, they are in flux and, therefore, challengeable (Baines, 2010). While certain groups maintain a greater ability to influence how this invisible power plays out, marginalized people are never entirely without power (Lewis & Simpson, 2012). Similarly, Lukes (2021) contends that although when people speak they are limited by the systems they exist in, there is still a certain aspect of autonomy in action. As different structures promote different behaviours the degree of receptivity to subversive outlooks is structurally bound (ibid.), thereby furthering the argument to promote systems that do not reinforce counterproductive relations.

Specifically, people belonging to marginalized groups can challenge dominant discourses "through radical acts, subversive stress and interpersonal relations" (Lewis & Simpson, 2012, p. 150), to name a few. For instance, Martin (2006), in the space of gender, shows how merely sharing stories of problematic acts can help to overturn these practices in the right context. Dominant groups can increase the transformative potential of these actions by educating themselves on these issues and utilizing their position to create room for others to speak (Gram-Hanssen et al., 2022). Getting non-marginalized people to undertake this requires challenging invisible power in the sense of confronting prevailing norms and ways of being.

Bearing all this in mind, the implication is not that anyone needs to challenge hidden or invisible forms of power on behalf of marginalized people. Instead, all actors within these participatory spaces currently need to further reflect, problematize, and contest problematic

manifestations of these forms of power—which is viable given its dynamic nature. Moreover, when establishing new, created, spaces actors should ensure they are not reinforcing these counterproductive dynamics. A critique like this also necessitates an emphasis on evaluating, and reshaping systems (Lukes, 2021), in order to realize the transformative potential of participatory spaces. While these preceding statements may seem contradictory, they are complementary when recognizing that subversive acts can reshape systems as long as the embedded nature of these relations is recognized. However, again, the degree to which this is true is structurally bound by the given system's receptivity to subversive outlooks (ibid.). Taking these realities together strengthens the argument for creating completely new spaces wherein actors can carefully consider the ways their structural setup incentivizes certain behaviour—that may or may not reproduce problematic relations—rather than trying to reshape existing ones.

If participatory CCA is to be transformational, then actors within these spaces must carefully examine and dispute counterproductive expressions of hidden and invisible power within them. This can and should include creating and incorporating structures and methods shown to achieve this acceleration, such as sociocracy (John, 1999; John, 2021; Romme et al., 2018). The Irish Citizens' Assembly, and those in other jurisdictions, demonstrate how creating new participatory spaces itself is not enough to achieve transformational change as hidden and invisible power can still limit their potential. One of the ways this materializes is by limiting whose voice gets heard. While important, solely getting better representative bodies is not sufficient to overcome this barrier either. Instead, conditions need to be in place for those voices to be actually heard. Furthermore, deep reflection needs to take place to consider how these processes and institutions themselves are gendered, colonial, heteronormative, classed, raced, etc. These considerations are necessary to overturn these problematic interactions, which reinforce the status quo, rather than establishing them as the norm. These systemic transformations are possible but require radical acts by those in marginalized and non-marginalized positions, and careful consideration by those crafting these spaces.

2.3 Urban Living Labs

Despite the limitations of some forms of public outreach, one created space that has exemplified many of the preceding conditions for transformational potential is ULLs. The

definition of ULLs is notoriously fluid, but they can generally be defined as spaces for highly contextualized processes of socio-technical experimentation and knowledge co-creation, sites for innovative solutions to urban challenges through the involvement and co-engagement of a variety of stakeholders, including citizens (Frantzeskaki et al., 2016; Chroneer, et al., 2019). One of the authors of this thesis (Iliopoulos, 2020) wrote a previous thesis on the transformational potential of ULLs. To summarize his findings, ULLs can act as a deliberative space for bottom-up transformative change and equitably provide voice (ibid.). However, the prior discussions on power are not irrelevant, and this latter characteristic in particular is contingent on an explicit consideration given to these hidden and invisible forms of power and how they are embedded into the systemic set-up (Bulkeley et al, 2019; Rizzo et al., 2021). Nonetheless, work done by Moreira et al. (2022) in São Paulo, for instance, shows that they can serve as a safe space for laypeople, experts, and municipal workers to meaningfully express themselves thereby expanding their transformational potential.

Moreover—with respect to complexity and systems thinking—ULLs contend with complexity by moving away from projectization and towards more permanent, created, spaces that can act as a safe space for iterative learning and change (Bulkeley, 2016). As previously discussed these iterative processes are essential when dealing with a wicked problem like climate change. In addition, the ability to act as a space to bring together multiple perspectives is consistent with the previously mentioned solutions to contend with various aspects of complexity such as feedback delays, so new transformative systems can emerge.

2.4 Sociocracy

While there is significant research on ULLs, the research on sociocracy—also known as dynamic governance—is scant. There are almost no studies relating sociocracy and complexity, although this was raised in the interviews, and thus is in the results and discussion chapter. The research that does exist is sporadic and is not centred around a single discipline. For instance, work done by Saxena & Jagota (2016) demonstrates the potential of sociocracy to improve outcomes for micro, small, and medium-sized business enterprises. Whereas Owen & Buck (2020) revealed that it can facilitate transformational change in education. Similarly—also in the space of education—Wilder (2022) shows how implementing sociocracy in student councils can lead to an increase in student participation and voice. While the scholarship is minimal, what has been written on sociocracy suggests it

has transformative potential across many spaces. Although, the lack of replicable, consistent, findings limit the extent to which this transformative potential can be reported for certain.

Nonetheless, this transformative potential is also found in the limited research linking sociocracy with public participation. Just as in the student councils, when the municipality of Utrechtse Heuvelrug in the Netherlands trialled implementing sociocracy into their participatory processes, residents reported an increased interest in participation, significant influence, collaboration, and sufficient deliberation (Romme et al., 2018). Additionally, a series of sociocratic children's parliaments, established in various cities around India, have equally shown transformative results by increasing the space for children's voices and influence (John, 1999; John, 2021). While, again, the research results linking transformative outcomes and sociocracy remains limited, this tenuous connection is worth exploring further.

3. Methodology

This section presents and analyses the methodological steps the researchers undertook to respond to the research questions outlined in the introduction. It begins by framing the type of study undertaken and then goes on to further analyze—in detail—the concept of a sociocracy-informed CCA lab. It describes each step of the process through the organization, facilitation and evaluation of the labs while also looking into sociocracy as a decision-making methodology for CCA. The chapter concludes by discussing methodological challenges.

The present study is exploratory qualitative inductive research with experimental elements that generates a hypothesis that identifies a problem and seeks to generate a novel solution in an underexplored area. This approach utilizes sociocracy as a core methodology for organizing and facilitating participatory processes for CCA in the local context. Although the research is—to some extent—blurring the line between researcher and researched by using participatory methods that the researchers take an active role in, it does not involve co-creating the problem and the solution space with the participants. Instead, this research is something closer to *appreciative inquiry*. Cooperrider & Srivastva (1987) describe appreciative inquiry as a mode of action research that aims at understanding, describing and fostering innovative and collective approaches to structures and processes that have the potential to generate systemic changes.

This methodology aims to generate knowledge and conceptual understandings that incorporate a normative vision for a group based on a set of four main principles (Hung et al., 2018). Firstly, the researchers must establish the current state of things. In the case of this project, this manifests through the description of how practitioners in Sweden undertake participation for CCA. Then, researchers generate theoretical knowledge for use, application and validation in action. In this instance, a sociocracy-informed CCA lab is the theoretical and methodological framework proposed for application in CCA participatory processes. The third principle is normative in nature, arguing that change is found in the collective shaping of the vision by an organization's members. In line with this principle, the researchers emphasized the collective shaping of ideas for local CCA by residents in Veberöd and Lund, as will be elaborated later in this section. Finally, appreciative inquiry involves collaborative research involving real-time experimentation. Experimentation is the core of the methodology employed for responding to the research questions of this thesis. The CCA labs are a means to test a theory and a methodology in practice involving real-time

experimentation with the principles of sociocracy inserted in a participatory approach to CCA in the two communities. The labs simulate a participatory event that could be initiated by a municipality, involving residents in decision-making processes on how their community can adapt to heatwaves and floods as an aftermath of the unprecedented impacts of climate change.

The thesis also draws from design research in the sense that it identifies a problem and intends to design an artifact as a solution to that problem. As defined by Blessing & Chakrabarti (2009), design research aims to formulate and validate models and theories about a *phenomenon*. At the same time, it validates knowledge, methods, and tools to improve a process (Zimmermann, 2003). In the context of this thesis project, the hypothesis is that sociocracy-informed CCA labs maintain the potential to contribute to transformative CCA. Although not precisely design research, the researchers drew from the design research literature by proposing a solution to a problem and then being explicit about the intended ways of evaluating that methodology. Accordingly, the analysis primarily centers on the labs' potential to systemically incentivize the pre-conditions for transformational change established in the theoretical background, rather than directly contrasting the labs to the Swedish approach.

3.1 Sociocracy-Informed Climate Change Adaptation Labs

The primary methodology this thesis utilizes is the organization and facilitation of two experimental processes of deliberation in the form of labs. Sociocracy principles informed and provided the foundation for the facilitation of workshops in two different locations and dates in Lund Municipality. The aim was to perform the same process in two different locations with different people, as this adds to the legitimacy of the data, particularly because the intention is to exemplify something that could be permanent.

To respond to both research questions, the researchers evaluated the labs primarily utilizing surveys, which are supplemented with observations and interviews with experts. The survey focused on evaluating the processes rather than the outcomes, due to the processual issues identified in the theoretical background section. Additionally, the intention is to design a system that motivates behaviours in line with the principles discussed in the previous section to enable transformational change, therefore a focus on process is appropriate (Meadows, 2011). Moreover, the surveys were distributed to the participants directly after completing the lab to ensure high participation. The intent was to keep this survey entirely

qualitative, allowing people to answer open questions rather than asking them to rate their experience on some quantitative scale. One of the critical epistemological assumptions underpinning the thesis is how people can hold complex, even contradictory, interpretations of reality. Accordingly, while a quantitative survey could yield easy-to-analyze numbers, it would be inconsistent with this assumption.

The labs aim to investigate an alternative pathway for practicing public participation in the Swedish context, and the evaluation survey of the labs is a means to explore this. The surveys are used to respond to the research questions by analyzing the degree to which sociocracy-informed CCA labs allow for deliberation and the public's voice to be heard. The present thesis utilizes Creswell's phenomenological analysis and representation approach to interpret the surveys (Creswell, 2013, pp. 193-195). This method is appropriate as it allows space for people's interpretations of the experience to be aired equally while still collating this into a coherent story of what happened and how (ibid., p. 195). Moreover, the thesis will produce an understanding of what happened in the eyes of the participants and why (ibid.), which can be used to answer the research questions.

To initiate the labs, the municipality of Lund played a significant role. Two labs were planned in Lund Municipality during the project, the first in the town of Veberöd on the 14th of March 2023 in the public library and the second one on the 28th of March 2023 in the city of Lund in a municipal building, the Stadshuset. As the aim was to initiate a novel participatory process, the researchers considered it appropriate to get in touch with officials working with CCA in the municipality and collaborate, as it would also be an opportunity for the municipality to experience an alternative methodology for participation. At the same time, the municipality had pre-established channels of communication with the public that could assist the researchers in inviting an adequate and representative number of residents to the labs. With the above aim, the researchers held a series of meetings—online and in person—with municipal officials to decide on the location of the labs within the municipality of Lund, the communication strategy and what was expected on their side.

The lab organization in both cases aimed to follow the main stages and principles of a sociocracy-led decision-making process, including the *understand*, *explore*, and *consent* phases, as seen in Table 1, which will be further elaborated on below. The researchers collaborated with the municipality of Lund to select the areas for the labs. After initially discussing Stångby and the new-built area of Brunnshög to the northeast of Lund as potential

locations for the labs, the collaborators chose Veberöd and Lund. Both Veberöd and the city of Lund exist in the larger Lund municipality. The choice of Veberöd was due to the relatively high flooding risk due to a stream that runs through the town. While Lund was decided because it is the most populated place in the municipality, and floods and heatwaves will increasingly affect the area in the future. The municipality provided flood and heatwave-risk maps which assisted the researchers in deciding on the location of the labs, as well as a method for communicating the events.

3.2 Communication of the Events

A common challenge with participatory approaches to planning is creating an interest in the public to attend these events (Ingvarsson, Interview, 2023; Hassel, Interview, 2023). It is essential to consider the most appropriate channels to communicate and promote the event to the local communities. For the case of the lab in Veberöd, the researchers deemed it appropriate that the promotion of the event took place only in Swedish, as it concerned a less international context compared with Lund, through three principal communication channels. 1) Creating a poster to attach in popular locations of the town, 2) Creating a Facebook event and sharing it on residents' Facebook pages, and 3) Creating flyers and distributing them to mailboxes around the town with a focus on the areas in proximity to the main water stream, Veberödsbäcken, acknowledging that not all residents use Facebook and that certain groups like the elderly require a different, more traditional communication approach. Communicating the events through not exclusively digital means creates the precondition for a more inclusive and representative participatory environment (Moise & Cruseru, 2014).

The organizers of the labs undertook a similar approach for the case of the lab situated in Lund but with one key deviation. Veberöd is a smaller community of 5,563 people (Lunds Kommun, 2020) compared to Lund and, at the same time, a more cohesive one, where people maintain stronger networks. This can be seen through the existence of several social media pages concerning everyday topics in the community. However, this was not the case for Lund, a much larger urban center of 91 940 people (Lunds Kommun, 2018), with approximately half of those—about 45 000—being students, many of them non-Swedish origin and non-Swedish speakers. This reality is why the communication strategy needed to be re-adapted to fit the needs of the demographic context in Lund. There was less outreach done on Facebook, and more through traditional means like postering and flyering. The poster created for the event's advertising consisted of a text description in Swedish but the

information about the location and venue was written in Swedish and English, as seen in Figure 3. A QR code on the poster led to the Facebook event, where information was also available in both languages.

Figure 3: The event poster for Lund

3.3 Sociocracy as a Decision-Making Methodology

Sociocracy provided the systemic foundation for the lab. Also coined as dynamic governance, especially in the US context (Rau & Koch Gonzalez, 2018; Rau, interview, 2023), sociocracy has roots in cybernetics and system thinking (Eckstein, 2016; Rau & Koch Gonzalez, 2018). Rau and Koch-Gonzalez (2018) refer to sociocracy as a "set of tools and principles that ensures shared power" (ibid, p. 1). They present sociocracy as a decision-making model that horizontally redistributes power in decision-making processes. This is succeeded through a set of four principles or ground rules: consent, circles, double-linking

and election of persons (Romme, 1995). The principle of *consent* represents the main guiding foundation for decision-making processes. Instead of seeking agreement, *consent*-based decision-making actively searches for objections that will highlight why a proposal is not good enough for everyone or "safe enough to try" (Priest et al., 2022, p. 31). Consent, or as Romme (1995) terms it, "no argued objection" (ibid., 213), is the primary method for decision-making in the context of sociocracy. As shown in Figure 4, consent suggests a sphere of tolerance where participants can accept a particular decision even if it is not their preferred one. Priest et al. (2022) distinguish this process from consensus, noting that it is less time and resource intensive.

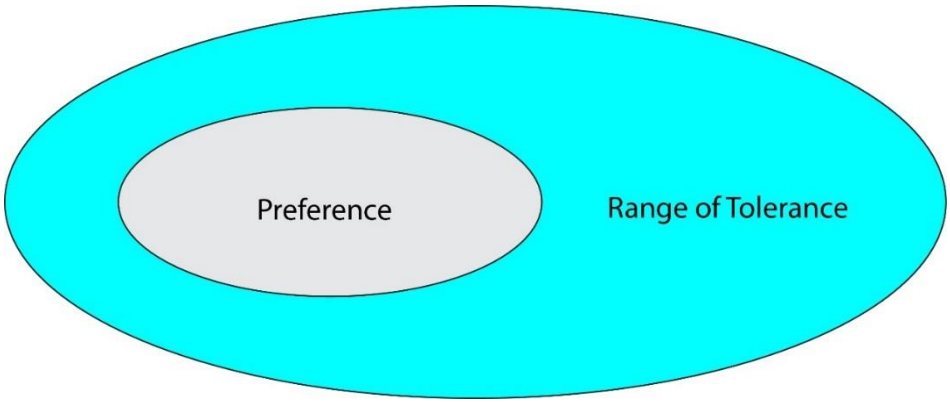


Figure 4: Consent and range of tolerance (Own-edit adapted from Rau and Koch-Gonzalez, 2018, p. 84)

Additionally, the concept of *circles* is also central to the process of sociocratic decision-making. It refers to a semi-autonomous self-organized group of people with a common work objective (Romme, 1995; Eckstein, 2016) where everybody gets to speak their opinion on the work objective in turns (Wilder, 2022), where all people have equal rights when it comes to decision-making. In a sociocratic meeting, people sit in circles and take turns one-by-one speaking and making decisions. Moreover, each circle has a specific domain they make decisions about, thus power and decision-making capabilities are distributed amongst different circles.

The principle of *double-linking* the *circles* attempts to break the traditionally hierarchical and rigid structure of organizations by allowing for flexibility and plurality of voices that are heard. Circles are double-linked by ensuring connection through specific members participating in other circles. Through these processes, instead of a traditional

vertical hierarchy, there is a horizontal hierarchy of circles (Romme, 1995), where circles are connected through appointed and elected representatives, thus creating a double link between the hierarchy of circles (Eckstein, 2016). Although interconnected, not every decision must be approved by all circles. Instead, policies are only taken to a given circle if it falls within the scope of that circle's chosen aim (Rau & Koch-Gonzalez, 2018). Finally, within the circles, people assign different roles after discussion and a process of consent through shared exploration (Romme, 1995).

Sociocracy as a methodology and organizational structure for horizontal decision-making processes is based on what Rau and Koch-Gonzalez (2018) frame as "shared exploration" (ibid., p. 94). Sociocracy follows a pathway of a *understand*, *explore*, and *consent* process (ibid.). During the *understand* phase, the aim is to understand the issue identified for discussion and the underlying issues underpinning it. It consists of three separate stages, understanding the issues at stake, exploring the underlying needs, and finally synthesizing the issues and the underlying need (ibid.). During the *understand* phase, each circle of participants goes through several rounds of clarifying questions to ensure that everybody understands the problem, its context, and the related information. The following *exploration* phase aims at understanding the policy scope and exploring and synthesizing proposal ideas for addressing the issue and the needs identified in the previous step. The final stage in the process concerns the point where a decision or a series of decisions are reached, the *consent* process (ibid.). This stage is critical in the decision-making process as it is this part where the consent principle becomes more vivid. The consent process begins by re-stating the proposal, then moving on to a consent round where all participants have a say on their potential objections. This process is complete when the proposal is amended in a way so that there are no more objections, and everyone consents to it. The above procedures were adapted for the two labs in Veberöd and Lund, as presented in Table 1, more comprehensive facilitator notes are in the appendix.

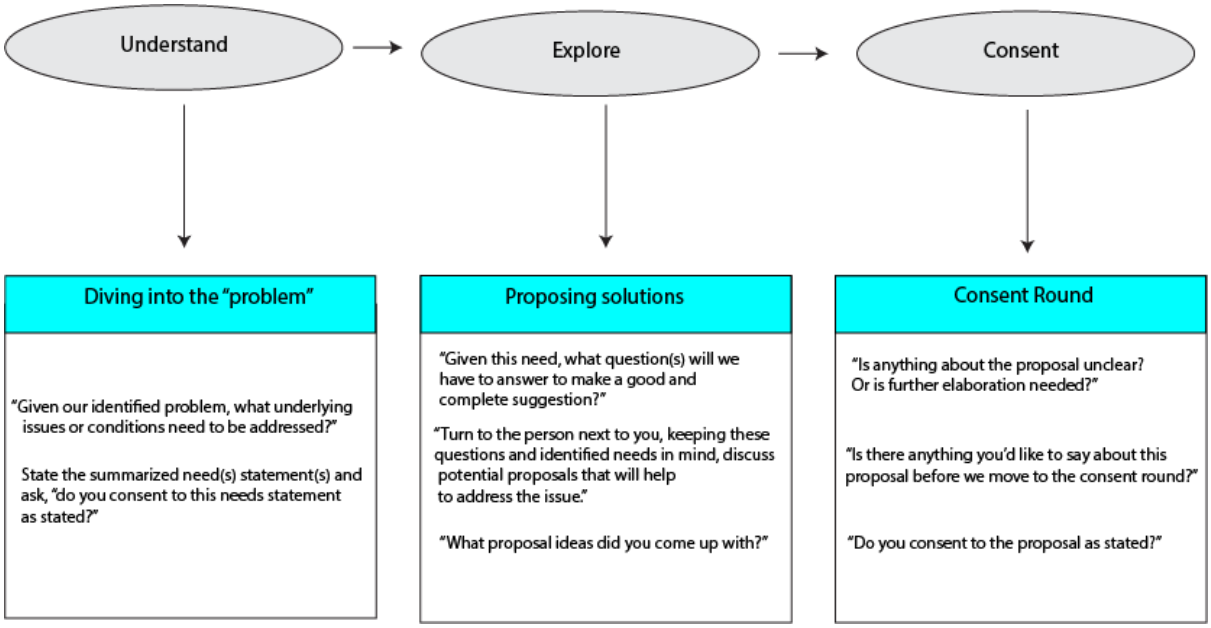


Table 1: Questions posed at each stage (Own-edit adapted from Rau and Koch-Gonzalez, 2018)

Table 1 above demonstrates that the labs incorporated the main processes and principles of sociocracy analyzed above, although they were adapted to the less flexible framework of the present thesis due to resources and time. Still, the main ideas of the *understand, explore, consent* process became the guiding principle and methodological approach to the sociocracy-informed CCA labs. The only principle that was not incorporated at all is the double linking circles due to the impermanent nature of the labs. Initially, each group decided on their aim. Then, during the preparatory phase, the assigned facilitator asked participants to take up roles as timekeepers and notetakers, in line with the sociocracy principle of assigning different roles within the circles. During the *understand* phase, the aim was to explore the underlying conditions or, in other words, the needs that need to be addressed to respond to the identified problem in the circle. Everybody provided insight, and right after all participants had spoken, then there was a round where the participants were asked to consent or object to the identified needs.

The *explore* phase consisted of three main steps. Based on the previously identified need or needs to be addressed, the participants had to develop questions that explored the policy scope, as suggested by Rau and Koch-Gonzalez (2018). This is a way to narrow down the needs and explore more concrete proposal ideas. To achieve this, at this point of the process, the participants in the circles split into groups of two or three—and keeping the questions and identified needs in mind—they discussed and attempted to come up with more

specific measures to address them. The idea behind this group splitting is that participants feel more comfortable coming up with and discussing their ideas in smaller groups rather than in a large group which can be intimidating and expression-limiting. Then they presented their ideas to the rest of the group. During the coffee break, the facilitators in each circle synthesized the proposed ideas by combining similar proposals and distinguishing different and even contradictory ones before the groups moved toward the final and crucial phase of the process.

The *consent* phase consists of four steps. To begin with, the facilitator read out loud to the whole circle the synthesized proposals from the previous stage. Then, for each of the proposals, the circle followed three steps. First, the facilitator asked if everything was clear around the specific proposal to ensure that the circle participants were all concordant in understanding the proposal and that no questions were left unanswered. Then, there was a round where all participants could share their reactions to the proposal and present their final thoughts and arguments. Finally, there was a consent round where participants could either consent or object to each proposal. When objections arose, the proposals were amended until everyone could consent to the statement. If there are still objections, then the specific proposal can be abandoned. After the consent round, each circle produced a series of concrete recommendations or measures concerning the identified needs and the problem that was discussed in each circle that was then presented to the city.

3.4 Semi-Structured Interviews with Experts

Supplementary to the above labs is a series of structured and semi-structured interviews with experts on CCA, participatory processes, and the reality of the Swedish context regarding the nexus of the two, as well as municipality officials affiliated with climate policy and planning to explore the transformative potential of the idea of CCA labs. Interviews were also performed with experts on sociocracy. Most of the interviews were conducted through Zoom, with only one in-person interview. The interview participants were selected through a combination of purposive sampling and snowball sampling.

Interviews are considered a qualitative research method based on the interaction between an interviewer, who is the researcher and an interviewee (Knott et al., 2022), in this case, experts on the topics mentioned above. As Knott et al. (2022) emphasize, interviews cannot be seen as a panacea for collecting all the necessary data in research but can be

supplemented by other research methods such as ethnography, other quantitative methods, or experiments.

Since there is an identified problem with a proposed answer, the thesis needs to be explicit in precisely how it intends to measure the effectiveness of this solution (Blessing & Chakrabarti, 2009). After the surveys were completed, the authors searched for emerging themes (as described in Creswell, 2013, p. 184-187). The survey findings can be corroborated by the interviews and observations by employing the technique of pattern matching. Pattern matching is a technique in deductive research introduced by Campell (1975). Flexible pattern matching—which is preferable for exploratory studies such as the present—allows for the creation of a tentative analytical framework from the data that is collected, which aims to guide the exploration of the research questions (Sinkovics, 2018). The employment of interviews serves in responding to the first research question, which explores the potential of CCA participatory labs for becoming spaces for transformative change. At the same time, interviews with experts on sociocracy aimed to explore the potential benefits but also challenges that come with utilizing this methodology in a permanent participatory decision-making setting. Table 2 shows the list of interviewees and the topics they covered during the interviews in relation to the key themes of the present thesis. The questions that guided the interviews are in the appendix.

Interviewees	Sociocracy	Public Participation	Participatory Labs	Participation in Sweden
Karin Adams		X	X	
John Buck	X			
Mats Willers & Göran Falemo	X			X
Henrik Hassel		X		X
Municipal worker 1	X			
Regional worker		X		
Andreas Johnsson	X			X
Johan Ingvarsson		X		X

Rolf Medina				X
Ted Rau	X			
Martin Rokitzki & Camilla Buenting		X	X	
Naya Tselepi	X	X		
Municipal worker 2		X		X
Municipal worker 3		X		X

Table 2: Interviewee expertise

3.5 Methodological Challenges

This section analyzes the challenges related to the implementation of the methodology followed in responding to the two research questions presented earlier in the introduction section.

3.6 Challenges with Sociocracy

Several challenges come with employing sociocracy as a leading methodology for decision-making processes. One of the most prominent relates to power and the potential for power shifts within and between circles. As Andreas Jonsson pointed out (Interview, 2023), sociocracy can be an ideal method for structuring decision-making in an organization when it is implemented from scratch—meaning that the organization is founded on the principles of sociocracy. If it is not implemented from the start, this implies the need for a transitional phase. Wirth and Butterfield (2021) highlight that the absence of an intermediate, transitional, structure between a traditional hierarchy of decision-making model towards sociocracy can mean the original power structures remain. A pre-established and reinforced power scheme within an organization implies the creation of hierarchies that are difficult to alter (Medina, Interview, 2023; Jonsson, Interview, 2023).

Moreover, John Buck (Interview, 2023) portrayed training as a significant barrier to promoting sociocracy within and across organizations. Training is essential for the proper implementation of the core principles of sociocracy, also pointed out by Andreas Jonsson (Interview, 2023). This was also prominently visible during the facilitation of the labs both in Veberöd and in Lund, where participants were not familiar with the methodology, and thus

they reported it was difficult for them to follow step by step through the guidance of the facilitator. Furthermore, facilitators lacked experience in organizing and facilitating sociocratic meetings and workshops. Therefore, the facilitators had difficulty guiding the participants through the process and ensuring that all steps were correctly followed in the proper order. The researchers themselves cannot be left out of this as this was the first time they were engaged with organizing labs or workshops with this specific organizational format.

Specifically for the Swedish context, several interviewees pointed out the lack of knowledge regarding the concept of sociocracy and the lack of literature in Swedish about it (Medina, Interview, 2023; Willers & Falemo, Interview, 2023). Johnsson (Interview, 2023) brought up another significant cultural challenge when implementing sociocracy-informed participatory processes. As mentioned previously, one of the core principles of sociocracy is the concept of consent. However, Sweden's decision-making culture is primarily based on a culture of consensus rather than consent (Johnsson, Interview, 2023). Therefore, it might be a significant challenge to re-adapt habitual trends around decision-making based on a novel concept like consent.

A context-specific challenge and, simultaneously, a barrier to overcome related to the present adaptation of sociocracy in participatory meetings is the language of facilitation itself. The researchers recognized the importance of creating the preconditions for local attendees of the labs to participate in their mother tongue. Since the labs took place in Swedish communities, it made sense for the primary language of the events to be Swedish. However, none of the researchers are fluent in Swedish, which pointed to the need to acquire facilitators who could run the whole methodological process of the labs in Swedish. In the case of the lab in Veberöd, the facilitation took place only in Swedish by two external facilitators who trained in the proposed adaptation of the sociocracy methodology in accordance with the demographics of the community and the absence of international attendees. However, in the case of the lab in Lund, facilitation had to be re-adapted to the contextual particularity of Lund being a primarily Swedish-speaking context but with many international students who could be interested in participating in the event. For the above reason, the researchers decided to provide the opportunity for facilitation both in English and Swedish by dividing sociocracy circles not only according to the problem to be discussed but also by the language of facilitation. The introduction to the event also took place both in Swedish and English for the same reason.

Participatory processes can be time-consuming, and sociocracy is a step-specific methodology requiring plenty of time to fully understand and integrate into official planning processes. Rau (interview 2023) argues that engaging with sociocracy is a time-consuming and long-term commitment. This might be a significant barrier to addressing pressing societal issues that require a rapid response and a significant convergence of different stakeholders. This process itself is long as well as challenging, and not always fruitful. For the sake of the present thesis and the limited timeframe as well as resources available, a series of sociocracy-based meetings had to be reduced to a scope of 3 hours per lab, thus making significant analytical sacrifices from the original methodology as presented by Rau and Gonzalez (2018) and limiting the chance for participants to indulge further and train with the presented method. Although, the findings from the interviews supplemented the limitations this placed on our conclusions. As observed during the labs in Veberöd and Lund, the lack of familiarity of circle participants and facilitators with sociocracy and its step-specific process and aim led to certain deviations from the proposed methodological approach. Some examples of these were the confusion between the different steps, coming up with solutions in the stage of defining the problem and finally, not fully comprehending the need to have all the various steps in the process.

3.7 Challenges with Interviews

A primary challenge with the research method of interviews is that if it is used as the primary or only source of data collection in research, there can be a clash between the epistemological roots of data collected by the different constructs on a topic. This depends on the point of view of the interviewee and the neo-positivist approach by researchers of "what actually happens" (Flick, 2018, p. 243). Flick (2018) suggests that this conflict of approaches can be resolved with data and methodological triangulation, which was the case for this thesis. Data triangulation refers to the use of different sources for data collection—for instance, in the case of interviews—a plurality of participants, while methodological triangulation refers to the use of multiple research methods beyond solely interviews (Arias Valencia, 2022). Conducting interviews also comes with several ethical considerations regarding collecting and processing data from an interview (Knott et al., 2022). Securing informed consent prior to the discussion and ensuring the safe storage of data collected from interviews is also a way to address the ethical implications of one's research.

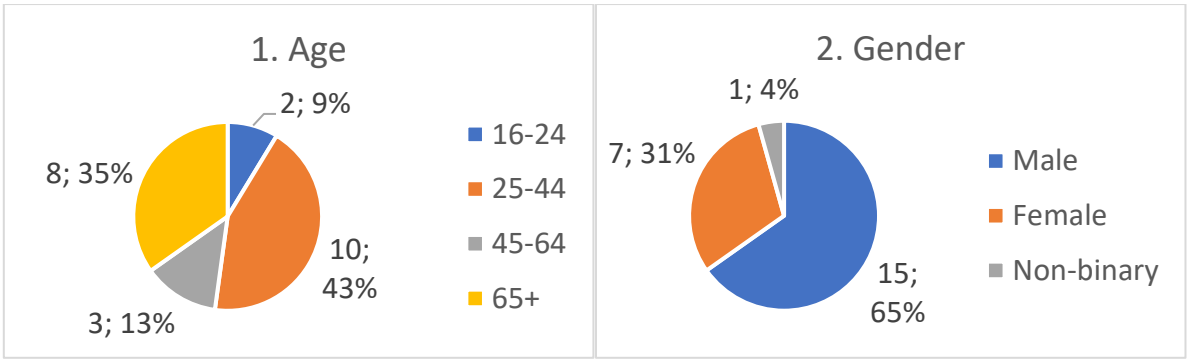
4. Results

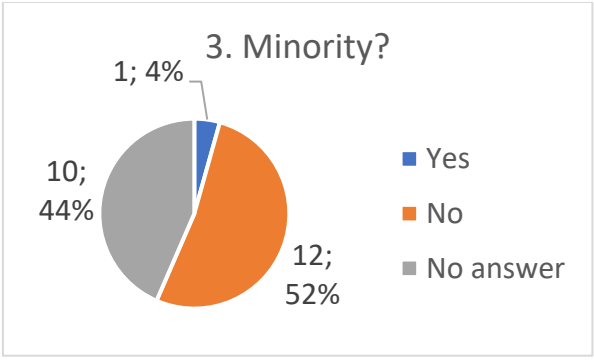
At the conclusion of the labs in Veberöd and Lund, the participants filled out a survey that asked the questions in Table 3. The rest of this section will outline the results of this survey. Followed by a summation of what transpired during the interviews, including an investigation of the current state of public participation for CCA in the Swedish context, with an analysis of this all following in the discussion section.

4.1 CCA Lab Survey

1. Age
2. Gender
3. Do you identify as a part of any minority population (e.g. Sami, LGTBTQ+, Romani, disabled, etc.)? Please specify.
4. Did you feel you had enough knowledge on the subject of the lab?
5. To what extent did you feel that your ideas were incorporated into the dialogue?
6. At any point did you feel that your ideas did not matter? Describe.
7. Were conflicts dealt with appropriately?
8. Would you attend a similar lab on a more official/permanent basis? Why or why not?
9. What elements did you like in the process?
10. What would you do differently?
11. Choose 3 words to describe how you felt during the workshop.

Table 3: Survey questions





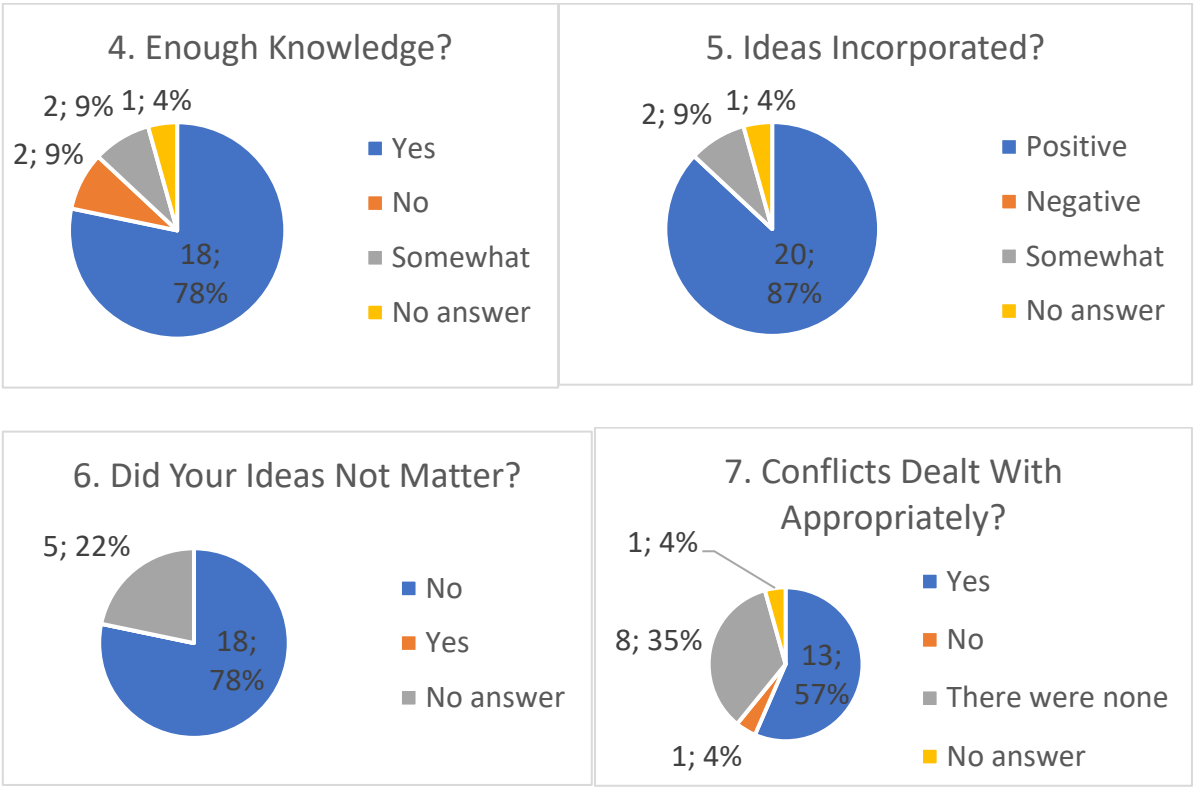
Tables 4-6: Demographics (age, gender, and minority population)

Tables 4-6 display the demographics of those who attended the labs. All in all, twenty-three people participated in the labs, not including those who ran it. Seven of those were in Veberöd, and sixteen in Lund. Regrettably, the labs skewed overwhelmingly male, and with few who identified as a part of a minority population. Only one person who participated indicated that they were from a minority population, being foreign-born. A comparison of the attendee's age versus the demographics in the municipality can be found in Table 7.

Age	Lab Percentage	Resident Percentage (2021)
0-15	0%	17%
16-24	9%	16.9%
25-44	43%	27.6%
45-64	13%	21.3%
65+	35%	17.2%

Table 7: Lunds Kommun demographics (Regionfakta, 2023)

Notably, zero people aged 0-15 attended the lab. While the argument can—and often has (e.g. Lange & Meaney, 2014)—been made that the 0-15 age group does not deserve a democratic voice until they are adults. However, given the long-term nature of the problem of climate change, the authors of this paper see no justifiable reason for them not to attend. Accordingly, the lack of people from that age group represents a limitation. Moreover, there was a notable overrepresentation of the age group 25-44.



Tables 8-11: Processual answers

Tables 8-11 show the answers to processual questions. Overwhelmingly attendees reported that they had enough knowledge, and that their ideas were incorporated into the dialogue. They also felt their ideas always mattered, and that there either were no conflicts, or they were dealt with appropriately when there were. Many gave short one-word answers simply stating "yes" they had enough knowledge. Concerning ideas being incorporated, one participant remarked, "I felt heard and acknowledged! It was amazing to see how each participant could contribute to the Dialogue [sic] and each idea was appreciated and discussed." Similarly, another stated, "[it] felt like working as one, the group." No one said they felt their ideas did not matter, although five people left this question blank.

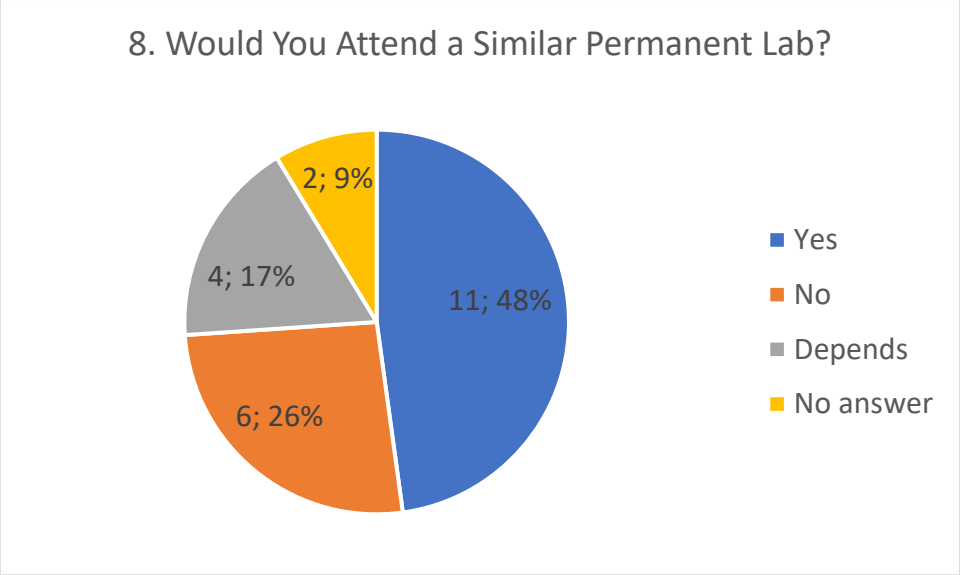
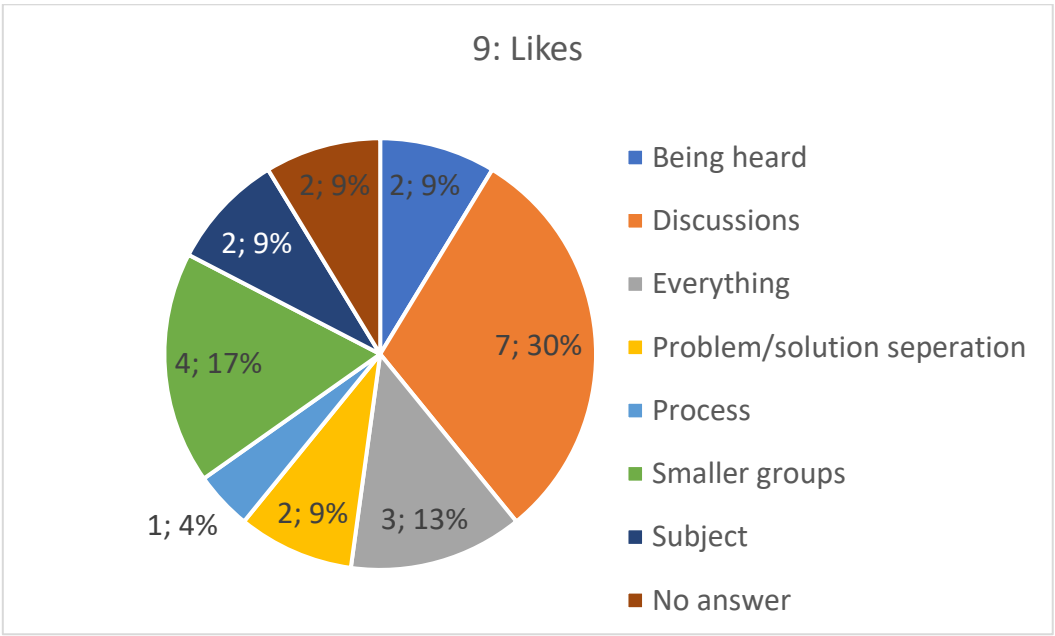
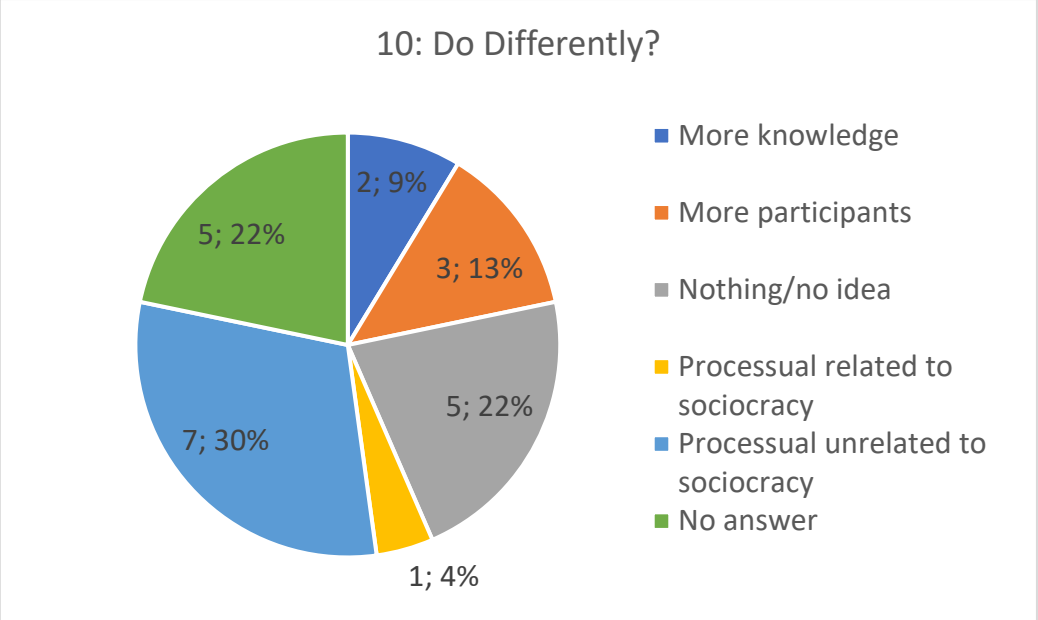


Table 12: Would you attend a similar permanent lab?

Table 12 shows the answers to the question would you attend a similar lab on a more official/permanent basis? Why or why not? This question is important because while the CCA labs were temporary, they were an attempt to demonstrate something that could be more permanent. A plurality of people answered that they would, with one remarking, “Yes! It's amazing to feel being part of the community and actually having a say.” Some of the reasons given by those who answered *no* include three respondents saying they are too busy, not being interested enough in the topic, and not having enough knowledge. Most of those who responded that it *depends* did not provide a reason, but one remarked they were retired while another said it would depend on their role.





Tables 13 & 14: Likes and what they would do differently.

As seen in Tables 13 & 14, there was quite a range of answers regarding what people liked, but with a big focus on how they enjoyed coming together in smaller groups to discuss a problem that was important to them. The participants in Lund emphasized their like of the problem/solution separation, which is notable because this was made more explicit during the introduction in Lund than in Veberöd. When asked what they would do differently, a plurality of answers revolved around processual issues unrelated to sociocracy, such as the fact that the municipal workers did not do the Lund introduction in English. Although one person did touch on something related to sociocracy, which was the fact that they found it tiresome to consent to every statement. Five people simply remarked that they either would change nothing or had no ideas, while five more left the question blank. Although a non-answer does not mean they would not change anything.

Acquired new perspectives	Creative	Engaged	Heard	Interested	Not sure about the process	Safe with the group leader
Active	Creative	Engaged	Holding back	Interested	Open	Satisfied
Appreciated	Creative	Fun	Informed	Interesting	Participating	Shy (at first)
Calm	Easy	Good	Inspired	Listened	Participatory	Tired
Challenged	Encouraged	Good	Inspired	Listener	Pleasant	Understood
Collaboration	Engaged	Good	Inspired	New thoughts developed	Positive	Unsure (that our proposal could/would be taken anywhere
Comfortable	Engaged	Good discussion	Interested	No answer	Positive	
Conversation	Engaged	Happy with suggestions	Interested	No answer	Rather focused	Useful

Table 15: Choose 3 words to describe how you felt during the workshop. The blue shade refers to positive feedback, the white to neutral and the red to negative.

Table 15 presents all the answers to the question asking people to describe how they felt during the workshop. Notably, only four out of the fifty-five responses are negatively coded: *holding back*, *not sure about the process*, *tired*, and *unsure (that our proposal could/would be taken anywhere)*. Contrastingly, *engaged* and *interesting/interested* came up five times each, and *creative*, *good*, and *inspired* three times each.

4.2 Sociocracy Interviews

The findings from the CCA labs are supplemented by a series of interviews. The subsequent text will summarize some of the patterns that emerged from the interviews on sociocracy. When asked about the general benefits of sociocracy, every expert touched on the advantages of incorporating multiple perspectives and distributing decision-making. While they emphasized how lessening power is good in its own right, they discussed how it also makes the organizations more responsive and creates feedback loops, ultimately leading to better policy. *Adaptive* is another word that was used frequently to describe this phenomenon. Furthermore, many experts also touched on how information flow between the groups also leads to better outcomes. They also pointed out how this creates a better environment because people simply like being heard, likewise this was connected to how this reality builds better connections and relations between people in an organization. It was also emphasized how this also creates better buy-in and ownership of projects.

Contrastingly, when asked about general drawbacks, nearly every expert—except for Ted Rau—discussed the fact that people are often reluctant to give up their clout or decision making power, with several highlighting how this makes it hard to implement sociocracy in

already existing structures. This is compounded by the fact that most highlighted the difficulties in getting people to take responsibility and embrace a willingness to change. Similarly, several discussed that it takes significant time and resources to understand sociocracy, with some highlighting how it can be rather jargony. The last two points were related by John Buck when he discussed how people used to be trained in school on techniques to run meetings and set up organizations but are now socialized into accepting top-down hierarchies.

The three experts that were Swedish were also asked about the benefits and drawbacks related specifically to the Swedish context. All three pointed out that Swedish society is used to incorporating flat structures and hearing people's opinions. Göran Falemo contrasted successful implementation in schools in Sweden with those in France, where they are more used to hierarchical structures. All also highlighted the lack of knowledge in Sweden of sociocracy, including a lack of literature on it in Swedish. Additionally, two out of the three-pointed to the so-called consensus culture in Sweden, which makes it challenging to get people to understand the distinction between consent and consensus. All interviewees also highlighted how the public sector in Sweden is not conducive to horizontal structures like sociocracy.

When asked more specifically about the effects of distributing power, all those who touched on this discussed power distribution and how it incorporates more voices into the decision-making process, leading to more holistic outcomes. Moreover, when asked how this applies to the context of participatory democracy, many experts referenced a series of cases in Taiwan, The Netherlands, India, and Sociocratic Neighborhood Circles, as well as their own circumstances. These cases provide examples of transformative possibilities. Ted Rau, Naya Tselepi, and municipal worker 1 stated this directly. Municipal worker 1, Naya Tselepi, and Andreas Johnsson also discussed the immense opportunity it provides to unite people and form a strong sense of place. Ted Rau, Andreas Johnsson, and Rolf Medina also discussed the benefits associated with the transparency of sociocracy, which is essential in a democratic setting.

Moreover, when asked about how the procedures of sociocracy affect implicit bias, privilege, and internalized inequality in these contexts, the six who spoke on this stated how the very act of people coming together to engage in topics eventually lessens these implicit biases and internalized inequalities. Particularly because sociocracy creates a safe space for

people to speak. Moreover, they emphasized that a facilitator can help to overcome this. A few speakers had anecdotes to back this up, including one from Mats Willers and Göran Falemo about a woman with Asperger who thanked Göran Falemo for finally being *seen* by the facilitator in a way uncommon for her. Many interviewees also provided practical advice on matters such as establishing sociocracy on a temporary basis and including the opinion of those outside the circle.

4.3 Participatory CCA Interviews:

As for the interviews on participatory CCA, all interviewees connected participation with engagement and agency, separating these two terms by suggesting that the former does not necessarily imply the latter. They joined the two by emphasizing the importance of enabling conditions that underly participation. They remarked that meaningful participation involves public engagement that is change-orientated and where participants maintain a high degree of agency.

The interviewees presented and described different approaches and methodological processes regarding stakeholder invitation and engagement. Martin Rokitzki questioned the motives behind invitations to participation, suggesting that invites usually come from organizations that can fund such events. He also pointed out that an organization that has power over resources also has power over who is invited and how decisions are made. The regional worker mentioned that from their experience, it is primarily professionals or people who are already interested in CCA that take part or are invited to these processes. On the other hand, Karin Adams described a different engagement process based on the concept of citizens assemblies, where random citizens are invited through a lottery system to participate in co-design processes. These disparate answers demonstrate the range of possible approaches to CCA participation.

Some interviewees related power to the experience and background of practitioners participating in participatory processes. In some instances, as the regional worker noted, practitioners with extensive experience in the field can have their voices heard over practitioners with less experience and especially women with less experience. This reality reinforces that gender dynamics require careful consideration. At the same time—as highlighted by Martin Rokitzki and Camilla Buenting—the individuals or groups that set the agenda for a participatory process hold much power over the other groups as they often have control of the discussion. Accordingly, the interviewees reinforced that consultation involves

some form of rigid power hierarchies related to those who set the agenda and limit voices that add to the discussion. All interviewees agreed on the importance of trust, with some suggesting that getting paid for delivering participatory processes goes against the fundamental element of trust since trust cannot be subject to economic value, and that is where institutionalized participation often fails.

Karin Adams and Martin Rozitzki also noted a deficit of participation, especially in developing contexts. They discussed participation as a privilege for more financially secure groups with more free time. For people struggling with multiple jobs and livelihoods, taking time off to participate in such initiatives is not an option. This reality is why Karin Adams suggested it is essential to provide financial incentives for these groups to attend events.

All interviewees agreed that there needs to be a systemic change and a value shift in order for participatory processes to generate a shift from an incremental towards a transformative path for CCA, although not all saw incremental as a necessarily counterproductive approach, rather a complementary one. The exchange of successful practices and the creation of networks between and within different contexts was one of the suggested ways forward. Viewing participatory processes as legitimizing political decisions is another way to incorporate participation in a more meaningful way in existing governance structures and to generate a shift of attitude towards climate change and public participation.

4.4 Public Participation in the Swedish Context

In order to draw appropriate conclusions about the transformative potential of the CCA labs in the Swedish context, it is first necessary to establish how CCA and public participation are presently undertaken in Sweden. The interviews and additional research helped establish a sufficient understanding of the current Swedish situation. Public participation in Sweden has its roots in the context of urban planning. Public participation in urban planning has been formalized through the Planning and Building Act (Sveriges Riksdag, 2010). Accordingly, legislation is also tied to how public participation for CCA is practiced.

CCA work takes place at all three levels of governance, the national, regional, and local levels. At the national level, directives are provided through the National Strategy for Climate Change Adaptation (Regeringskansliet, 2018). The two main pieces of legislation that guide CCA on the national level are the Planning and Building Act (2010) and the Swedish Environmental Code. The Ordinance (Sveriges Riksdag, 2018) on Agencies'

Climate Change Adaptation regulates the work of agencies and the twenty-one county administrative boards (Sveriges Riksdag, 2018). The Swedish Meteorological and Hydrological Institute (SMHI) compiles the reports conducted every five years by the responsible agencies and the county administrative boards and then reports their findings back to the Government. The Swedish National Center for Climate Change Adaptation, which the SMHI operates, is responsible for communicating to the public on topics related to CCA.

On a regional level, the county administrative boards, as national coordinating authorities, have the task of meeting the national goals regarding CCA, while also coordinating within and across county borders and coordinating regional emergency preparedness (Swedish Portal for Climate Change Adaptation 2021). These boards also provide municipalities with data for planning projects. Although the regions have no direct responsibility for CCA, there is an indirect link when it comes to their responsibility for regional development, especially when it comes to preparedness (Swedish Portal for Climate Change Adaptation 2021).

Municipalities in Sweden have an enhanced role concerning CCA. Since 2018 and through the National Strategy for Climate Change Adaptation (Regeringskansliet, 2018), local planning authorities in municipalities have been tasked with assessing the risks connected to climate change in their built environment. The overview plan, översiktsplan, is defined as a directive plan that sets the long-term goals for the development of the physical space of a municipality in Sweden (Sveriges Riksdag, 2010; Johan Ingvarsson, Interview, 2023; Henrik Hassel, Interview, 2023) in terms of land and water management as well as the built environment. As stated in the Planning and Building Act (2010), the overview plan should include proposals on how to mitigate risks stemming from floods, landslides, mudslides, and ground erosion and, in general, on how to mitigate climate-related threats. Public consultation, samrådet, is included as an established formalized procedure under the responsibility of each municipality for the overview plan proposal at the local level. This means that according to legislation, the consultation phase also applies to issues related to CCA that are included in the overview plan.

The legislation and the interviews with practitioners demonstrate that Sweden lacks a more specific framework for initiating participatory processes for CCA. The requirements for Swedish municipalities to approach adaptation have been clarified in recent years, where

prioritized risks have been specified in the first national climate adaptation strategy (Prop. 2017/18, p. 163). As stipulated, municipalities play a leading role in adapting to such risks, including incorporating relevant stakeholder perspectives—including citizens—and securing safe land use in a changing climate (Khakke, 2005). Swedish municipalities have extensive autonomy, in particular regarding urban planning, where traditions of citizen participation in planning have been formalized through national legislation such as the Planning and Building Act (Sveriges Riksdag, 2010).

As indicated by Johan Ingvarsson and municipal workers 2 and 3 (Interviews, 2023), participatory processes are more likely to take place in the later stages of the planning process. Consequently, the public is presented with pre-generated plans rather than having an input in the creation of the plans in a co-creative manner, as indicated by Henrik Hassel (Interview, 2023):

> "It's usually in smaller villages where [they] have something called dialogue and they sort of try to listen to the inhabitants in the village and pick up on their views and what they think and then they transfer it. Quality and they sort of appeal if they are not satisfied with the plan that the municipality proposed, they appeal and come with arguments written in text basically."

Moreover, participatory processes, whether the input is in person or not, focus primarily on new development and not extending to CCA more explicitly, signifying that a prominent socio-environmental issue, such as the adaptation of communities to a shifting climate, is not explicitly a subject open to deliberation.

Various scholars (Glaas et al., 2022; Kiss et al., 2021; Wamsler et al., 2019) bring forth the issue of the lack of interest on behalf of the public to actively engage and attend participatory meetings initiated on the local level by local authorities. Johan Ingvarsson (Interview, 2023) confirmed the above:

> "It's almost like the handful of individuals who come to our meetings who provide their view on things, it's always the same people. I can already tell that next time we will have an information meeting about development in one of our villages, I can already now pinpoint that I expect to see this man, this woman, that man, and that one. And they will say about this. And they will provide us with the following. So, because there are so few people involved, although these meetings and these kinds of engagements are open to everyone in the public there is always a very few numbers of

selected individuals who typically attend and respond to these invitations, and that is a challenge."

The above statement summarizes a fundamental issue with participation in Sweden, also voiced during the CCA labs in Veberöd and Lund. People feel that their opinions do not matter and that they are merely consulted on pre-made decisions. Wamsler et al. (2020) argue that public engagement with CCA often leads to counterproductive results. This is an outcome of three main factors: i) The lack of capacity on behalf of the municipality to initiate an enabling environment for meaningful participation, ii) the power structures in place related to the political sphere and its influence in decision-making and iii) barriers on an individual or community level, such as the lack of the element of trust between officials politicians and the general public, internal community conflict, lack of public awareness, the perception that individuals' input does not matter and embedded social power structures (Wamsler et al., 2020; Ingvarsson, Interview, 2023; Hassel, Interview, 2023).

The perception that peoples' voices do not matter and are not a factor that initiates transformative change can be found in another aspect of how CCA is practiced in the local Swedish context, and that is a highly technocratic approach that emphasizes hard solutions:

> "In some respects, you have a lot of active citizen participation where you are invited as a citizen and you're able to provide your feedback, your comments, your thoughts, your ideas. But on the other hand, the final decisions are made by politicians. So, there is obviously, and that you know that that that's a general rule of thumb, you have different kinds of potential influence also depending on what kind of societal development you're discussing. For example, climate change. That's a rather technical perspective. That's a technical aspect of how to manage the future of climate change. It comes down to, you know, how to manage rising sea levels, for example, that's typically not what people are involved in." (Ingvarsson, Interview, 2023).

The above statement reveals three significant issues related to participation and climate change adaptation. To begin with, participation can involve a wide spectrum of public engagement modes, and thus it is ill-defined, allowing for a broad range of interpretations of its aim and what it entails and what methodologies are used to involve the public in decision-making. Additionally, this loose framework that labels participation as part of the general development plans for the local level allows for powerful actors to dominate the framing and implementation of participatory activities, and thus, mere consultation that

does not impact development processes is a prevalent general approach. Finally, the belief that participation is a lengthy and resource-exhausting process that stalls development processes and generates more barriers than it brings down in the municipal context paves the way for a technocratic-oriented approach to CCA governance. In addition, adaptation becomes equivalent to a hard-solution approach for decision-makers, with soft approaches not making the policy-making agenda. This one-sided technocratic and engineering-oriented approach to CCA seems to significantly hinder attempts to generate a more participatory environment in three main ways: either by not recognizing and acknowledging the public's capacity to provide input as experts of their local environment (Meriluoto & Kuokkanen, 2022), by perceiving the public as non-experts in engineering solutions and thus not eligible for having any say in the co-creation of hard solutions and finally by not looking into participatory channels beyond merely a consultative approach.

One cannot argue that participation does not occur in the Swedish CCA context. It is legislated for, rooted in the planning tradition of the country, and practiced through various forms and methodologies. However, by looking back and relating the existing conditions to Arnstein's model of the ladder of participation, it is evident through the current legislation, the performed interviews, the lab participants' expressed disbelief in existing participation processes and the existing literature on the topic that despite certain more individual-led efforts to divert from the norm, the state of participation for climate change adaptation in the Swedish local context lies somewhere in the middle of the ladder—as shown in Figure 5—rather than the high end, indicating that the legislative framework regarding climate change adaptation and participation, the mostly technocratic approach and the prevalent power structures might hinder a more meaningful form of public participation where peoples' voice plays a significant role towards the direction of transformative CCA.

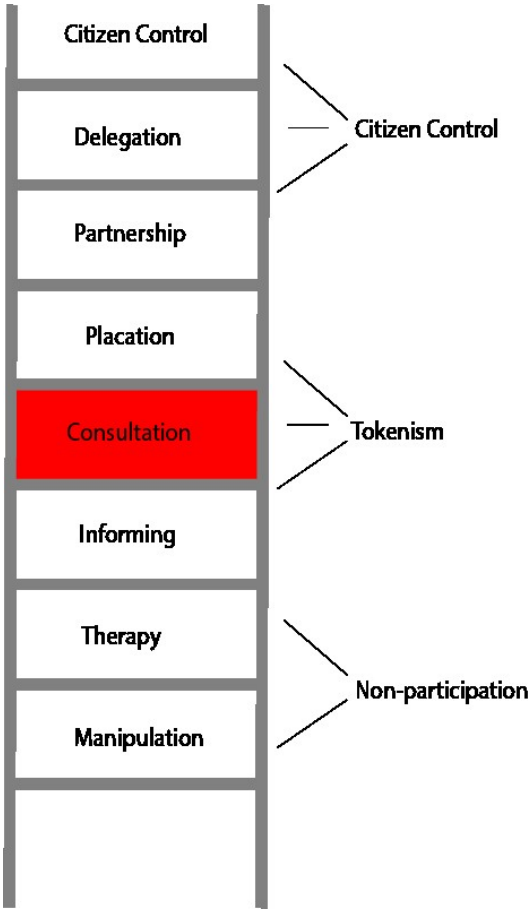


Figure 5: The Ladder of Participation in Sweden currently (Own-edit adapted from Arnstein, 1969, p. 217)

Relating to Gaventa's model of the *power cube*, although participation in the context of CCA revolves around *invited spaces*, these spaces resemble institutionally led processes, and the whole decision-making structure is closer to what Gaventa frames as *closed spaces*. There, hidden and invisible power is the predominant form of power diffused at the local level, as actual decisions on climate change adaptation are made behind closed doors, and the interplay between local governments and powerful actors sets barriers to a participation-initiated transformative approach to the issue.

5. Discussion

The subsequent section will relate the findings from the results chapter to the main points from the theoretical background section in an attempt to answer the two research questions. It will also explore some of the limitations of those findings.

5.1 Answering the Research Questions

The two questions of to what extent can a CCA lab be a space for transformative change? And how do the principles of sociocracy affect the processes of the lab? Guided the research for this thesis. In the theoretical background, we established that uncontested exercises and structures of visible and invisible power—particularly ones that restrict voice and deliberation—limited the transformational potential of created spaces in the past. This was also tied to the framing effect, a lack of co-creation, agenda-setting decisions, and the question of whether "conditions [are] present that allow the voice, presence, and worldview of marginalized people to be guaranteed?" (Palacios, 2016, p. 360). Conversely, it was established that if the proposed CCA labs are to act as a space for transformational change, the systemic setup must motivate this desired broad-based voice, collaboration, and deliberation from the bottom-up. This nexus is where the two guiding research questions come together, as it begs the question of whether sociocracy can be a part of facilitating this systemic arrangement. Any indication from the survey results that the labs did not manage these pre-conditions would require the researchers to deem the labs incompatible with transformational change.

However, as the results section demonstrated, attendees of the CCA labs overwhelmingly reported feeling that their voices and ideas mattered and that their thoughts were sufficiently incorporated into the dialogue. Although these processes are not without their shortcomings, the systemic setup still incentivized and allowed for the voice, presence, and worldview of marginalized people to be guaranteed. In other words, although men do not suddenly stop interrupting women, the sociocratic methodology provides a foundation for facilitators to challenge these practices in favour of more favourable ones like listening. The systemic setup incentivized behaviours conducive to a more transformational potential. Moreover, the mere fact of having to reach a state of consent means that cooperation is incentivized if one wants to have their ideas incorporated (Rau & Koch-Gonzalez, 2018). As one respondent reported, when asked if conflicts were dealt with appropriately:

> "conflicts did not occur. Each participant waited her or his turn. A couple of times someone blurted out an idea but he or she was politely asked to wait his or her turn."

Quotes like this reinforce the notion that the desired type of behaviour should be motivated by the systemic setup rather than pushing individual actors or having more representative rooms. As the interviewed municipal worker 1 noted, "that's the [positive] kind of engagement that happens when you start something like more of a sociocratic system of listening, because it's not just about how you're telling people, it's how you're listening to people…the proposal creation system like it is marginally genius and it just it comes out so everybody's voice is in there" (Municipal Worker 1, Interview, 2023).

The practice of speaking in turn also influences the framing effect. Recall that Chambers (2021) asserts that appropriately participatory mini-publics can act as better truth-tracking devices. If truly everyone is legitimately heard, then it follows that a broader range of opinions will be aired as well, ones that genuinely reflect the systemic nature of CCA. Within sociocracy, people can raise what gets on the agenda at every stage of the process. Presently, Swedish residents are predominately called on to consult on pre-developed plans of action, whereas this methodology would involve co-creation at every stage. As an example, while discussing the labs with the Lund municipal workers, they remarked that the citizens often reject municipal proposals for more trees, but one of the proposals that came out of the lab in Veberöd was to plant more trees along the riverbank. Likewise, there were several discussions about transformative nature-based solutions and deep community-building activities due to an identified need for increased community resilience. The broad range of topics discussed in these temporary spaces demonstrates the transformative potential of these deliberations, particularly if they were made permanent.

An obvious objection here is that CCA is complicated and that people do not have enough knowledge to take appropriate actions. However, on the more theoretical side, handing over legitimate power to citizens is plainly predicated on the idea that they are competent and know their context best (Gerwin, 2018). Moreover, any lack of knowledge is supplemented by the lab acting as a space to bring together municipal workers, experts, and the lay public. Although the critical difference here versus other spaces is that these actors are just *one amongst many equals*. As Municipal Worker 1 pointed out, "it doesn't matter who you are, you have to wait your turn" (Municipal Worker 1, Interview, 2023). The same interviewee had a story about a municipal politician walking into a participatory space—prior

to the implementation of sociocracy— and the conversation shut down. However, after the implementation of sociocracy, the same person entered the same room, but they reported that the atmosphere did not change at all (Municipal Worker 1, Interview, 2023). This story, along with the experiences from the Lund CCA labs, demonstrates how horizontal structures can lessen the stranglehold on power certain actors have in these spaces.

Nonetheless, in the book *Many Voices One Song* (2018) Ted Rau and Jerry Koch-Gonzalez caution that sociocracy alone is not enough to overcome implicit bias, privilege, and internalized inequality. Even if the processes incentivize productive behaviour, it takes time and effort to unlearn entrenched, implicit behaviours (Cole, 2018). Nonetheless, when asked how this can be overcome, sociocratic expert Naya Tselepi simply stated, "let people talk" (Tselepi, Interview, 2023). Similarly, nearly every other sociocratic expert emphasized that despite not being a silver bullet, providing space for people to safely speak in this way is an appropriate place to start. Another example of this came from the lab organized in Lund. Prior to the event, one of the attendees was insecure about whether they would have enough knowledge or input in the process. However, during the circle phase, they were one of the most dynamic and input-providing participants, and they remarked afterwards that the conversations generated novel ideas for them.

Not only did these processes incentivize cooperation and voice, but a plurality of people also said that the discussions were their most liked aspect of the labs. A respondent from the lab in Veberöd described it as "overall, calm, methodical, everyone had the opportunity to express themselves". Previously, deliberation was described as "mutual communication that involves weighing and reflecting on preferences, values and interests regarding matters of common concern" (Bächtiger et al., 2018, p.2). In order for these processes to occur, people must be able to actually have room to express those preferences, values, and interests, as described before. Moreover, recall that if people do not feel like they are being heard, they disengage from these processes (Fenton et al., 2016). Contrastingly, *engaged* and *interested/interesting* were the two most popular words chosen to describe the lab by participants. One person remarked they "felt like working as one, the group". Another participant interrupted proceedings at the start to ask why we were even bothering with this project, as citizens in Sweden have no say. However, by the end, his facilitator remarked that he was one of the most engaged members of his circle. The fact that most people said there were either no conflicts or that they were dealt with appropriately only strengthens the case for an engaged, cooperative atmosphere. Moreover, in the interviews, several experts,

including Naya Tselepi and Mats Willers, suggested that one of the strengths of sociocracy is that disagreements and objections are encouraged and seen as a part of the process, furthering the argument for its compatibility with the principles of deliberation.

There is also a strong correlation between deliberation and co-creation (Floridia, 2014), and in the past participatory spaces have been limited by a lack of sufficient co-creation. Unlike the Irish citizen's assembly, a foundational characteristic of sociocracy is that the members of each circle must decide on its aim. This—deliberative—co-creation is the reality for the whole lab as well as each individual circle. Moreover, those within the circles decide how often to meet, where to meet, what gets on the agenda, etc. The possibilities are vast, but importantly the structural co-creation process of sociocracy would limit the hidden agenda-setting powers that have limited the transformational potential of these spaces in the past.

Just as deliberation is a way to deal with complexity, so too are the iterative learning functions that come out of this. In contrast to the failures of projectatizing CCA, work done by Fisher et al. (2022) and Swart et al. (2014) has shown that iterative processes are vital to avoid maladaptation. Ultimately, the iterative nature of a permanent, sociocratic lab would allow *mistakes* to become *learnings* rather than maladaptation. The sociocratic moniker of "good enough for now, safe enough to try" (Rau & Koch-Gonzalez, 2018, p. 85) provides space for both experimentation, but also monitoring, evaluation, and learning. Moreover, sociocracy strengthens this iterative potential by establishing feedback loops. Rolf Medina and John Buck emphasized how organizations become too static without horizontal structures with feedback loops. John Buck describes this reality by outlining a conversation he had with a colleague:

> "He said, 'as an electronics engineer, I would never design a power structure the way. This company is set up for the board and a director and people working for them.' He said, 'there's no feedback loop you can't ignore.' So, in principle, it's not easy to steer. No worries, because you know, if you're driving in a car, you don't want to close your eyes because that removes your feedback. This allows management to close their eyes. Hence Sears and Kodak. And so, the circle structures build a [situation] where there's a chain of command. You also have a chain of consent. And circle structure gives you the chain of consent, which is the feedback loop and so it's all very good cybernetic engineering." (John Buck, interview, 2023)

The reference to Sears and Kodak refers to an earlier example provided by him, wherein Sears and Kodak lost significant market share because of their inability to respond to a shifting reality. This dynamic quality matches the dynamic, shifting reality of adapting to a wicked problem like climate change.

Moreover, these permanent structures could not only act as a spot for iterative learning, but their permanent nature provides an opportunity for increased networking and relationship building. The interview with Municipal Worker 1 revealed many examples of this possibility, including the example of a city where all the advocacy groups united using sociocracy, which allowed them to build networks and streamline their work, removing redundancies and improving outcomes (Municipal Worker 1, interview, 2023). This relational reality corresponds to the question of whether CCA labs can act as a space for transformational change because emergence happens through connections. As was established in the theoretical background, it is unlikely that transformational change will emerge from disconnected, top-down systems. Contrastingly, by building connections, the transformational potential increases. Ultimately, aligning participatory systems more with complexity and systems thinking increases the possibility that they will generate transformational outcomes compatible with the complex, systemic challenge of adapting to climate change.

To directly answer the question of "to what extent can a climate change adaptation lab act as a transformational change," it is useful to return back to the prescriptive definition of transformational change provided by Gaventa (2006), who argues it happens

> "when [social movements or social actors] are able to link the demands for opening previously closed spaces with people's action in their own spaces; to span across local and global action, and to challenge visible, hidden and invisible power simultaneously" (Gaventa, 2006, p. 30).

The sociocratic CCA-labs serve both as a direct challenge to some of the hidden and invisible structures of power that have limited created spaces in the past, but also as a safe space for actors within them to challenge other expressions of visible, hidden, and invisible power. Although that is not to suggest these functions are mutually exclusive. On the contrary, the two are highly interconnected and supplementary as the degree of receptivity to subversive outlooks is structurally bound, meaning if the voice of marginalized peoples is guaranteed, the ability to challenge outside power is increased, thereby increasing the transformative

potential (Lukes, 2021). While it is difficult to draw out exactly what is the CCA lab generally versus sociocracy specifically, with respect to the second research question, the previous section demonstrated that sociocracy could sufficiently secure the voice of participants and enable consent, collaboration, and deliberation, thereby bolstering the transformative possibility of the space.

Additionally, the proposed CCA labs would act as a space to open up a previously closed one. One of the most significant barriers to transformational change is that the perspective governments tend to favour is their own, including participatory spaces. As pointed out previously, in relation to Arnstein's model, Sweden is currently around the position of consultation. Consultation is part of what Arnstein classifies as degrees of tokenism. Tokenism implies that although voices are expressed, they are seldom considered and fail to make a difference. Whereas the CCA lab brought forward something more akin to delegated power or citizen control, wherein the participants co-create and have legitimate influence over decisions, as seen in Figure 6. This shift from consultation to citizen control would mean opening up a previously closed space and, per the Gaventa definition, contribute to transformational change.

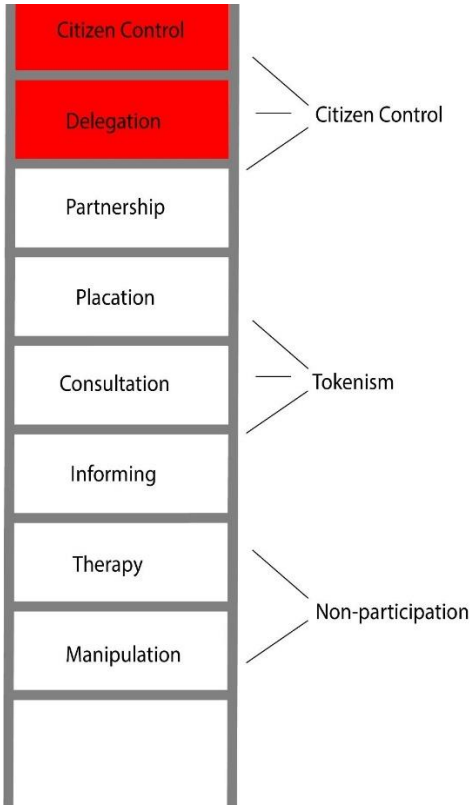


Figure 6: The Ladder of Participation if Sweden implemented CCA labs (Own-edit adapted from Arnstein, 1969, p. 217)

5.2 Limitations

While the CCA lab successfully demonstrated a way to overcome governments' preference for themselves in participatory spaces, it could not challenge what would happen outside of it. Accordingly, the most prominent limitation of these findings is the fact that the suggestions that come out of the lab would only be valuable to the extent the government allowed them to be. While, ideally, a CCA lab would have binding decision-making powers, governments are reluctant to hand over such power. The majority of sociocratic experts likewise emphasized that a barrier to implementing sociocracy is an unwillingness of those in established structures to relinquish that power. Although, while the lack of binding decision-making capabilities limited some spaces like the Irish Citizen's Assembly, some ULLs have still produced transformational outcomes (Bulkeley et al, 2019; Moreira et al. 2022). Nonetheless, the transformational potential remaining contingent on this gatekeeping feature of a closed space remains an obstacle.

Anytime a study is done at this scale, there are also questions about whether these findings are scalable to a larger space on a more permanent basis. One of these unknowns is whether enough people would attend on a more permanent basis. Even from those who attended the CCA labs, only a plurality of people said they would attend on a more permanent basis. As Karin Adams (Interview, 2023) pointed out, participation is a civil right, but at the same time, it becomes a privilege. She went on to elaborate that peoples' daily lives can be a struggle, leaving no time, energy or resources to be politically active and engage in initiatives related to planning, climate change and participation:

> "I think compensation is very important for you to assure that there is participation from people that usually don't participate because participation is a privilege to be able to engage politically. If you're running, if you're working three jobs. You're exhausted. You won't voluntarily sign up for anything, so I think an active effort to recruit and also give the material conditions for these people to participate is really important".

Ted Rau (interview, 2023) expressed similar concerns by calling into question whether establishing sociocracy in a larger participatory space would be viable given larger societal forces limiting participation. Nonetheless, given how much of Sweden's participatory processes have been at the level of tokenism—and people are known to withdraw when they know they cannot have a meaningful impact—it is possible that with more control more

public interest would come. Nonetheless, this aggregating potential remains unknown unless it is tested in real life.

Finally, looking at the demographics of those who did attend, another limitation is that there was an attempt to exemplify a space that could secure the voice of marginalized people using a majority white men. Although, this reality did provide an opportunity to test if the systemic setup could restrict their usual dominance. While the surveys did show this was the case, research by Cole (2018) demonstrates that these entrenched biases take time to unlearn. Likewise, the interviews highlighted that so too does learning sociocracy, although the surveys demonstrated that people valued these processes. Nevertheless, relying on surveys distributed directly after the event also limits the time for deep reflection and subsequently their usefulness. Similarly, testing something on an impermanent basis that is intended to be permanent also limits the findings. This latter point also necessitated interviews to supplement findings that could not be illustrated by the impermanent labs, which is another limitation of the findings as the challenges that would emerge from a permanent space remain unknown.

6. Conclusion

This thesis did not intend to contribute to the debate on whether societal transformations are needed to confront climate change. Instead—building off substantial scholarship suggesting it is necessary—it attempted to develop a structure that could be a part of this new horizon. Previous work on ULLs, sociocracy, power, public participation, and complex systems theory informed the idea for a sociocratic CCA lab. From this theoretical foundation, the researchers conceptualized, established, and tested a CCA lab run using sociocracy in order to answer the research questions. Interviews with experts on public participation and CCA, sociocracy, and the Swedish context also supplemented these findings. These discussions and the CCA labs answered whether a permanent structure could act as a space for transformational change and how sociocracy affected this.

Employing Gaventa's (2006) description of transformational change, this thesis concluded that a CCA lab run using sociocratic principles could contribute to transformational change. If implemented, the proposed labs could serve as a space to challenge all forms of power by acting as a created space that opens a previously closed one. This opening up was illustrated as shifting Sweden along Arnstein's (1969) ladder of participation away from tokenism towards citizen control, which increases voice, deliberation, and other processes shown to increase transformational potential. At the same time, sociocracy adds to this potentiality by constituting a systemic set-up that limits the counter-productive forms of hidden and invisible power that have restricted the transformational potential of analogously created spaces in the past.

The authors of this thesis are aware of the heady conclusions they have reached, given the relatively limited scope of their research. Accordingly, it would be worth investigating if the findings of this paper are scalable, replicable, and adaptable to different contexts. In other words, while the scope bounds the applicability of the findings, they can serve as a starting off point for further research. Moreover, there is a recognition that if implemented at scale, there undoubtedly would be unknown challenges that would emerge. For instance, while the survey results suggest sociocratic processes can provide a systemic foundation for securing the voice of marginalized peoples, research showing that these processes take time to unlearn suggests complications could emerge. If these complications materialized, then subsequent research on how to adapt sociocracy to overcome them would be appropriate. Moreover, several interviewees highlighted that under current societal conditions, getting sufficient

attendance at the labs would represent a challenge. How to achieve the systemic change necessary so people feel compelled to attend such labs is also an area worth further research.

Nonetheless, the hope is that the conclusions of this paper can push the conversation forward toward more novel participatory solutions to CCA. Particularly in contexts—such as Sweden—where consultative processes rarely ever involve true citizen control. While the saying often goes that there is no need to reinvent the wheel, decades of tokenistic or non-participatory public outreach, combined with the abject failure of countries in the Global North to meet the demands of the climate crisis, demonstrates that perhaps there is a need to reinvent the wheel. However, that is not to recommend starting entirely from scratch either, as it is worth learning from (un)successful attempts in the past, hence the original inspiration from ULLs combined with the novel use of sociocracy. This innovative nexus of taking the concept of ULLs from urban planning and applying it to CCA, while also combining it with sociocracy to establish a space for transformational change—all within the Swedish context—constitutes the most significant contribution to the field of CCA that this thesis makes.

As global temperatures move past the 1.5-degree Celsius threshold, societies around the globe will move into uncharted territories concerning the consequences of climate change, signalling a new era of adaptation efforts. Many communities require a different adaptation pathway that will challenge existing systemic approaches. Transforming how communities in places like Sweden practice participatory adaptation could represent a significant stepping-stone towards a more climate-resilient future.

References

Age Niels Holstein, B. (n.d.). *GRaBS Expert Paper 2 participation in climate change adaptation*. http://www.grabs-eu.org

Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. Journal of public administration research and theory, 18(4), 543–571.

Aries, E. (1976). Interaction patterns and themes of male, female, and mixed groups. Small group behavior, 7(1), 7–18.

Arnstein, S. R. (1969). A ladder of citizen participation. Journal of the American Institute of planners, 35(4), 216-224.

Atallah, D. G., Bacigalupe, G., & Repetto, P. (2021). Centering at the margins: Critical community resilience praxis. *Journal of Humanistic Psychology*, *61*(6), 875-905

Ayers, J. M., Huq, S., Faisal, A. M., & Hussain, S. T. (2014). Mainstreaming climate change adaptation into development: a case study of Bangladesh. *Wiley Interdisciplinary Reviews: Climate Change*, *5*(1), 37-51.

Bächtiger, A., Dryzek, J, S., Mansbridge, J. & Warren, M, E. (2018). *The Oxford Handbook of Deliberative Democracy*. Oxford University Press. Oxford

Bachrach, P., & Baratz, M. S. (1962). Two Faces of Power. *The American Political Science Review*. 56(4), 947-952. https://www.jstor.org/stable/1952796

Bakewell, O., & Garbutt, A. (2005). *The Use and Abuse of the Logical Framework Approach: A Review of International Development NGOs' Experiences.* Sida.

Baines, D. (2010). Gender mainstreaming in a development project: intersectionality in a post-colonial un-doing?. *Gender, Work & Organization*, *17*(2), 119–149.

Becker, P. (2014). *Sustainability Science: Managing risk and resilience for sustainable development*. Elsevier.

Beck, S., Borie, M., Chilvers, J., Esguerra, A., Heubach, K., Hulme, M., ... & Görg, C. (2014). Towards a reflexive turn in the governance of global environmental expertise. The cases of the IPCC and the IPBES. *GAIA-Ecological Perspectives for Science and Society*, *23*(2), 80-87.

Benschop, Y., & Verloo, M. (2006). Sisyphus' sisters: Can gender mainstreaming escape the genderedness of organizations?. *Journal of Gender studies*, *15*(1), 19-33.

Bentz, J., O'Brien, K., & Scoville-Simonds, M. (2022). Beyond "blah blah blah": exploring the "how" of transformation. *Sustainability Science*, *17*(2), 497–506.

Beramendi, Virginia., Angeyo, J. Somalie., & International Institute for Democracy and Electoral Assistance. (2008). *Direct democracy: the International Idea handbook*. International IDEA.

Berdahl, J. L., & Anderson, C. (2005). Men, women, and leadership centralization in groups over time. *Group Dynamics: Theory, Research, and Practice*, *9*(1), 45-57.

Berkes, F., Colding, J., & Folke C. (2009). Introduction. In Berkes, F., Colding, J., & Folke, C. (Eds.). *Navigating social-ecological systems: building resilience for complexity and change* (pp. 1-30). Cambridge university press.

Blaikie, N. (2010). *Designing Social Research: The Logic of Anticipation*. Polity Press.

Blessing, L. T. M., & Chakrabarti, A. (2009). *DRM, a design research methodology* Springer London.

Blezer, S., & Abujidi, N. (2021). Urban Living Labs and Transformative Changes: A qualitative study of the triadic relationship between financing, stakeholder roles, and the outcomes of Urban Living Labs in terms of impact creation in the city of Groningen, the Netherlands. *Technology Innovation Management Review*, *11*(9/10), 73-87.

Blue, G. (2015). Public deliberation with climate change: opening up or closing down policy options?. *Review of European, Comparative & International Environmental Law*, *24*(2), 152–159.

Blum, L., & Smith, V. (1988). Women's mobility in the corporation: A critique of the politics of optimism. *Signs: Journal of Women in Culture and Society*, *13*(3), 528–545.

Blythe, J., Silver, J., Evans, L., Armitage, D., Bennett, N. J., Moore, M. L., ... & Brown, K. (2018). The dark side of transformation: latent risks in contemporary sustainability discourse. *Antipode*, *50*(5), 1206-1223.

Bodin, Ö., Alexander, S. M., Baggio, J., Barnes, M. L., Berardo, R., Cumming, G. S., ... & Sayles, J. S. (2019). Improving network approaches to the study of complex social–ecological interdependencies. *Nature sustainability*, *2*(7), 551-559.

Braams, R. B., Wesseling, J. H., Meijer, A. J., & Hekkert, M. P. (2021). Legitimizing transformative government: Aligning essential government tasks from transition literature with normative arguments about legitimacy from Public Administration traditions. *Environmental Innovation and Societal Transitions*, *39*, 191-205.

Brink, E., & Wamsler, C. (2018). Collaborative governance for climate change adaptation: mapping citizen–municipality interactions. *Environmental Policy and Governance*, *28*(2), 82-97.

Brower, T. (2016). Visibility and the Workplace Experiences of Trans Persons in the United States. In Köllen, T (Ed.), *Sexual Orientation and Transgender Issues in Organizations: Global Perspectives on LGBT Workforce Diversity* (pp. 149–166). Springer Press.

Byrne, S., Kalbfleisch, L., & Fortune, D. (2022). Neighbourhood associations may promote belonging, but for whom? World Leisure Journal, 64(4), 530–550. https://doi.org/10.1080/16078055.2022.2099453

Buck, J., & Villines, S. (2016). We the people: Consenting to a Deeper Democracy. *Journal of Business Thought*, 129-131.

Bulkeley, H., Coenen, L., Frantzeskaki, N., Hartmann, C., Kronsell, A., Mai, L., ... & Palgan, Y. V. (2016). Urban living labs: governing urban sustainability transitions. *Current opinion in environmental sustainability*, *22*, 13-17.

Bulkeley, H., Marvin, S., Palgan, Y. V., McCormick, K., Breitfuss-Loidl, M., Mai, L., ... & Frantzeskaki, N. (2019). Urban living laboratories: Conducting the experimental city?. *European urban and regional studies*, *26*(4), 317-335.

Buono, F., Pediaditi, K., & Carsjens, G. J. (2012). Local community participation in Italian national parks management: Theory versus practice. *Journal of Environmental Policy & Planning*, *14*(2), 189-208.

Bulkeley, H., Coenen, L., Frantzeskaki, N., Hartmann, C., Kronsell, A., Mai, L., ... & Palgan, Y. V. (2016). Urban living labs: governing urban sustainability transitions. *Current Opinion in Environmental Sustainability*, *22*, 13-17.

Burton, P. (2004). Power to the people? How to judge public participation. In *Local Economy* (Vol. 19, Issue 3, pp. 193–198). https://doi.org/10.1080/0269094042000253608

Byrne, S., Kalbfleisch, L., & Fortune, D. (2022). Neighbourhood associations may promote belonging, but for whom?. *World Leisure Journal*, *64*(4), 530-550.

Campanella, R. (2018). Settlement shifts in the wake of catastrophe. In M. J. Zakour, N. Mock, & P. Kadetz (Eds.), *Creating Katrina, Rebuilding Resilience: Lessons From New Orleans on Vulnerability and Resiliency (pp. 25-44).* Kidlington: Butterworth-Heineman

Campbell, D.T. (1975), Degrees of freedom and the case study, Comparative Political Studies, 8 (July), 178-193.

Canedo, E. D., Mendes, F., Cerqueira, A., Okimoto, M., Pinto, G., & Bonifacio, R. (2021). Breaking one barrier at a time: how women developers cope in a men-dominated industry, *Brazilian Symposium on Software Engineering*, 378-387.

Capra, F., & Luisi, P. L. (2014). *The systems view of life: A unifying vision*. Cambridge University Press

Carson, L. (2013). How not to introduce deliberative democracy: the 2010 citizens' assembly on climate change proposal. *The Australian Citizens' Parliament and the Future of Deliberative Democracy*. 284–288.

Cattino, M., & Reckien, D. (2021). Does public participation lead to more ambitious and transformative local climate change planning?. *Current opinion in environmental sustainability*, *52*, 100-110.

Cavallo, A., & Ireland, V. (2014). Preparing for complex interdependent risks: A System of Systems approach to building disaster resilience. *International Journal of Disaster Risk Reduction, 9*, 181–193.

Chambers, S. (2021). Truth, deliberative democracy, and the virtues of accuracy: is fake news destroying the public sphere?. *Political Studies*, *69*(1), 147–163.

Childs, S., & Krook, M.L. (2008). Critical mass theory and women's political representation. *Political studies*, *56*(3), 725–736.

Chronéer, D., Ståhlbröst, A. & Habibipour, A. (2018). Towards a Unified Definition of Urban Living Labs. *The ISPIM Innovation Conference – Innovation, The Name of The Game, Stockholm, Sweden* on 17-20 June 2018. http://www.diva-portal.org/smash/get/diva2:1230360/FULLTEXT01.pdf.

Cockburn, C. (1989). Equal opportunities: the short and long agenda. *Industrial relations journal*, *20*(3), 213–225.

Cohen, D. A. (2020). Confronting the urban climate emergency: Critical urban studies in the age of a green new deal. City, 24(1–2), 52–64. https://doi.org/10.1080/13604813.2020.1739435

Cole, A., & Thakore R. (2021). Oceans in Peril: The global state of the ocean. In Arkbound Foundation (Eds.), *Climate Adaptation: Accounts of Resilience, Self-Sufficency, and Systems Change* (pp. 31-45). Arkbound Press

Cole, K. (2018). Thinking through race: White racial identity, motivated cognition and the unconscious maintenance of White supremacy. *Politics, Groups, and Identities*, *6*(2), 181-198.

Collins, P.H. (2017). The Difference That Power Makes: Intersectionality and Participatory Democracy. *Investigaciones Feministas*, *8*(1), 19-39.

Copernicus. (2023). Copernicus and WMO: July 2023 is on track to be the hottest month on record. Retrieved from: https://climate.copernicus.eu/copernicus-and-wmo-july-2023-track-be-hottest-month-record. [Accessed: 2023.08.01]

Cooperrider, D, L. & Srivastva, S. (1987). Appreciative Inquiry in Organizational Life. *Research in Organizational Change and Development*, 1, 129-169.

Courant, D. (2021). Citizens' Assemblies for Referendums and Constitutional Reforms: Is There an "Irish Model" for Deliberative Democracy?. *Frontiers in Political Science*, 14.

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: a black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum, 1989*(1), 139–68.

Creswell. J.W. (2013). *Qualitative Inquiry and Research Design: Choosing Among FiveApproaches*. SAGE Publications, Inc

Curato, N., Dryzek, J. S., Ercan, S. A., Hendriks, C. M., & Niemeyer, S. (2017). Twelve key findings in deliberative democracy research. *Daedalus*, *146*(3), 28-38.

Cuthill, M., & Fien, J. (2005). Capacity building: Facilitating citizen participation in local governance. *Australian Journal of Public Administration*, *64*(4), 63–80.

Cvitanovic, C., Howden, M., Colvin, R. M., Norström, A., Meadow, A. M., & Addison, P. F. E. (2019). Maximising the benefits of participatory climate adaptation research by understanding and managing the associated challenges and risks. In Environmental Science and Policy (Vol. 94, pp. 20–31). Elsevier Ltd. https://doi.org/10.1016/j.envsci.2018.12.028

Dahl, R.A. (1989). *Democracy and its critics*. New Haven, CT: Yale University Press

Davies, A. R., Castán Broto, V., & Hügel, S. (2021). Editorial: Is There a New Climate Politics. *Politics and Governance*, *9*(2), 1-7.

Dazé, A., Percy, F., & Ward, N. (2022). CARE Climate Change: Adaptation Planning with Communities - Practitioner Brief 1. https://reliefweb.int/report/world/care-climate-change-adaptation-planning-communities-practitioner-brief-1

Devaney, L., Torney, D., Brereton, P., & Coleman, M. (2020). *Deepening Public Engagement on Climate Change: Lessons from the Citizens' Assembly* (Report No. 314). EPA Research. https://www.epa.ie/publications/research/climate-change/research-314-deepening-public-engagement-on-climate-change-lessons-from-the-citizens-assembly.php

Dryzek, J. S., Bächtiger, A., Chambers, S., Cohen, J., Druckman, J. N., Felicetti, A., ... & Warren, M. E. (2019). The crisis of democracy and the science of deliberation. *Science*, *363*(6432), 1144-1146.

Dryzek, J. S., & Niemeyer, S. (2019). Deliberative democracy and climate governance. In *Nature Human Behaviour* (Vol. 3, Issue 5, pp. 411–413). Nature Publishing Group. https://doi.org/10.1038/s41562-019-0591-9

Druckman, J. N., & Nelson, K. R. (2003). Framing and deliberation: How citizens' conversations limit elite influence. *American journal of political science*, *47*(4), 729-74.

Eckstein, J. (2016, May). Sociocracy: An organization model for large-scale agile development. In *Proceedings of the Scientific Workshop Proceedings of XP2016* (pp. 1-5).

Eriksen, S. H., Nightingale, A. J., & Eakin, H. (2015). Reframing adaptation: The political nature of climate change adaptation. *Global Environmental Change*, *35*, 523–533. https://doi.org/10.1016/j.gloenvcha.2015.09.014

Escobar, O., & Elstub, S. (2016). *Submission to the Scottish Commission on Parliamentary Reform Deliberative innovations: Using "mini-publics" to improve participation and deliberation at the Scottish Parliament*.

Esnor, J., & Berger, R. (2009). *Understanding Climate Change Adaptation: Lessons from Community-Based Approaches.* Practical Action Publishing.

Farrell, D. M., Suiter, J., & Harris, C. (2019). 'Systematizing'constitutional deliberation: the 2016–18 citizens' assembly in Ireland. *Irish Political Studies*, *34*(1), 113-123.

Fazey, I., Schäpke, N., Caniglia, G., Hodgson, A., Kendrick, I., Lyon, C., ... & Saha, P. (2020). Transforming knowledge systems for life on Earth: Visions of future systems and how to get there. *Energy Research & Social Science*, *70*.

Fenton, P., Gustafsson, S., Ivner, J., & Palm, J. (2016). Stakeholder participation in municipal energy and climate planning–experiences from Sweden. *Local Environment*, *21*(3), 272-289.

Ferraiolo, K. (2017). *State Policy Activism via Direct Democracy in Response to Federal Partisan Polarization*. https://academic.oup.com/publius/article/47/3/378/3752375

Few, R., Brown, K., & Tompkins, E. L. (2007). Public participation and climate change adaptation: Avoiding the illusion of inclusion. *Climate Policy*, *7*(1), 46–59. https://doi.org/10.1080/14693062.2007.9685637

Fitzgerald, L. M., Tobin, P., Burns, C., & Eckersley, P. (2021). The 'stifling'of new climate politics in Ireland. *Politics and Governance*, *9*(2), 41-50.

Fisher, S. D., Kenny, J., Poortinga, W., Böhm, G., & Steg, L. (2022). The politicisation of climate change attitudes in Europe. *Electoral Studies*, *79*. https://doi.org/10.1016/j.electstud.2022.102499

Filho, W. L., Wolf, F., Moncada, S., Salvia, A. L., Balogun, A. L. B., Skanavis, C., Kounani, A., & Nunn, P. D. (2022). Transformative adaptation as a sustainable response to climate change: insights from large-scale case studies. *Mitigation and Adaptation Strategies for Global Change*, *27*(3). https://doi.org/10.1007/s11027-022-09997-2

Fisher, M. R., Bettinger, K. A., Lowry, K., Lessy, M. R., Salim, W., & Foley, D. (2022). From knowledge to action: multi-stakeholder planning for urban climate change adaptation and resilience in the Asia–Pacific. *Socio-Ecological Practice Research*, *4*(4), 339-353.

Fitzgerald, L. M., Tobin, P., Burns, C., & Eckersley, P. (2021). The 'stifling' of new climate politics in Ireland. *Politics and Governance*, *9*(2), 41–50.

Fletcher, J., Bernard, C., Fairtlough, A., & Ahmet, A. (2015). Beyond equal access to equal outcomes: The role of the institutional culture in promoting full participation, positive inter-group interaction and timely progression for minority social work students. *British Journal of Social Work*, *45*(1), 120–137.

Flick, U. (2018). The SAGE Handbook of Qualitative Data Collection. SAGE

Floridia, A. (2014). *Participatory Democracy versus Deliberative Democracy:*

Elements for a Possible Theoretical Genealogy. Two Histories, Some Intersections. https://www.academia.edu/6927118/Participatory_Democracy_versus_Deliberative_Democracy_Elements_for_a_Possible_Theoretical_Genealogy_Two_Histories_Some_Intersections

Flyvbjerg B. (1998). *Rationality and Power - Democracy in Practice*. Chicago:

University of Chicago Press

Ford, J. D., Stephenson, E., Cunsolo Willox, A., Edge, V., Farahbakhsh, K., Furgal, C., ... & Sherman, M. (2016). Community-based adaptation research in the Canadian Arctic. *Wiley Interdisciplinary Reviews: Climate Change*, *7*(2), 175-191.

Franco Gavonel, M., Adger, W. N., Safra de Campos, R., Boyd, E., Carr, E. R., Fábos, A., Fransen, S., Jolivet, D., Zickgraf, C., Codjoe, S. N., Abu, M., & Siddiqui, T. (2021). The migration-sustainability paradox: transformations in mobile worlds. In Current Opinion in Environmental Sustainability (Vol. 49, pp. 98–109). Elsevier B.V. https://doi.org/10.1016/j.cosust.2021.03.013

Frantzeskaki, N., Loorbach, D. & Kooiman, J. (2009). Transitions governance: Towards a new governance paradigm. *13th Annual Conference of the International Research Society for Public Management (IRSPM XIII) April 6th – 8th, 2009,* Copenhagen Business School, Copenhagen, Denmark. https://www.researchgate.net/publication/228411821_Transitions_governance_Towards_a_new_governance_paradigm

Frey, B. S., & Stutzer, A. (2004). *The Role of Direct Democracy and Federalism in*

Local Power. https://wwz.unibas.ch/fileadmin/user_upload/wwz/00_Professuren/Stutzer_Politische_Oekonomie/Publications/iewwp209.pdf

Gallagher, M. (2008). Foucault, power and participation. *International Journal of*

Children's Rights, *16*(3), 395–406. https://doi.org/10.1163/157181808X311222

Galupo, M. P. & Resnick, C. A. (2016). Experiences of LGBT Microaggressions in the Workplace: Implications for Policy. In Köllen, T (Ed.), *Sexual Orientation and Transgender Issues in Organizations: Global Perspectives on LGBT Workforce Diversity* (pp. 271-288). Springer Press.

Gastil, J., Black, L., & Moscovitz, K. (2008). Ideology, attitude change, and deliberation in small face-to-face groups. *Political Communication*, *25*(1), 23-46.

Gastil, J., & Richards, R. (2013). Making direct democracy deliberative through random assemblies. *Politics and Society*, *41*(2), 253–281. https://doi.org/10.1177/0032329213483109

Gaventa, J. (2006). Finding the spaces for change: A power analysis. *IDS Bulletin*, *37*(6), 23–33.

Gerwin, M. (2018). *Citizens' Assemblies: Guide to democracy that works*. Otwarty Plan. https://citizensassemblies.org/wp-content/uploads/2018/10/Citizens-Assemblies_EN_web.pdf

Ghorashi, H., & Rast, M. C. (2018). Dancing with 'the other': Challenges and opportunities of deepening democracy through participatory spaces for refugees. *Social Inclusion*, *6*(1), 188–198.

Glaas, E., Hjerpe, M., Wihlborg, E., & Storbjörk, S. (2022). Disentangling municipal capacities for citizen participation in transformative climate adaptation. Environmental Policy and Governance, 32(3), 179–191. https://doi.org/10.1002/eet.1982

Giraudet, L. G., Apouey, B., Arab, H., Baeckelandt, S., Begout, P., Berghmans, N., ... & Tournus, S. (2022). "Co-construction" in deliberative democracy: lessons from the French Citizens' Convention for Climate. *Humanities and Social Sciences Communications*, *9*(1), 1-16.

Gram-Hanssen, I., Schafenacker, N., & Bentz, J. (2022). Decolonizing transformations through 'right relations'. *Sustainability Science*, *17*(2), 673-685.

Gibbon, J. F., & Mensah, K. O. (2012). Climate change as a wicked problem: An evaluation of the institutional context for rural water management in ghana. *SAGE Open*, *2*(2), 1–14. https://doi.org/10.1177/2158244012448487

Guber, D. L. (2017). Partisan Cueing and Polarization in Public Opinion About Climate Change. In *Oxford Research Encyclopedia of Climate Science*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190228620.013.306

Habermas, J. (2005). *Truth and Justification.* Cambridge, MA: MIT Press

Haugaard, M. (2021). The four dimensions of power: conflict and democracy. *Journal of Political Power*, *14*(1), 153–175. https://doi.org/10.1080/2158379X.2021.1878411

Healey, P. (1992). Planning through debate: the communicative turn in planning theory. Town Planning Review, 63(2), 143–162. https://doi.org/10.3828/tpr.63.2.422x602303814821x

Hendriks, C. M. (2009). Policy design without democracy? Making democratic sense of transition management. *Policy Sciences*, *42*(4), 341-368.

Heylighen, F., Cilliers, P., & Gershenson, C. (2006). Complexity and Philosophy-Complexity, Science and Society. *ECCO Working Paper*, 1–21.

Hildén, M., Jordan, A., & Huitema, D. (2017). Special issue on experimentation for climate change solutions editorial: The search for climate change and sustainability solutions -

The promise and the pitfalls of experimentation. Journal of Cleaner Production, 169, 1–7. https://doi.org/10.1016/j.jclepro.2017.09.019

Hochachka, G. (2022). Finding shared meaning in the Anthropocene: engaging diverse perspectives on climate change. *Sustainability Science*, *17*(2), 519-539.

Howland, F., Acosta, M., Muriel, J., & Le Coq, J. F. (2021). Examining the barriers to gender integration in agriculture, climate change, food security, and nutrition policies: Guatemalan and Honduran perspectives. *Frontiers in Sustainable Food Systems*, pp. 122, 1–18.

Hung, L., Phinney, A., Chaudhury, H., Rodney, P., Tabamo, J., & Bohl, D. (2018). Appreciative Inquiry: Bridging Research and Practice in a Hospital Setting. International Journal of Qualitative Methods, 17(1). https://doi.org/10.1177/1609406918769444

Hügel, S., & Davies, A. R. (2020). Public participation, engagement, and climate change adaptation: A review of the research literature. In *Wiley Interdisciplinary Reviews: Climate Change* (Vol. 11, Issue 4). Wiley-Blackwell. https://doi.org/10.1002/wcc.645

Iliopoulos, S. (2020). *Investigating the Transformative Capacity of Urban Experimentation. The case of Urban Living Labs: Insights from the Swedish Context* [Master's Thesis]. KTH. http://kth.diva-portal.org/smash/record.jsf?pid=diva2%3A1453812&dswid=-7909

IPCC . (2018). Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press..

IPCC. (2023). CLIMATE CHANGE 2023 Synthesis Report Summary for Policymakers. https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf

John, E. W. (2021). *Hello, Neighbourocracy: Governance where everyone has a say.* Neighbourhood Community Network (NCN)

John, M. (1999). Democracy in the Night Schools of Rajastan: The Indian Children's Parliament. *Journal of Family Life: A Quarterly for Empowering Families*, *5*(1), 26-29.

Johnson, S. (2002). *Emergence: The connected lives of ants, brains, cities, and software*. Simon and Schuster.

Kates, R. W., Travis, W. R., & Wilbanks, T. J. (2012). Transformational adaptation when incremental adaptations to climate change are insufficient. In *Proceedings of the National Academy of Sciences of the United States of America*, 109 (19), 7156–7161. https://doi.org/10.1073/pnas.1115521109

Kauffman, N., & Hill, K. (2021). Climate change, adaptation planning and institutional integration: A literature review and framework. *Sustainability*, *13*(19), 10708.

Klintman, M. (2021). *Knowledge resistance: How we avoid insight from others.* Manchester University Press.

Kiss, B., Sekulova, F., Hörschelmann, K., Salk, C. F., Takahashi, W., & Wamsler, C. (2022). Citizen participation in the governance of nature-based solutions. Environmental Policy and Governance, 32(3), 247–272. https://doi.org/10.1002/eet.1987

Kong, T. M., de Villiers, A. C., Ntloana, M. B., Pollard, S., & Vogel, C. (2020). Implementing capacity development for disaster risk reduction as a social learning system. *International Journal of Disaster Risk Reduction*, *50*.

Kothari, A. (2014). Radical ecological democracy: a path forward for India and beyond. *Development*, *57*(1), 36-45.

Kounani, A., & Nunn, P. D. (2022). Transformative adaptation as a sustainable response to climate change: insights from large-scale case studies. Mitigation and Adaptation Strategies for Global Change, 27(3). https://doi.org/10.1007/s11027-022-09997-2

Kristianssen, A. C., & Granberg, M. (2021). Transforming local climate adaptation organization: Barriers and progress in 13 swedish municipalities. Climate, 9(4). https://doi.org/10.3390/cli9040052

Lang, A. (2007). But is it for real? The British Columbia Citizens' Assembly as a model of state-sponsored citizen empowerment. *Politics & Society*, *35*(1), 35–70.

Lange, T., & Meaney, T. (2014). It's just as well kids don't vote: The positioning of children through public discourse around national testing. *Mathematics Education Research Journal*, *26*, 377-397.

Lasker, R. D., & Weiss, E. S. (2003). Broadening participation in community problem solving: a multidisciplinary model to support collaborative practice and research. *Journal of Urban Health*, *80*(1), 14-47.

Latour, B. (2017). *Facing Gaia: Eight lectures on the new climatic regime*. John Wiley & Sons.

Lefebvre, H. (1974). *The production of space*. Blackwell.

Leichenko, R., & O'Brien, K. (2019). *Climate and society: Transforming the future*. John Wiley & Sons.

Leib, E. J., & Leibt, E. J. (2006). Fordham Law School FLASH: The Fordham Law Archive of Scholarship and History Can Direct Democracy Be Made Deliberative? Recommended Citation Can Direct Democracy Be Made Deliberative? In *L. Rev* (Vol. 903). http://ir.lawnet.fordham.edu/faculty_scholarshipat:http://ir.lawnet.fordham.edu/faculty_scholarship/80

Lewis, P., & Simpson, R. (2012). Kanter revisited: Gender, power and (in) visibility. *International Journal of Management Reviews*, *14*(2), 141–158.

Linde, S. (2020). The Politicization of Risk: Party Cues, Polarization, and Public Perceptions of Climate Change Risk. *Risk Analysis*, *40*(10), 2002–2018. https://doi.org/10.1111/risa.13530

Lindvall, D. (2021). Democracy and the Challenge of Climate Change. In *Democracy and the Challenge of Climate Change*. International Institute for Democracy and Electoral Assistance. https://doi.org/10.31752/idea.2021.88

Lund University. (2023). The University at a glance. https://www.lunduniversity.lu.se/about-university/university-glance#:~:text=Lund%20University%20was%20founded%20in,world%20and%20the%20human%20condition.

Lukes, S. (2005). *POWER: A RADICAL VIEW, SECOND EDITION*. London, Palgrave.

Lukes, S. (2021). *Power: A radical view, Third Edition*. Bloomsbury Publishing.

Madsen, S. R., Townsend, A., & Scribner, R. T. (2020). Strategies that male allies use to advance women in the workplace. *The Journal of Men's Studies*, *28*(3), 239–259.

Martin, P. Y. (2006). Practising gender at work: Further thoughts on reflexivity. *Gender, work & organization*, *13*(3), 254–276.

Makarovič, M., & Rek, M. (2014). Power and Influence-Based Political Participation in European Democracies. In *Sociológia* (Vol. 46, Issue 6).

McCright, A. M., & Dunlap, R. E. (2011). THE POLITICIZATION OF CLIMATE CHANGE AND POLARIZATION IN THE AMERICAN PUBLIC'S VIEWS OF GLOBAL WARMING, 2001-2010. In *Source* (Vol. 52, Issue 2). The Sociological Quarterly.

Meadows, D. H. (2011). *Thinking in systems: A primer*. Chelsea green publishing.

Mees, H. L., Uittenbroek, C. J., Hegger, D. L., & Driessen, P. P. (2019). From citizen participation to government participation: An exploration of the roles of local governments in community initiatives for climate change adaptation in the Netherlands. *Environmental Policy and Governance*, *29*(3), 198-208.

Metzger, J., Carlsson Kanyama, A., Wikman-Svahn, P., Mossberg Sonnek, K., Carstens, C., Wester, M., & Wedebrand, C. (2021). The flexibility gamble: challenges for mainstreaming flexible approaches to climate change adaptation. Journal of Environmental Policy and Planning, 23(4), 543–558. https://doi.org/10.1080/1523908X.2021.1893160

Moise, D., & Cruceru, A. F. (2014). An Empirical Study of Promoting Different Kinds of Events through Various Social Media Networks Websites. Procedia - Social and Behavioral Sciences, 109, 98–102. https://doi.org/10.1016/j.sbspro.2013.12.426

Moreira, F. D. A., Dalla Fontana, M., Bertolini, A. M., Sepe, P. M., Malheiros, T. F., & Di Giulio, G. M. (2022). Urban Living Labs and the Water-Energy-Food Nexus: Experiences from the GLOCULL Project in São Paulo, Brazil. In *Water-Energy-Food Nexus and Climate Change in Cities* (pp. 275-287). Springer International Publishing.

Mulvad, A. M., & Popp-Madsen, B. A. (2021). Sortition-infused democracy: Empowering citizens in the age of climate emergency. *Thesis Eleven*, *167*(1), 77-98.

Naess, L. O. (2013). The role of local knowledge in adaptation to climate change. *Wiley Interdisciplinary Reviews: Climate Change*, *4*(2), 99–106.

Nelson, V., Meadows, K., Cannon, T., Morton, J., & Martin, A. (2002). Uncertain Predictions, Invisible Impacts, and the Need to Mainstream Gender in Climate Change Adaptations. In *Source: Gender and Development* (Vol. 10, Issue 2).

Newman, B. J., Velez, Y., & Pearson-Merkowitz, S. (2016). Diversity of a different kind: Gentrification and its impact on social capital and political participation in black communities. *Journal of Race, Ethnicity, and Politics*, *1*(2), 316–347.

Nicolás, A. G. (2022). Can direct democracy deliver an alternative to extractivism? An essay on popular consultations. *Political Geography*, *98*. https://doi.org/10.1016/j.polgeo.2022.102715

Nicholas, K. (2021). *Under the sky we make: How to be human in a warming world*. GP Putnam's Sons.

O´Brien, K. and Sygna, L. (2013) Responding to climate change: The three spheres of transformation. Proceedings of Transformation in a Changing Climate, 19- 21 June 2013, Oslo, Norway. University of Oslo (pp.16-23). ISBN 978-82-570-2000-2

Owen, R. L., & Buck, J. A. (2020). Creating the conditions for reflective team practices: examining sociocracy as a self-organizing governance model that promotes transformative learning. *Reflective Practice*, *21*(6), 786-802.

Palacios, J. M. (2016). Equality and diversity in democracy: how can we democratize inclusively?. *Equality, Diversity and Inclusion: An International Journal*.

Parry, J. E. (2017). *Building a Climate-Resilient City: Transformational adaptation*. Prairie Climate Centre. https://www.iisd.org/system/files/publications/pcc-brief-climate-resilient-city-transformational-adaptation.pdf

Pettersson-Lidbom, P., & Tyrefors, B. (n.d.). *The Policy Consequences of Direct versus Representative Democracy: A Regression-Discontinuity Approach*.*

Phillips, M. (2021). Great Adaptations. *Glasgow: Arkbound Foundation*.

Piteira, X., Vidal, D. G., Dias, R., & Seixas, P. C. (2022). Post-sustainability, regenerative cultures, and governance scale-up: transformational learning cases of sociocracy 3.0 in Portugal. In W. L. Filho, A.M. Azul, F. Doni, & A.L. Salvia (Eds.), *Handbook of Sustainability Science in the Future: Policies, Technologies and Education by 2050*, (pp. 1-23). Springer.

Rau, T. J., & Koch-Gonzalez, J. (2018). *Many voices one song: shared power with sociocracy*. Sociocracy for All.

Rau, T. J. (2021). *Who Decides Who Decides? The first Meetings of your new group.* Sociocracy for All.

Read, R. (2021). Dodo, Pheonix, or Butterfly? Why it's time for TrAdaptation. In Arkbound Foundation (Eds.), *Climate Adaptation: Accounts of Resilience, Self-Sufficiency and Systems Change* (pp. 332 – 346). Arkbound Foundation.

Regionfakta. (2022, February 22). *Folkmängd 31 december; ålder. https://www.regionfakta.com/skane-lan/befolkning-och-hushall/befolkning/folkmangd-31-december-alder/*

Reilly, S. (2018). *Direct democracy: a double-edged sword*.

https://www.rienner.com/uploads/5a3c1a18b1ee8.pdf

Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences*. 4(2), 155–169. https://link.springer.com/article/10.1007/BF01405730

Rizzo, A., Habibipour, A., & Ståhlbröst, A. (2021). Transformative thinking and urban living labs in planning practice: a critical review and ongoing case studies in Europe. *European Planning Studies*, *29*(10), 1739-1757.

Romme, A. G. L. (1995). The sociocratic model of organizing. *Strategic Change*, *4*(4), 209–215.

Romme, A. G. L., Broekgaarden, J., Huijzer, C., Reijmer, A., & van der Eyden, R. A. (2018). From competition and collusion to consent-based collaboration: A case study of local democracy. *International Journal of Public Administration*, *41*(3), 246-255.

Sarzynski, A. (2015). Public participation, civic capacity, and climate change adaptation in cities. *Urban Climate*, *14*, 52–67. https://doi.org/10.1016/j.uclim.2015.08.002

Saxena, A., & Jagota, R. (2016). Could sociocracy be the way to MSME governance?. *Indian Journal of Corporate Governance*, *9*(2), 173-185.

Scholl, C., Ablasser, G., Eriksen, M-A., Baerten,N., Blok, J., Clark, E., ... & Zimmermann, F. (2017). *Guidelines for Urban Labs*, URB@Exp project 2014-2017, JPI Urban Europe. https://jpi-urbaneurope.eu/wp-content/uploads/2016/09/URB@EXP-Guidelines.pdf

Slotterback, C. S., & Lauria, M. (2019). Building a foundation for public engagement in planning: 50 years of impact, interpretation, and inspiration from Arnstein's Ladder. *Journal of the American Planning Association*, *85*(3), 183-187.

Sociocracy30. (2017). The 7 Principles. Available at: https://sociocracy30.org/the-details/principles/

Stadelmann-Steffen, I. (2011). Citizens as veto players: climate change policy and the Constraints of direct democracy. Environmental Politics. 20(4), 485-507. DOI: 10.1080/09644016.2011.589577

Steen, K., & van Bueren, E. (2017). The Defining Characteristics of Urban Living Labs. *Technology Innovation Management Review*, 7(7), 21-33.

Sun, J., & Yang, K. (2016). The wicked problem of climate change: A new approach based on social mess and fragmentation. *Sustainability (Switzerland)*, *8*(12). https://doi.org/10.3390/su8121312

Suphattanakul, O. (2018). Public Participation in Decision-making Processes: Concepts and Tools. Journal of Business and Social Review in Emerging Economies, 4(2), 221–230. https://doi.org/10.26710/jbsee.v4i2.213

Sveriges Riksdag. (2010). Plan- och bygglag (2010:900). https://rkrattsbaser.gov.se/sfst?bet=2010:900

Sveriges Riksdag. (2017). Nationell strategi för klimatanpassning, Proposition 2017/18:163. https://www.riksdagen.se/sv/dokument-lagar/dokument/proposition/nationell-strategi-for

klimatanpassning_h503163

Sveriges Riskdag. (2018). Förordning (2018:1428) om myndigheters klimatanpassningsarbete. https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/forordning-20181428-om-myndigheters_sfs-2018-1428

Swart, R., Grothmann, T., McCallum, S., Prutsch, A., & Schauser, I. (2014). Lessons learned from practical cases of adaptation to climate change in industrialised countries. In *Climate Change Adaptation Manual* (pp. 367-373). Routledge.

Swedish Portal for Climate Change Adaptation. (2021). Climate change adaptation - information from Swedish authorities. https://www.klimatanpassning.se/en

TEP-A. (2020). Public Participation in Climate Change Adaptation and Decision-Making Processes. Policy Brief. tep-a.org/wp-content/uploads/2020/08/TEP-A-2020-Policy-Brief-Public-Participation-in-Climate-Change-Adaptation-and-Decision-Making-Processes.pdf

Thompson, L., & African Centre for Citizenship and Democracy. (2007). *Participatory governance?: citizens and the state in South Africa.* African Centre for Citizenship and Democracy, University of the Western Cape.

Thomson, A. (2003). Introduction: Sharing Authority: Oral History and the Collaborative process." Oral History Review *30* (1), 23–26

Torney, D. (2021). Deliberative mini-publics and the European Green Deal in turbulent times: The Irish and French climate assemblies. *Politics and Governance*, *9*(3), 380-390.

Tropp, H. (2007). Water governance: trends and needs for new capacity development. *Water Policy*, *9*(2), 19–30.

Vallejo, B., & Wehn, U. (2016). Capacity Development Evaluation: The Challenge of the Results Agenda and Measuring Return on Investment in the Global South. *World Development*, *79*(1), 1-13.

Vanesa Castán Broto, B., Boyd, E., & Ensor, J. (2015). Participation and planning for climate change: Lessons from an experimental project in Maputo, Mozambique.

Vargas-Bianchi, L. (2020). Qualitative theory testing by deductive design and pattern matching analysis. SocArxiv https://doi.org/10.31235/osf.io/w4gxe

VeneKlase, L. & Miller, V. (2002). *Power and Empowerment.* https://www.iied.org/sites/default/files/pdfs/migrate/G01985.pdf

Vráblíková, K. (2016). *What kind of democracy?: participation, inclusiveness and contestation*. Taylor & Francis.

Wamsler, C. (2014). Ci*ties, disaster risk and adaptation*. Taylor and Francis, Hoboken, ISBN: 9781134615025

Wamsler, C., Alkan-Olsson, J., Björn, H., Falck, H., Hanson, H., Oskarsson, T., Simonsson,

E., & Zelmerlow, F. (2020). Beyond participation: when citizen engagement leads to undesirable outcomes for nature-based solutions and climate change adaptation. *Climatic Change*, *158*(2), 235–254. https://doi.org/10.1007/s10584-019-02557-9

Wells, R., Howarth, C., & Brand-Correa, L. I. (2021). Are citizen juries and assemblies on climate change driving democratic climate policymaking? An exploration of two case studies in the UK. *Climatic Change*, *168*(1), 1–22.

Wells, R. (2022). Citizens' Assemblies and Juries on Climate Change: Lessons from Their Use in Practice. In C. Howarth, M. Lane, & A. Slevin (Eds.). *Addressing the Climate Crisis: Local Actions in Theory and Practice* (pp. 119–128). Palgrave Macmillan.

Wilder, H. (2022). Does Sociocracy Support Student Voice? Student Perceptions of a Student Council Using Sociocracy in a Public School. *Holistic Education Review, 2*(2).

Wirth, R., Butterfield, R., & Wien, F. (n.d.). Sociocracy & Holacracy Futocracy-a new form of future-proof organisation View project Textbook 3.0 View project. https://www.researchgate.net/publication/351780045

Wisner, B., Blaikie, P., Cannon, T., & Davis, I. (2014). *At risk: natural hazards, people's vulnerability and disasters*. Routledge.

Woodruff, S. C. (2016). Planning for an unknowable future: Uncertainty in climate change adaptation planning. *Climatic Change*, *139*(3), 445-459.

Young, I.M. (2002). *Inclusion and Democracy*. Oxford University Press.

Appendix

i. Lab Facilitator Notes:

Stage	Step	Timing	Suggested questions	Notes
Prep	A.1	2-3 mins	"Who can take notes for me?"	Appoint a notetaker, who will still participate in all the processes (same with the facilitator)
	A.2	2-3 mins	"Who can keep time for me?"	Appoint a timekeeper, who will still participate in all the processes
Understand	B.1	15-20 mins	"Given our identified problem, what underlying issues or conditions need to be addressed?"	- Note taker writes answers on big poster paper - Go person by person allowing everyone in the group to share their ideas. Continue until there are no remaining ideas or time runs out. - If someone doesn't understand, provide an example of bus interruptions during floods. The question trying to be answered here is, "what are the underlying needs or conditions that will cause buses to be interrupted in the case of floods?" An example answer might be an over-reliance on certain routes/roads that are prone to flooding.
	B.2	5 mins	State the summarized need(s) statement(s) and ask, "do you consent to this needs statement as stated?"	- Facilitator summarizes the identified need(s) from the last round and presents it to the participants. - If too many needs statements emerge, the group can choose to narrow its focus onto one need (particularly given the short time frame). - Consent round; meaning every person in the group has to answer either that they can accept the statement, or that they cannot. If they cannot accept the statement, they should provide a reason, and the statement can be updated as necessary until everyone can consent to it.
Explore	C.1	10 mins	"Given this need, what question(s) will we have to answer to make a good and complete suggestion?"	- Note taker writes answers on the big poster paper - Done popcorn style, meaning people shout out answers as they have ideas. In other words, you do not have to go person by person, people just share ideas as they come to their mind. Do not spend too long on this, continue until time runs out, or people are out of ideas. - If someone doesn't understand, continue with the bus example. If the needs statement is the fact that there is an overreliance on one road for the buses, then the question that needs to be answered is what can be done to make the buses less reliant on this road?
	C.2	10 mins	"Turn to the person next to you, keeping these questions and identified needs in mind, discuss potential proposals that will help to address the issue."	- Note taker does not need to take notes on individual discussions - If someone doesn't understand, continue with the bus example. One way to solve the problem of what can be done to make the buses less reliant on one road is to use the adjacent road that is less prone to flooding.
	C.3	20-25 mins	"What proposal ideas did you come up with?"	- Note taker writes answers on the big poster paper - Go person by person sharing one proposal idea at a time. It is okay, even encouraged, to have multiple rounds, it is okay if the ideas are contradictory, overlapping, etc. Continue until there are no remaining ideas.
	C.4	15-20 mins	"It's time for a fika break, please come back in 15 minutes"	**- Fika break** - While the others take fika, the facilitator synthesizes the ideas as much as possible into proposals. Break it up if necessary, particularly if something seems controversial. For example, if many people bring up changing the bus routes, synthesize that into one proposal. If something is unrelated, such as getting rid of the buses, then have that as a separate proposal. Try to have as few proposals as possible.
Consent	D.1	5 mins	N/A	- Read and present all of the synthesized proposals to the participants.
	D.2	5 mins	"Is anything about the proposal unclear? Or is further elaboration needed?"	- Steps D.2-D.4 are done individually for each proposal. In other words, for every proposal, do steps D.2-D.4 in order. I.e., proposal one, clarity round, reaction round, and consent round. Proposal two, clarity round, reaction round, and consent round, etc. - The purpose is to make sure everyone is on the same page. - Go person by person, having them answer the question, but people can pass by saying something simple like "I have no questions." - If there are questions, they can be answered by anyone in the group.
	D.3	5 mins	"Is there anything you'd like to say about this proposal before we move to the consent round?"	- The purpose of this round is to gather people's reactions to each proposal. - Do this person by person. Ideally, people do not pass. - The facilitator can synthesize reactions and amend proposals as necessary.
	D.4	5 mins	Re-state the proposal and ask, "do you consent to the proposal as stated?"	- Consent round; meaning every person in the group has to answer either that they can accept the statement, or that they cannot. If they cannot accept the statement, they should provide a reason, and the proposal can be updated as necessary until everyone can consent to it. - If multiple rounds are done, and the conversation stalls because still not everyone can consent despite amendments, then the proposal should be abandoned.

ii. Sociocracy Interview Guideline:

1. Generally, what are some of the benefits and drawbacks of implementing sociocracy in an organization?
2. A lot of the literature focuses on the processes and distribution of power within sociocratic organization, but what effect have you seen on the outcomes and decisions that come out of these processes?
3. What are the effects of distributing power in this way? Why do it?
4. Are you aware of any examples of sociocracy being implemented in the space of participatory governance (including participatory planning)? If so, can you share any benefits and challenges associated with implementing it in that context?
5. While we intend to model something that can be permanent, participatory democracy structures tend to be established on a temporary basis. Do you think sociocracy can be implemented in an impermanent structure?
6. While recognizing that internalized patterns of inequality and privilege and other biases can still work their way into the processes, do you think the structure and processes of sociocracy also affect this reality, and if so, how?
7. In your experience, does the structure of sociocracy inherently consider and provide space for deliberation between participants?
8. To what extent is there space for people outside of circles to include their opinions during the input and understanding phase when creating a policy? If so, is there a way to effectively go about this?
9. Do you see any connection between these processes and solving a wicked problem like climate change?

iii. Swedish Context Interview Guideline:

1. How is participation carried out in the Swedish context? Is it legislated or dependent on each local context?
2. Have you observed, taken part or actively been involved in the design and/or facilitation of participatory processes at a community level in the context of climate change adaptation?
3. Who are the main stakeholders that are usually invited in the process?
4. What is the methodology behind a participatory process? Where would you place it along the ladder of participation?
5. Do you think there is a technocratic approach /focus to climate change adaptation in Sweden or there are considerations on soft processes like iterative learning and public participation and how is this manifested in practice?
6. What are the benefits and limitations to how public participation is done in Sweden?
7. Did you have any observation related to the power dynamics? Can you expand?
8. How were processes of monitoring, learning and evaluation realized in the aftermath of participatory processes? What were the challenges related to this?
9. Have the outcomes been further utilized? What are potential limitations for upscaling such processes? How can they be integrated in the planning process?
10. What are in your opinion some key factor for such (participatory) processes to contribute to a shift from an incremental to a transformative approach to climate change adaptation?

iv. Participatory CCA Interview Guideline:

1. How would you define participation?
2. Have you observed, taken part or actively been involved in the design and/or facilitation of participatory processes at a community level in the context of climate change adaptation?
3. Who were the main stakeholders invited? How did the stakeholders interact?
4. Why was this methodology chosen and how was it implemented in the specific setting?
5. How were decisions made along the way? Was there much deliberation between participants?
6. What were the main limitations with the methodology chosen?
7. What worked well with the facilitation?
8. Did you have any observation related to the power dynamics? Can you expand?
9. How were processes of monitoring, learning and evaluation realized in the project? What were the challenges related to this?
10. Have the outcomes been further utilized? What are potential limitations for upscaling such processes? How can they be integrated in the planning process?
11. What are in your opinion some key factor for such (participatory) processes to contribute to a shift from an incremental to a transformative approach to climate change adaptation?

v. CCA Lab notes

Veberöd CCA Lab.

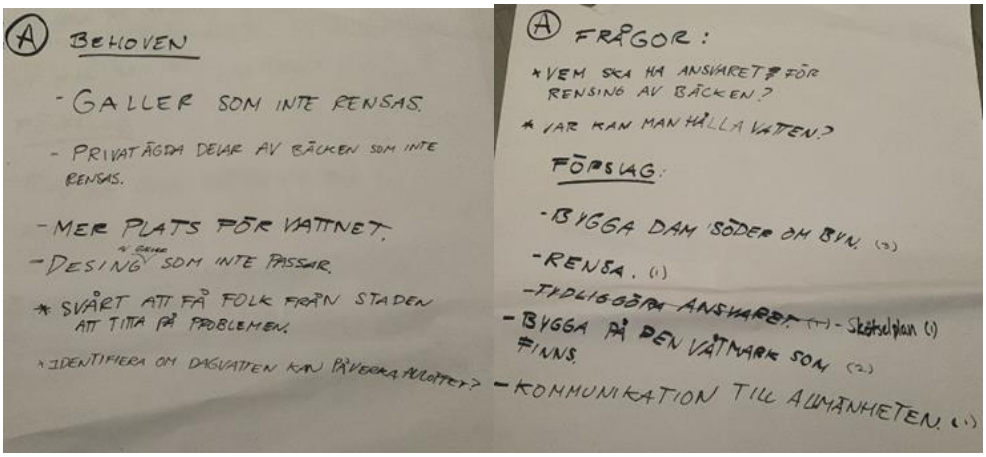
Group A

Participants in Group A focused on the problem of Veberödsbäcken overflowing. They discussed potential areas where there could be an overflow. The blockage and maintenance of grills in front of the drainage pipes which are not cleaned was defined as the main underlying issue behind the overflowing of the stream in specific areas.

The group then tried to identify why the blockage is happening in the first place. The participants came to realize that there are misunderstandings from the house owners on who is in charge of the river maintenance them or the municipality demonstrating that responsibilities are not clear enough. The questions asked here where: 1) who is responsible for the cleaning of the stream and 2) Where can water be stored? The participants then split into groups of two people and came up with more specific solutions.

The final proposals that the participants consented to were prioritized in the following way:

1. Clean the stream and generate an investigative plan for the maintenance of the stream
2. Create and extend the wetlands
3. Build a dam south of the village
4. Communication to the public



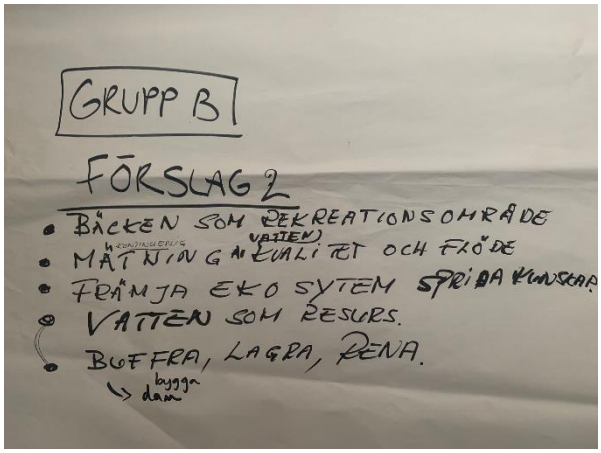
Group B

Group B started talking about the needs and the need is to regulate the river, right now the river is not regulated enough. What was proposed was a buffer zone between the river and

properties. Who is responsible for maintaining and cleaning the river and how citizens should get involved, whether it is organized groups or the municipality, questions this issue. The plan for dams upstream was also discussed to minimize flooding or the risk of flooding. The question came up on whether planting new trees and encouraging wildlife is also a way to improve the quality of the water-nature based solutions.

Then, participants started talking about solutions and what could be implemented for going forward, some suggestions. Participants brainstormed possible solutions and then summarized. The first suggestion was the river being a recreational area, connecting to the idea of creating an eco-zone with new trees and plants but also maybe activating the river and getting local people engaged along with an initiative from the municipality, while attracting visitors to the area so that there is more incentive to keep it clean and regulated, as an opportunity for the town. Another suggestion was a regular measuring of the water quality and control of the flow of water. Storing water for future use became also a main concern suggesting that the municipality in cooperation with private sector could have some system in place for where there is an excess of water to store it for drier periods with water shortage. Participants also brought up the issue of the quality of water when it leaves Veberöd with different chemicals being disposed of in the water as it flows through the area due to human activities. It is important that the water leaves Veberöd cleaner in comparison to how it arrives in Veberöd, so that other towns downstream have a good water quality as well.

The group arrived at four main points as a conclusion for more concrete measures that everyone consented to. The first measure was creating a recreational area along the river, the second measure was the continuous measuring of the quality of the water and the flow, the third measure was to encourage a new ecosystem and also to improve knowledge about it through info-points along the river with information about the ecosystem and as a way for residents to be involved in this and be aware of the impact of human activities on Veberödsbäcaken, reconsidering individual choices. The las measures concerned seeing the water as a resource and creating systems for storing and cleaning the water.



Lund CCA Lab.

Group A (notes from facilitator)**.**

The group began the discussion by identifying as a major problem the deteriorating conditions in public spaces in relation to heatwaves and the need of public spaces to be adapted to this new reality in Sweden. The groups proceeded to come up with and consent to the following proposals:

1) Regulation of tree felling Planting trees symbolizing newborn babies

children in the municipality as in Trollhättan

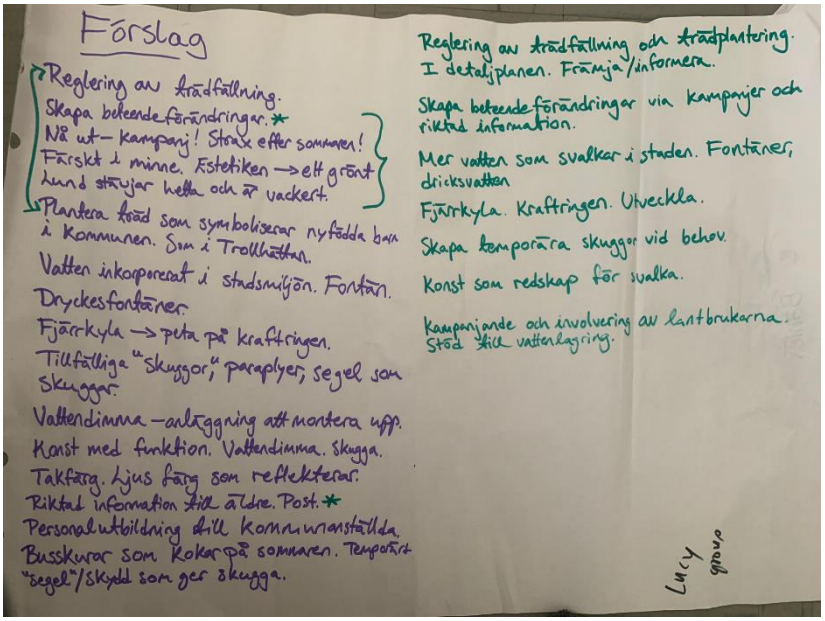
2) Water incorporated into the urban environment - drinking fountains.

3) Art with function/water mist/shadow, reflective light color.

4) Staff training for municipal employees

5) Bus shelters boiling in summer - temporary "sail"/shelter providing shade

6) Targeted information to the elderly by mail

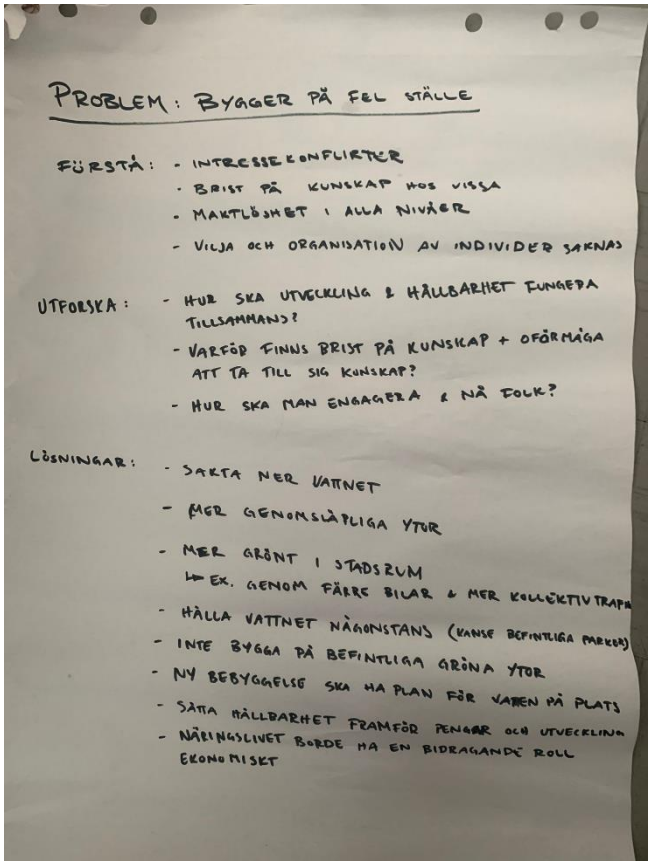


Group B (notes from facilitator)**.**

Group B identified as a main problem the unsuitability of new housing development areas that are prone to flooding. The group started with the idea of working with flooding issues and through discussion developed this into the fact that new buildings are being built on the wrong areas, for example a development happening on agricultural land which could otherwise be used to alleviate the flooding issues in Lund.

The participants acquired a wide lens for the flooding issues, i.e. the whole of Lund with some focus on the urban environment. They discussed some personal examples of how Lund had changed flooding wise in some areas throughout the years and how some green areas that were going to be built on had been saved due to backlash from the community.

Overall, the questions and solutions were quite wide, brainstorming ways that could solve flooding issues from different directions which led to the final "solution package" involving those geared to the direct dealing of water management but also the role that industries should have in making sure that Lund has a sustainable development moving forward.

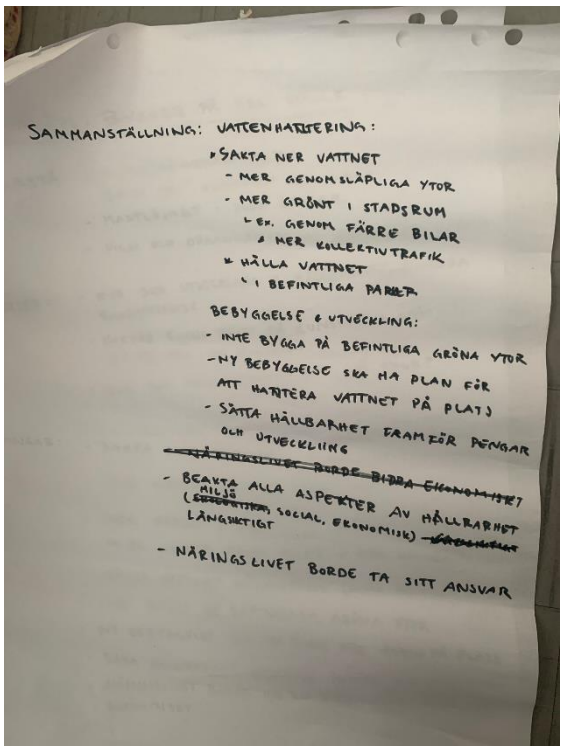


PROBLEM: BYGGER PÅ FEL STÄLLE

FÖRSTÅ:
- INTRESSEKONFLIKTER
- BRIST PÅ KUNSKAP HOS VISSA
- MAKTLÖSHET I ALLA NIVÅER
- VILJA OCH ORGANISATION AV INDIVIDER SAKNAS

UTFORSKA:
- HUR SKA UTVECKLING & HÅLLBARHET FUNGERA TILLSAMMANS?
- VARFÖR FINNS BRIST PÅ KUNSKAP + OFÖRMÅGA ATT TA TILL SIG KUNSKAP?
- HUR SKA MAN ENGAGERA & NÅ FOLK?

LÖSNINGAR:
- SAKTA NER VATTNET
- MER GENOMSLÄPPLIGA YTOR
- MER GRÖNT I STADSRUM
  - Ex. GENOM FÄRRE BILAR & MER KOLLEKTIVTRAFIK
- HÅLLA VATTNET NÅGONSTANS (KANSE BEFINTLIGA PARKER)
- INTE BYGGA PÅ BEFINTLIGA GRÖNA YTOR
- NY BEBYGGELSE SKA HA PLAN FÖR VATTEN PÅ PLATS
- SÄTTA HÅLLBARHET FRAMFÖR PENGAR OCH UTVECKLING
- NÄRINGSLIVET BORDE HA EN BIDRAGANDE ROLL EKONOMISKT



SAMMANSTÄLLNING: VATTENHANTERING:

- SAKTA NER VATTNET
  - MER GENOMSLÄPPLIGA YTOR
  - MER GRÖNT I STADSRUM
    - Ex. GENOM FÄRRE BILAR
    - & MER KOLLEKTIVTRAFIK
- HÅLLA VATTNET
  - I BEFINTLIGA PARKER

BEBYGGELSE & UTVECKLING:
- INTE BYGGA PÅ BEFINTLIGA GRÖNA YTOR
- NY BEBYGGELSE SKA HA PLAN FÖR ATT HANTERA VATTNET PÅ PLATS
- SÄTTA HÅLLBARHET FRAMFÖR PENGAR OCH UTVECKLING
- ~~NÄRINGSLIVET BORDE BIDRA EKONOMISKT~~
- BEAKTA ALLA ASPEKTER AV HÅLLBARHET (MILJÖ, SOCIAL, EKONOMISK) ~~EKOLOGISKT~~ LÅNGSIKTIGT
- NÄRINGSLIVET BORDE TA SITT ANSVAR

Group C.

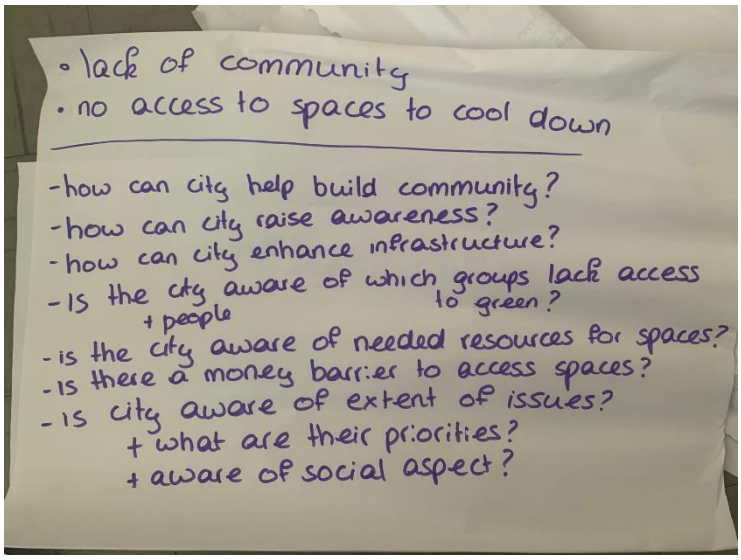
Group C identified the problem of the lack of space to cool down during periods of heat, agreeing that there is a need for targeted measures for responding to this issue. The group consented to the following proposals:

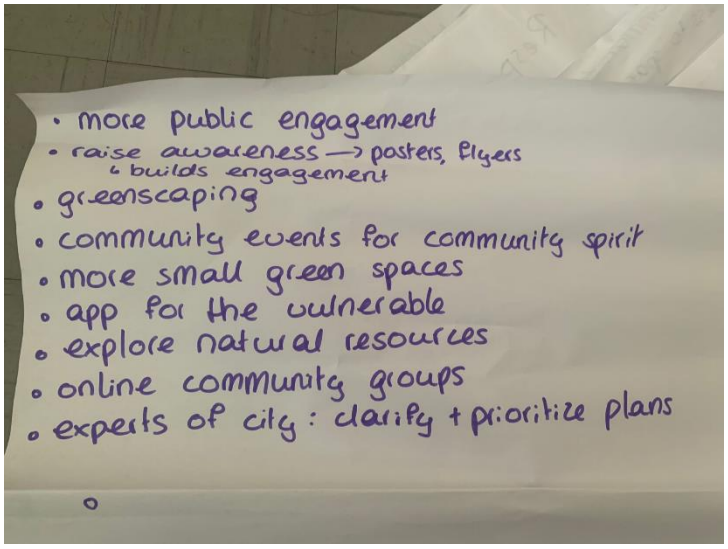
1)The city should increase awareness of heatwave risk and preparedness measures via public engagement, which is not just a one-way passage of information, but gathering broad-based public
input.

2) More inclusive, broad-based, community and neighborhood-building events (such as block parties).

3) More community spaces, both virtual (e.g., Facebook groups) and physical (e.g., pocket parks).

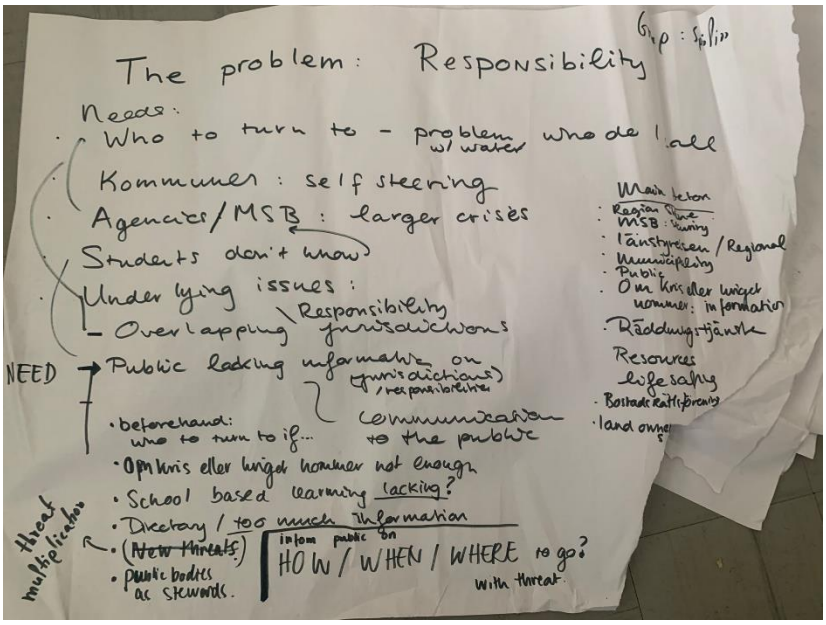
4) Create a program for vulnerable people to contact emergency services to take them to a cooler space.

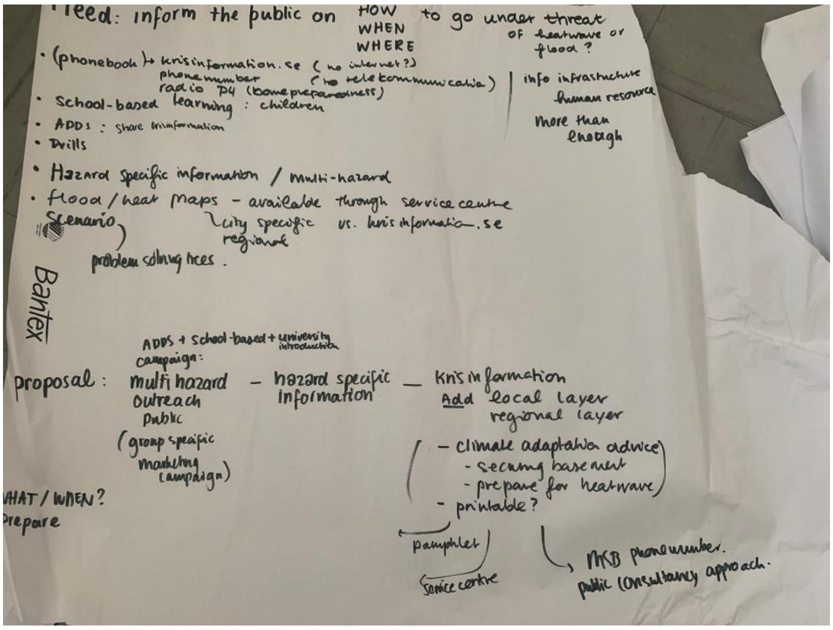




Group D.

Group D identified as a main problem the lack of information towards the public on how to be prepared for heatwaves and floods. The outcome of the discussion and the steps followed was a single proposal. The proposal concerned a multihazard, group-specific outreach campaign maybe through krisinformation.se, where the local layer could be added to the regional and national one, so all the hazard specific information can be available at one place for all locales in Sweden.




Need: inform the public on HOW WHEN WHERE to go under threat of heatwave or flood ?
• (phonebook) → krisinformation.se (no internet?)
phonenumber (no telekommunication)
radio P4 (home preparedness)
• School-based learning : children
• ADDs : share krisinformation
• Drills
info infrastructure
human resource
more than enough
• Hazard specific information / multi-hazard
• flood / heat maps - available through service centre
Scenario
problem solving trees.
city specific vs. krisinformation.se
regional
Bantex
ADDS + school-based + university introduction
campaign:
proposal : multi hazard outreach
public
(group specific marketing campaign)
– hazard specific information
– krisinformation
Add local layer
regional layer
– climate adaptation advice
- securing basement
- prepare for heatwave
- printable?
pamphlet
service centre
MSB phonenumber.
public consultancy approach.
WHAT / WHEN ?
Prepare