

Circular Urban Development and Stakeholder participation in Buiksloterham, Amsterdam

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Abstract

As cities seek to transition to a sustainable and resilient future, the concept of circular urban development (CUD) has come forward as a promising transformative planning paradigm. While technical innovation and sustainable goals dominated the discourse of the circular economy (CE), the social dimension, in particular the role of stakeholder participation, is increasingly addressed. This thesis research explores how CUD in Buiksloterham, a pioneering neighbourhood in Amsterdam, supports the participation of stakeholders in the transition towards a circular city.

Based on the theoretical framework of Paul Lachapelle (2008) for the sense of ownership, this thesis researches how trust, participatory processes, tangible results, and justifiable equity shape the participation of stakeholders. By implementing a qualitative case study design including semi-structured interviews, document analysis, and an field observation this research analyses the participatory structures, platforms for knowledge sharing, and governance mechanisms in Buiksloterham.

The results show that while Buiksloterham supports participatory engagement by using co-creation tools, iterative learning, and experimental governance, it limits equitable participation by structural barriers such as institutional fragmentation, limited inclusivity, and market dominance. While there is a strong culture of trust and a shared common goal supporting local ownership in the process and outcome, the sense of ownership in distribution remains unequal.

This study concludes that CUD can support the participation of stakeholders on a meaningful basis if co-production and knowledge are embedded into governance structures illuminating systematic inequalities. The case of Buiksloterham offers both a promising example and a warning story: Participation in circular urban development should be invited and needs to be empowered, sustainable, and equally distributed.

Keywords: Circular Urban Development, stakeholder participation, sense of ownership, Buiksloterham, circular economy, co-governance, trust, participatory planning, urban sustainability

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1. Introduction

Urbanization in the 21st century presents numerous opportunities, yet it also exacerbates the challenges of sustainability. Urban areas, as complex socio-technological systems, are responsible for the majority of global energy consumption, waste production, and greenhouse gas emissions. As a reaction to this problem the concept of Circular Economy (CE) was introduced as a promising alternative for the traditional linear "take-make-dispose" model. Circular Urban Development (CUD) strives to implement CE principles in urban development and governance, with the goal of regenerating natural systems, designing out waste, and maintaining the utility of materials as long as possible (Kirchherr et al., 2017). However, CUD does not rely solely on technological solutions or infrastructural innovation; it also is crucially dependent on active participation of diverse urban stakeholders (Ampatzidou et al., 2015). This regards about municipalities, companies, societal organizations, academic knowledge institutions, and fundamentally local communities.

Within the landscape of urban development experiments, Buiksloterham, a former industrial area in Amsterdam-Noord, has become a prominent area for testing and implementing CUD principles. Buiksloterham is an example of a real-world environment where new approaches to sustainability, participation, and circularity can be developed, tested, and iteratively fine-tuned. It is home to numerous experimental initiatives, such as cooperative housing models, decentralized sanitary systems, and local platforms for knowledge sharing (Metabolic, 2014a; Ersoy & van Bueren, 2020). These initiatives positioned Buiksloterham as the frontrunner for the circular urban transformation in the Netherlands and beyond.

The case of Buiksloterham raises critical questions about the role and effectiveness of participation in the circular transition. Despite high ambitions for inclusivity and innovation, tensions remain on the factual distribution of influence, benefits, and responsibilities between stakeholders. Participation often remains symbolic, while effective decision-making remains in the hands of dominant institutional stakeholders (Williams, 2019; Corvellec et al., 2021). As a result, the social dimension of circularity remains underexposed or insufficiently embedded in practice.

This research seeks to question and understand these tensions on how circular urban development in Buiksloterham supports or limits the meaningful participation of stakeholders. By implementing the ideas of Paul Lachapelle's (2008) sense of ownership. Using this ideology, concentrating on the process and outcomes of participatory planning, as well as the distribution of ownership, this thesis focuses on giving insights into the conditions under which circularity can be both ecologically effective and socially inclusive.

1.1 Research problem statement

The circular economy is often described as a win-win model taking into account ecological and economical perspectives. However, CE often lacks a genuine dedication to social justification, power dynamics, and participatory governance. Scholars such as Mies & Gold (2021) and Padilla-Rivera et al. (2020) stress that without the integration of cultural values and social practices, CE strategies risk to support existing inequalities and undermine the democratic legitimacy. The tendency to concentrate

on market-driven solutions and technical innovation marginalizes critical questions about who participates, influences, and profits from circular initiatives.

Buiksloterham offers a convincing example to research this concern. The transformation from a polluted brownfield to a living experimental neighbourhood has been achieved by collaborative planning and the ambition to achieve circularity by using co-creation with stakeholders. Still, studies have noted disparities between the participatory rhetoric and the actual governance structures (Helleman et al., 2021). Informal stakeholders; such as renters, immigrants, and low-income citizens, often are confronted with limitations of participation such as time, expertise, or institutional access. Meanwhile formal actors such as project developers and the municipality have major influence on planning decisions and the allocation of resources (Obersteg et al., 2021).

The stated inequality signals for broader problem in the discourse of circular cities: the inadequate integration of inclusive governance mechanisms who acknowledge power asymmetries and address them. If participation remains process-based in stead of substantive, the transformative potential of CUD could remain untouched. Addressing the problem that needs to be studied and researching the mechanisms with which stakeholder participation in Buiksloterham could effectively support or limit the circular transition.

1.2 Research aim and questions

The overarching aim of this research is to explore how stakeholder participation in circular urban development supports the circular city transition in Buiksloterham. In particular, it tries to uncover the connection between participatory planning, generating a sense of ownership with stakeholders, and realizing justified outcomes.

Main Research Question:

- *How does circular urban development in Buiksloterham support stakeholder participation in the circular city transition?*

Sub-Questions:

1. How do participatory planning methods in Buiksloterham contribute to a sense of ownership among stakeholders during the circular urban development process?
2. How does stakeholder participation in Buiksloterham lead to tangible outcomes and long-term knowledge-sharing structures in circular urban development?
3. How is ownership of benefits and responsibilities distributed among different stakeholder groups in Buiksloterham's circular city initiatives?

These sub-questions are in line with the three dimensional model, the sense of ownership by Paul Lachapelle (2008) – process, outcome, and distribution – which serves as the theoretical basis for evaluating the participatory effectiveness of circular governance.

1.3 Scientific relevance

This research contributes to the growing, yet underdeveloped science that critically examines the social and governance dimensions of the circular economy. While CE has become a dominant paradigm in environmental and urban policies, social and institutional foundations remain controversial. A major part of the literature focuses on the economic and ecological benefits of circularity, with less attention for developing the mechanisms for inclusive governance and participation of stakeholders (Kirchherr et al., 2017; Corvellec et al., 2021).

By integrating the sense of ownership theory of Lachapelle (2008) with empirical data from a real-world case study, this research promotes the theoretical understanding of participatory dynamics in circular urban transitions. It broadens the conceptual model of ownership, often applied in community development and public governance, towards a specific context of CE and urban sustainability. In doing so, it also deals with adjoining areas such as transition studies (Frantzeskaki et al., 2018), co-governance theory's (Nabatchi & Emerson, 2015), and critical urban development (Forester, 1989).

In addition, this research contributes to a methodological innovation by operationalizing ownership through a triangulated research design that analyses document analysis, semi-structured interviews, and an ethnographic field observation. This approach not only captures the formal structures of participation but also brings to light the lived experiences, perceptions, and stories of stakeholders involved in the circular transformation of Buiksloterham.

Furthermore, this study offers an empirical basis for theoretical claims about the interpretations of inclusive participation in CE transitions. It researches how different stakeholders negotiate and navigate power dynamics. Additionally, providing suitable insights into not only academic but also practical applications.

1.4 Societal relevance

The banking crisis in 2008 has given Buiksloterham the opportunity to redevelop new structures of urban development creating a diverse, circular, and end-user orientated urban environment (Delva, 2016). The redevelopment of Buiksloterham is an example of how cities can make the transition to a circular economy by combining sustainability with economic growth and social well-being (Metabolic, 2023). This study is mainly relevant in understanding how different stakeholders such as; public authorities, private developers, civil society organisations and citizens work together to implement genuine circular principles.

The significance in this study, from a societal perspective, lies in the ability to communicate sustainable developments with an inclusive, democratic, and effective approach. As cities around the world introduce CE frameworks the need for a balance between sustainable goals and societal justification gains more momentum.

Buiksloterham is not just a random experiment in Amsterdam; it is a worldwide known reference point regarding circular urban development. Lessons that can be learned from the successes and shortcomings help other urban areas avoid pitfalls and design better participatory structures.

The findings of this study can support policymakers in identifying pitfalls for inclusive governance and in designing interventions broadening stakeholder engagement, especially for marginalized groups. Urban planners can gain insight into how co-creation tools, such as workshops and living labs, can be used to create trust and legitimacy and embed circular practices into the realities of the community.

Moreover, this research plays a role in the broader societal demand for more participatory and transparent forms of governance. The growing dissatisfaction with top-down planning and technocratic sustainability solutions highlights the importance of a citizen-centric approach. As Van den Berghe and Vos (2019) suggest, framing circularity in terms of equality and inclusivity generates broader social support and promotes long-term engagement.

Finally, civil society organisations and local communities can benefit from a better understanding of how participatory mechanisms function in practice. By exposing both boundary conditions and systemic barriers, this study can empower all layers of stakeholders to advocate for a more equitable participation in circular transitions.

In conclusion, this research provides a basis for analysing the participation of stakeholders in circular urban development, based on a robust theoretical framework and a practical perspective. By investigating the interaction between participation, ownership and governance in Buiksloterham, the research aims to highlight ways towards more inclusive, resilient and circular cities. In the following chapter the theoretical background of participation in circular urban development will be delved into, exploring the conceptual and empirical insights that underpin this research.

2. Theoretical background

2.1 Literature review

Circular Urban Development (CUD) represents a transformative strategy for redeveloping urban area's taking the basic principles of Circular Economy (CE) into account. Within CE these prioritized principles are regeneration, resource efficiency, and long-term resilience (Kirchherr et al., 2017). Technical and spatial innovation are central; however, participation has been increasingly recognized as a main factor to success in the circular city transition (Ari-Veikko Anttiroiko, 2023; Sweco Group, 2015). Especially regarding Buiksloterham, a post-industrial district in Noord-Amsterdam, serving as an Urban Living Lab (ULL) where participatory processes play a crucial role in defining and shaping circular practices (Steen & van Bueren, 2017).

Participation, regarding the context of CUD, transcends token consultation and strives towards co-creation, shared governance, and empowerment of the community (Mahmoud et al., 2021). However, realizing these practices remains a complex practice. According to Mies and Gold (2021) the social participative dimension can not be excluded in the transition towards a CE and therefore needs a balanced integration in society. But most approaches to circular transition lack integration. According to Padilla-Rivera et al. (2020) the transition towards a CE is impossible by only creating policy changes or technological developments. They argue that social practices and values have to be taken into account in order to achieve a true inclusive circular transition

The following literature review delves into the theoretical underpinnings, empirical practices and institutional challenges of stakeholder participation in CUD. Based on synthesizing scientific papers and policy documents to assess how stakeholder participation contributes to or limits the realization of a circular city. This will be split up into four dimensions explaining the participatory process—Stakeholder dynamics, Participatory planning, Knowledge sharing & learning, and Governance innovations & equity—defining patterns, tensions, and lessons for use throughout this research.

Stakeholder dynamics

With CUD initiatives there is a wide variety of stakeholders, such as municipalities, urban planners, architects, project developers, knowledge institutions, citizens, and NGO's. Each stakeholder brings its own goals, resources, and worldviews, which can lead to productive collaboration or deep-rooted conflicts (Bolger & Doyon, 2019). Mapping these dynamics is crucial for understanding the chances and restrictions of participation. Understanding these dynamics becomes more important when we look at inherent power imbalances which shape the interactions between stakeholders in CE projects.

Blok (2023) states that the difference in interests between different types of stakeholders should be taken into account. Consider the municipality, businesses, communities, or developers. In light of the arguments presented by Long (2023) and Mies & Gold (2021), transitions towards a CE require a systematic, experimental, and participative approach. The interests of stakeholders need to be taken into account, as well as cultural and social aspects to address the current overemphasis on environmental and economic goals (Chizaryfard et al., 2020).

Stakeholder asymmetries are renowned within CE projects, while municipalities govern the policy's, private project developers hold power over significant resources (Van den Berghe & Vos, 2019). Citizens, especially people with a marginalized background may lack formal platforms to influence decision-making. Barba Lata et al. (2023) argue that to achieve transformative transitions in the CE, a critical rethink is needed to ensure that value is created, retained, and distributed. Barba Lata et al. (2023) also stress the importance of addressing structural power imbalances and ensuring a fairer distribution of benefits and burdens between stakeholders. These tensions are not purely conceptual but become visible in practical cases where circular initiatives are implemented.

An important challenge for successful knowledge sharing and interaction with stakeholders is the difference between contextual backgrounds. Nowinska & Pedersen (2022) and Yip (2011) argue that knowledge needs to be adjusted to specific contexts where they are being applied. Stead (2012) points out that the usefulness of ideas is influenced by their transferability and visibility. Simultaneously, there are still obstacles with knowledge sharing within and between projects. Holly et al. (2023) note that some institutes are not willing to share their innovations and strategies, leading to stagnation in the transition towards circularity.

Buiksloterham shows the possibility's and the shortcomings of participation in multi-stakeholder engagement. Ampatzidou et al. (2015) documented how early stages of development were dependent on cooperative structures and joint planning. These include residents, entrepreneurs, and public officials co-developing visions. Nevertheless, Helleman et al. (2021) show that informal stakeholders can be sidelined, limiting inclusivity of participation.

Participatory planning

The integration of participation into CE-strategy's remains unconvincing. While CE is often depicted as the potential for decoupling economic growth and environmental degradation (Ellen MacArthur Foundation, 2015), dominant narratives focus on technological innovation and market mechanisms. Such as Kirchherr et al. (2017) emphasize that CE is largely driven by business and governmental powers, with limited roles assigned to citizens or civil society. Appendino et al. (2021) note that current urban CE projects often prioritize practical tools such as material flow analyses and circularity indicators, yet participatory planning and co-design of the community is often overlooked. This limited framing of participation creates the basis for deeper worries regarding the social dimensions of CE.

This technocratic framing threatens citizens to take the role of passive participation in contrast to the active influential participants of urban circularity. Corvellec et al. (2021) indicated that CE, as currently practiced, misses sufficient societal embedding. They argue for a re-politicization of CE, acknowledging diverse knowledge systems, power balances, and participatory imperatives. To address this gap, scholars turned to theoretical perspectives that redefine the role of citizens within the transition.

Theoretical contributions from transition studies contribute towards this perspective. Concepts such as "The Democracy Cube" (Fung, 2006) and "empowered deliberation" (Arnstein, 1969) emphasize that participation must include decision-making power to drive systemic change. Williams (2019) and Obersteg et al. (2021) conclude that initiatives for CE in urban areas often rhetorically call for participation but do not succeed in distributing power and guaranteeing inclusivity. In response to

these ongoing critiques some specific urban cases offer practical insights on how participatory frameworks can be implemented more effectively.

Buiksloterham is one of those cases, adopting participatory frameworks, which are rooted in the living lab (ULL) methodology. Steen & van Bueren (2017) and Frantzeskaki et al. (2017) define ULL as an experimental area in the real world, where stakeholders work together to innovate, test, and redefine urban solutions. These ULL's are based on iterative learning and interaction with stakeholders in contrast to top-down planning. This bottom-up, experimental character is illustrated and exemplified in the Hackable City (Ampatzidou et al., 2015) and the Buiksloterham Sustainability Manifesto by Metabolic (2014a).

The Buiksloterham Sustainability Manifesto (Metabolic, 2014a) illustrates a collaborative vision in Buiksloterham. It brought public, private, and civil society actors together to achieve common circular objectives and aligned visions. Using co-creation workshops and planning charrettes, stakeholders were able to participate and adequately comprehend their needs. Additionally, they were able to experiment with ideas such as renewable energy, decentralized sanitation, and shared mobility. The created joint effort opened a pathway towards institutional innovation, although not without limitations.

Ersoy & van Bueren (2020) show that ULL's are able to break through traditional hierarchy's, leading to the fostering of new institutional arrangements. However, those spaces are often time-bounded and highly dependent on temporary funding or policy support. As Remøy et al. (2019) conclude, the transition from experiments to embedded policy remains a major challenge. To understand how these limitations play out in practice, a closer look at multiple Buiksloterham initiatives is instructive.

Further elaborating on Buiksloterham's participatory approach, Ersoy and van Bueren (2020) analysed three ULL cases: *De Ceuvel*, *Schoonschip*, and the *Circular Buiksloterham Manifesto*. They show how different learning loops shape innovation in localized settings. Ersoy and van Bueren (2020) emphasize that ULL's foster localized experimentation and multi-stakeholder co-creation; nevertheless, local participation is often misinterpreted, leading to a mismatch in expectations.

Knowledge sharing & learning

Participation revolves around generating and exchanging knowledge. In CUD produced knowledge between citizens, experts, and institutions is essential for adaptive governance. Van Uden et al. (2025) states that researching the role of knowledge hubs in scaling circular practices learning, accountability, and network expansion. This emphasis on knowledge production highlights the need for accessible platforms enabling practical knowledge sharing in urban contexts. Knowledge sharing between and within areas is crucial for accelerating the circular transition (Chembessi, 2023). Creating knowledge-sharing networks enables all stakeholders to participate and work towards a CE.

In Buiksloterham *OpenResearch Amsterdam* and *De Ceuvel* serve as important nodes for distributing local knowledge. These platforms present transparent data, community initiatives, and dialogue. Metabolic (2014b) describes *De Ceuvel* as a testbed as well as a tool for public participation, where citizens can learn about sustainable circular life. Yet, the effectiveness of such initiatives of knowledge sharing depends on their continuity and institutional support. According to Matsuo and Aihara (2021),

at the community level, it is beneficial to create a community of practice, creating a space where people with common problems or worries can think and solve together. Matsuo and Aihara (2021) stress that certain communities need facilitators, such as professionals, with a shared vision to stimulate knowledge sharing.

Municipal support is crucial for upscaling participative circular practices. The Circular Amsterdam Innovation and Implementation explicitly calls for the participation of stakeholders when upscaling (Gemeente Amsterdam, 2020). However, the implementation remains unevenly divided. Williams (2019) acknowledges that strategies for CE often fail when participants have insufficient resources or are treated as peripheral. Research carried out by Bartezzaghi et al. (2024) and Nguyen et al. (2020) indicated that upscaling of participative platforms, cross-sector partnerships, and city networks needs to facilitate collaborative learning.

Mies and Gold (2021) argue that when municipalities are more involved in local communities, the communication and engagement facilitate the decision-making processes. Encouraging a sense of ownership, stimulating the chance of support from the community for circular practices. Conversely, Vence et al. (2022) note that the lack of involvement and inclusivity can hinder the upscaling of circular practices, especially when they don't align with the needs of the community. In light of these challenges, aligning policy frameworks with local contexts becomes a central requirement for effective and inclusive upscaling.

Policy integration requires not only aligning citywide strategies with local needs but also creating funding and legal structures for effectively strengthening the community. Reike et al. (2018) caution against top-down replication of CE models, which often neglect local diversity. Tailor-made policy instruments are essential to support context-specific participation.

Governance innovations & equity

While participative planning is a step in the right direction, scientists plead for co-governance institutional models where citizens have shared control over decisions and implementation (Jarenko, 2021; Nabatchi & Emerson, 2015; Obersteg et al., 2019). Obersteg et al. (2019) argue that co-governance enhances transparency, accountability, and legitimacy. Embedded community monitoring facilitates the circular transition on environmental impact. Appendino et al. (2021) researches case studies which show how CE thinking is translated in governance structures in urban areas, where institutional potential and structural limitations are uncovered. These theoretical arguments and previous practical researches become practically relevant when observing how co-governance models are being tested in real-world contexts in Buiksloterham.

Buiksloterham saw early experiments with co-governance through cooperative housing associations and resident-led energy initiatives. These created tangible opportunities for resident involvement, in addition to consultation. However, OECD (2017) shows that such projects are often not financially scalable and face legal obstacles, especially in highly regulated urban contexts. Despite practical limitations it is crucial how circular governance is shaped when deciding on which participatory practices are being prioritized.

Van den Berghe and Vos (2019) emphasize the role of institutional discourse in shaping governance options. If circularity is framed solely in terms of efficiency, participatory and redistributive goals can take a back seat. That is why the language of the policy is important: inclusive policy can support co-governance by legitimizing broader participation. Yet, even inclusive approaches and governance structures require conscious strategies to reach and empower those who are most often excluded.

Valuable participation in CUD requires conscious efforts to let marginalized voices be heard and involve them so equitable justice can be guaranteed. Kastelein (2021) stresses that sustainable urban development projects often intentionally exclude groups. This can be caused by language barriers, socio-economic status, and/or limited digital access. Without corrective action, participation can become exclusive. Long (2023) adds that during the implementation of a CE much attention must be paid to a fair distribution of the benefits and burdens among the community. These patterns of exclusion also come to light in participatory efforts in Buiksloterham.

Buiksloterham made progress regarding participative innovation. However, concerns continue to exist about equity. Although self-build plots and cooperative housing promoted local control, within the community some participants lacked time, knowledge, or sufficient resources to effectively participate (Williams, 2019). As Barba Lata et al. (2023) argue, strategies for local value retention should critically address unequal capacities for participation and distribute the opportunities and benefits to prevent reinforcing existing social hierarchies. To address this, scholars pointed out the need for strengthening the trust on the community level and enabling support of frameworks for deeper inclusion (Christopher et al., 2008; Hansson, 2018; Herdiansyah, 2023).

2.2 Theoretical framework

Urban transitions towards circularity are increasingly dependent on the reliance of inclusive governance and active participation with stakeholders. In the context of Buiksloterham, an experimental neighbourhood in Amsterdam known for its circular ambitions, this thesis researches how the feeling of ownership influences and supports the participation of stakeholders towards urban circularity. This theoretical framework will therefore be based on Paul Lachapelle's (2008) concept of 'sense of ownership' in community development.

The framework enables research into the influence of stakeholder participation within the transformative circular urban development in Buiksloterham, Amsterdam. Due to circularity being dependent on inclusive governance (Lachapelle, 2008; Barrie, 2022; Purvis et al., 2023), this framework guides how the feeling of ownership influences and supports the participation of stakeholders towards urban circularity. The three interrelated dimensions from Lachapelle (2008) will guide this theoretical framework: sense of ownership in process, outcome, and distribution. The foundational role of trust will be taken into account alongside the interrelated dimensions enabling participatory practices.

Ownership through trust

Trust is the underlying basis of the interrelated dimensions (Lachapelle, 2008). Relational, procedural, and interactional trust enable risk and legitimacy. Both of those concepts are linked to disagreement in definitions by stakeholders due to exercising power when being defined. Transparency, accountability, and past experiences with collaborative transitions will be key indicators for participatory success. In the theoretical framework ownership is rooted in trust as a necessary condition of participation. Instead of one single action, trust is a relational and structural state supporting participation and a shared sense of responsibility. Based on Lachapelle (2008) and other scholars, trust offers a critical lens to understand how ownership is created, or denied, by social interaction, risk, and legitimacy.

Relational trust and ownership

Relational trust is cultivated through constant interaction and fulfilling expectations. It creates a feeling of mutual trust and dependence, increasing the chance of shared decision-making and collective action. When trust is developed over time, individuals will be more determined to trust each other, opening the possibility for ownership in community development processes (Weber & Carter, 2003; Seligman, 1997). This sense of trust supports shared identity, harmony, and a willingness to create solutions together, essential for sustainable ownership (Rousseau et al., 1998).

Risk, trust, and power

Ownership is shaped by how individuals perceive and negotiate risk. Despite the uncertainty's trust enables stakeholders to participate; however, definitions of risk are often contested and integrated within power dynamics (Rousseau et al., 1998; Slovic, 1999). When certain voices dominate the framing of risk, others can feel left out or powerless, limiting the sense of ownership. Showing that trust enables a more equitable negotiation of risk and highlights how power participates in defining acceptable levels of uncertainty within participatory practices.

Legitimacy and authority

The perception of legitimate authority influences the trustworthiness of decision-makers and the willingness of stakeholders to invest in ownership. When processes are transparent and inclusive, communicating rules and expectations, they will increase trust in institutions and individuals (Forester, 1989; Hudson, 1979). Conversely, perceived illegitimacy undermines the trust and potential for ownership. Acknowledging this dynamic emphasizes that ownership is not only granted by formal roles but also can be earned and maintained by relational legitimacy and procedural fairness.

A Sense of Ownership in the Process

This dimension revolves around stakeholders who have a voice and whose voice is heard in community planning and implementation. Lachapelle (2008) suggests that a sense of ownership in the process of planning structures is realized when people in communities have the feeling their perspectives matter and are integrated into projects. Circular urban development in Buiksloterham is closely linked to experimental and bottom-up planning methods (Ampatzidou et al., 2015). These methods challenge the traditional hierarchies of municipal governance by promoting dialogue between public institutions, private developers, communities, and knowledge partners. Here, the degree of stakeholders being able to co-create agenda's, set priorities, and negotiate trade-offs is essential. A circular approach requires systematic thinking and long-term visions, which need participative structures to create a continuous dialogue and enable iteration.

Participatory planning

Building on Lachapelle's (2008) idea of 'sense of ownership', meaningful participation in circular urban development needs to go beyond symbolic engagement and aim for genuine influence on decision-making processes. When citizens feel that their perspectives shape outcomes, they are more likely to develop a sense of ownership in the process, responsibility and long-term commitment to the project. This especially becomes relevant in the context of CE, where scholars such as Kirchherr et al. (2017) and Corvellec et al. (2021) critique current CE narratives due to them marginalizing society in favour of technocratic market-driven solutions. A sense of ownership is undermined when citizens are being positioned as passive receivers of innovation instead of co-creators of systemic change. Transition theorists such as Arnstein (1969) and Fung (2006) endorse Lachapelle's emphasis on agency, arguing that empowered deliberation and deep participation are essential for a justified and circular urban future.

Buiksloterham illustrates how participatory structures stimulate this through iterative, bottom-up planning (Ampatzidou et al., 2015). Initiatives such as the Buiksloterham Sustainability Manifesto (Metabolic, 2014a) engaged diverse actors through co-creation tools like workshops, allowing stakeholders to set agendas and trade-offs. However, as Ersoy & van Bueren (2022) note, this sense of ownership is often stagnated and limited through lack of temporary and institutional funding. When participation wants to be transformative, it has to be supported by long-term governance frameworks for anchoring local knowledge and ensuring involvement. Lachapelle's (2008) concept serves as a critical lens and reminds us that ownership does not only revolve around presence in the process, but also to ensure that all voices actually shape the outcome and structures in the circular city.

A Sense of Ownership in the Outcome

Ownership in the outcome focuses on who has influence on decisions and what the results are from participative efforts. According to Lachapelle (2008) participation shouldn't only be symbolic but should also lead to tangible impact on the physical and social structure of the community. A genuine sense of ownership requires more than just involvement; it is dependent on the ability to influence outcomes in practicable ways. A sense of ownership emerges not only through formal authority but also through accessible ongoing opportunities to take and shape decisions.

Knowledge sharing & learning

From Lachapelle's (2008) perspective, true ownership of the outcome requires that participation not only influences decision-making, but also translates into visible, lasting transformations. In the context of Buiksloterham this is clearly visible in initiatives such as *OpenResearch Amsterdam* and *De Ceuvel*, which serve as platforms for sharing local knowledge, developing joint solutions, and stimulating transparency. These mechanisms for knowledge sharing are essential for building a community practice, where learning becomes an integrated and continuous part of urban governance (Matsuo & Aihara, 2021). Such as Van Uden et al. (2025) and Chembessi (2023) demonstrate, exchanging knowledge between citizens, institutions, and experts enables adaptive governance, creating accountability. This sense of accountability is crucial for upscaling circular efforts in a way that aligns with community needs.

However, the realization of the sense of ownership in outcome also depends on the institutional support to embed these learning structures and to maintain them. Van Uden et al. (2025) emphasize that participatory knowledge systems without sustainable frameworks are at risk of being fragmented or becoming short-lived. Municipal involvement, such as emphasized by Mies & Gold (2021), is crucial for maintaining long-term engagement and ensuring results are in line with the local context. Conversely, when participation is under-resourced or disconnected from policy, results often do not reflect the priorities of those involved (Vence et al., 2022). That is why a genuine sense of ownership in outcome should not only be rooted in inclusion but also in physical community-driven results that emerge from it.

A Sense of Ownership Distribution

Ownership should be equally distributed. This dimension questions who profits from the circular transition and who pays the price. Lachapelle (2008) introduces a justice-oriented lens to research low-income households, renters, and newcomers being involved in and profiting from circular urban development. Intergenerational and ecological perspectives are as well taken into account, where ownership is framed as a multi-scalar and temporarily extended.

Governance innovations & equity

In line with Lachapelle's justice-oriented perspective, a fair distribution of ownership requires that all community members can meaningfully profit from and shape CUD. Models of shared governance, as argued by Obersteg et al. (2021), offer a step toward more equitable structures by enabling citizens to share control over planning and implementation. Early experiments in Buiksloterham with cooperative households and citizen-led energy projects illustrate how redistributive participation can be put into

action. However, OECD (2017) shows that these models often face financial and legal constraints and are at risk of neglecting marginalized voices if they are not purposefully designed to overcome structural barriers.

Effective distributive sense of ownership requires more than spatial proximity or rhetorical inclusion; it requires structural and procedural equity. Kastelein (2021) and Long (2023) stress that without deliberate mechanisms to engage low-income groups and other underrepresented populations, circular strategies risk reinforcing existing inequalities.

Conceptual model

This chapter presents the conceptual model developed for this research. As defined by Robinson et al. (2015): “a conceptual model has been defined as the result of the processes leading from the task to the specification of the conceptualization of the ontological structure of the problem domain, comprising assumptions and constraints relevant to all relevant modeling decisions. The result shall be captured as a formal representation, which allows machine support and supports a better understanding of errors and uncertainty.” This has been illustrated in the figure 1 below:

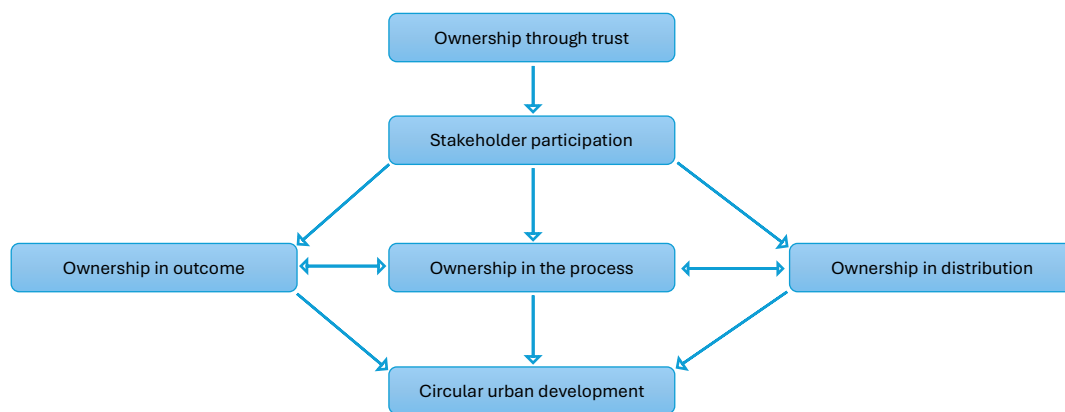


Figure 1 Conceptual Model (own work)

Establishing *ownership through trust* between stakeholders is a basic condition for meaningful *stakeholder participation* to circular urban development. Trust especially plays a crucial role in formulating the problems and challenges, where relational and procedural trust are influencing whose definition is heard and legitimized. As discussed earlier trust enables fair negotiations regarding possible risk and prevents dominant voices from overwhelming others during the critical early stages of participatory processes. The establishment of trust enables the creation of ownership in three interrelated dimensions: process, outcome, and distribution. *Ownership in the process* represents the active participatory planning and decision-making. *Ownership in outcome* relates to co-production of tangible, through stakeholder knowledge sharing and learning. *Ownership in distribution* aims at governance innovations and equity. Together these three interrelated dimensions support a justifiable and adaptive model of CUD. This conceptual model empowers itself to react to social challenges, while at the same time prioritizing the systematic transition.

2.3 Operationalization

In the following table the operationalization is given:

Sub-question	Theory	Method
How do participatory planning methods in Buiksloterham contribute to a sense of ownership among stakeholders during the circular urban development process?	A sense of ownership in the process. Focusing on: <ul style="list-style-type: none"> - Participatory tools - Perceived influence and voice - Stakeholder agency 	<ul style="list-style-type: none"> - Semi-structured interviews with stakeholders - Coding of interviews and analysing patterns - Desk Research
How does stakeholder participation in Buiksloterham lead to tangible outcomes and long-term knowledge-sharing structures in circular urban development?	A sense of ownership in the outcome. Focusing on: <ul style="list-style-type: none"> - Tangible Results - Knowledge sharing and learning - Institutional embedding 	<ul style="list-style-type: none"> - Semi-structured interviews with stakeholders - Coding of interviews and analysing patterns - Desk Research
How is ownership of benefits and responsibilities distributed among different stakeholder groups in Buiksloterham's circular city initiatives?	A sense of ownership in the distribution. Focusing on: <ul style="list-style-type: none"> - Inclusivity and equity - Shared value creation - Governance and structural fairness 	<ul style="list-style-type: none"> - Semi-structured interviews with stakeholders - Coding of interviews and analysing patterns - Desk Research

Table 1. Operationalization (own work)

3. Methodology

In this section, the outlines of the methodological foundation of this research will be set. In the following chapters chronological detailed descriptions will be given of the philosophical perspective, research strategy, methods of data collection and analysis, and procedures taken to ensure validity and reliability. It concludes with an in-depth description of the case study, Buiksloterham. The methodological approach used in this research is adopted from the systems-oriented and participatory principles articulated by Vennix (2011), and it is adjusted to investigate the main research question:

How does circular urban development in Buiksloterham support stakeholder participation in the circular city transition?

Circular urban development (CUD) represents a multifaceted process where several stakeholders, conflicting interests, and experimental governance structures are involved. As such, the research requires a methodological framework capable of capturing social complexity, systemic interactions, and subjective experiences. Following this logic a qualitative, constructivist, and case-based methodology has been developed.

3.1 Research philosophy

The philosophical basis of this research was rooted in constructivist interpretivism, stating that knowledge is produced socially and meaning is generated through interaction and context. Constructivism assumes that there is no objective reality that exists independently of human cognition. Instead, reality is constructed by individuals and groups based on their experiences and interpretations. This epistemological attitude is especially relevant in researching the participatory processes and ownership of stakeholders within circular urban developments. Due to them being inherently shaped by perceptions, negotiations, and collective meaning.

According to Vennix (2011) constructivist research is most suitable for cases where the subject is embedded in a web of social relations and systematic feedback. In such environments, knowledge can't be reduced to isolated variables or linear causality but must be understood as emerging from dynamic, recursive interactions between actors, structures, and environment. In the case of Buiksloterham, where experimental circular development has interfaces with participation, power, and governance, a constructivist approach allows the researcher to interpret stakeholder narratives, to understand tensions between inclusion and exclusion, and to analyse how ownership is felt, established, and distributed. This philosophy enables reflection, in which the researchers' own position in interpreting data and shaping meaning is recognized.

3.2 Research strategy

To address the complexity of circular urban development in Buiksloterham, a qualitative single-case study strategy was adopted. This approach allowed for an in-depth, context-sensitive exploration of the research problem. The choice for Buiksloterham as a case study stemmed from Buiksloterham's

status as a recognized urban living lab (ULL) and its reputation as a pioneer in the field of circular innovations in the planning and building environment through experimental, participatory, and governance mechanisms. As implied by Vennix (2011), case study research is suitable for answering questions that require systematic thinking and that relate to the interactions between actors in dynamic social environments. The case study did not focus on statistical generalization but rather on analytic generalization, where insight was provided into broader processes by delving into a specific case context.

This strategy was supported by triangulated data collection methods including document analyses, semi-structured interviews, and a field observation. The goal was not to only describe participatory practices in Buiksloterham but also to critically analyse how a sense of ownership was created, maintained, and challenged in relation to CUD. The case study approach allowed for identifying patterns, contradictions, and systematic tension, which were difficult to observe by means of a broader, comparative methodology.

3.3 Research methods and data collection

The methods used in this research were selected to capture the complexity and multifaceted of participation of stakeholders in circular urban development. Data was collected through three primary methods: document analyses, semi-structured interviews, and a field observation.

The first method involved analysing a wide range of policy documents, urban planning reports, manifestos, and project evaluations related to Buiksloterham. This offered an institutional and discursive understanding of how participation and ownership are framed and how circularity is being integrated into local planning strategies. Particular attention was given to the Buiksloterham Sustainability Manifesto and strategy documents of Circular Amsterdam, which represented normative goals and participatory aspirations of the city.

The second method, semi-structured interviews, was designed to gain access to the lived experiences and subjective perspectives of the stakeholders who were involved in the developments of Buiksloterham. In total, 5 interviews were conducted with diverse stakeholders, including two municipal project managers, an active resident in the community, an architect, and an advisor from a knowledge institution (table 2). These interviews were structured by an interview guide with several open questions, which were adjusted and aligned with the theoretical framework based on Lachapelle’s (2008) sense of ownership (appendix 1). The guide focused on operationalized themes such as co-creation, knowledge exchange, and equity. The semi-structured interview guide offered a balance between consistency and flexibility, allowing new themes to be created while ensuring that core topics are systematically addressed.

Respondent number	Respondent name	Description	Date
Respondent 1	Anonymous	Project manager	May 14th, 2025
Respondent 2	Anonymous	Sustainable advisor	May 16th, 2025
Respondent 3	Anonymous	Project manager	May 21st, 2025
Respondent 4	Anonymous	Community-active resident	May 23rd, 2025
Respondent 5	Anonymous	Architect	June 4th, 2025

Table 2 Respondents (own work)

The respondents brought several collective perspectives to light. Especially the municipal staff (respondents 1, 2, and 3) shared a strongly aligned view on CUD and the participation of stakeholders in the transition and redevelopment of Buiksloterham. This resulted in a coherent and reliable representation of the municipal perspective on inclusive and sustainable development, primarily focused on managing large-scale projects and initiating ideas related to CUD.

On the other hand, the community-active resident and the architect emphasized more pragmatic and small-scale efforts. These perspectives also introduced a more critical viewpoint. While all municipal respondents and the architect acknowledged that there are limits and barriers, it was only the community-active resident who explicitly confirmed and emphasized these barriers.

In conclusion, the municipal respondents and the architect mainly reflected theoretical and institutional perspectives, whereas the community-active resident contributed the essential practical, real-world insight that highlights the everyday realities of implementing CUD in practice.

The third method consisted of a field observation in Buiksloterham. The researcher conducted one site visit at *De Ceuvel* to observe how circular principles manifest in the physical environment and how participatory structures are reflected in everyday interactions. This observation helped contextualize the documentary and interview data and offer a funded understanding of spatial and material dimensions of CUD. The observation protocol, as stated in appendix 3, consist of informal notes, visual documentation, and analyses of community spaces.

Taken together, these three methods created a triangulated research design. Enhancing the robustness of findings and allowing the researcher to compare institutional claims with on-the-ground realities. Vennix (2011) stresses the importance of methodological triangulation in complex systems research to ensure interpretive depth and empirical validity.

3.4 Data analysis

The collected data was analysed using a thematic analysis framework guided by both deductive and inductive reasoning. Deductive codes were formulated based on the theoretical framework by Lachapelle (2008), which distinguishes between *ownership in process*, *ownership in outcome*, and *ownership in distribution*. These three dimensions were used to classify data collected through the interviews and help document the references in a structured way. For example, expressions that influence decision-making processes were coded under *ownership in process*, while descriptions of tangible results were categorized under *ownership in outcome*.

Simultaneously, the analyses made it possible to identify inductive themes. These can be unexpected barriers to participation, informal networks of collaboration, or disparities between perceived and actual inclusion. This iterative process made sure that the analysis stayed open for new insights instead of being limited to initial theoretical assumptions.

Interview transcripts were transcribed verbatim and analysed with the use of Atlas.ti to systematically organize and encode data, this has been done with a codebook (appendix 2) Field notes and the observation were synthesized with analytical memo's, using the same coding method and codes of the interview. With the acquired data from the field and the same coding book from the interviews, the data analysis was more grounded. The content of the document were manually coded, where the most

important passages were coded for their relevance to the conceptual categories of the theoretical framework.

The purpose of the analysis was not only to categorize answers but also to research how ownership is articulated and contested by different actors. As Vennix (2011) highlights, qualitative systems research is fundamentally interpretive and seeks to unveil patterns of meaning and interaction that shape collective outcomes. By identifying these patterns, the research seeks to explain the mechanisms that enable or limit meaningful participation of stakeholders in CUD.

3.5 Validity and reliability of the research

Guaranteeing validity and reliability in qualitative research requires transparency, reflexivity and a systematic design. The internal validity is supported by triangulation using several data sources. This ensure claims are verifiable and grounded due to the mix of policy documents and a field observation. The difference between what respondents say and what is officially in the policy documents adds to the trustworthiness of the results.

Construct validity is supported by grounding the research on a clearly and transparently defined theoretical framework, with operationalized categories and indicators for every dimension of ownership. The framework guides the data collection as well as the data analyses and ensures a coherent chain of evidence. External validity, however limited by a single case study, is addressed through theoretical generalization. By synthesizing the case to broader debates about circular economy, participatory governance, and urban sustainability, the data provides insight that can inform similar contexts.

Reliability is achieved through documentation and transparency in the research process. The interview protocol, coding book, data, and coded files are maintained in a research log, RIS, to enable replication or review.

3.6 Case description – Buiksloterham

Buiksloterham, located in Amsterdam-Noord, is a post-industrial neighbourhood district that is rapidly being transformed into a prototype of circular urban planning. Back in the day Buiksloterham used to be a polluted industrial area, but now it is characterized by experimental housing projects, decentralized infrastructure systems, and joint planning initiatives (Metabolic et al., 2015). It functions as an urban living lab, a concept deeply rooted in real-world experiments with policy, design, and governance on an open and adaptive level.

The transition officially started with the *Investeringsbesluit Buiksloterham in 2006*, in this investment decision was stated that € 157 million was allocated for the redevelopment (Metabolic et al., 2015). Due to the high levels of polluted ground, the city opted for an organic, phased development strategy rather than immediate redevelopment of the area. Flexible zoning now makes it possible for residential and industrial functions to coexist. Sustainability is central to the growth of the area: since 2015, all new buildings must be climate neutral. The municipality issued tenders for self-build and innovative, environmentally friendly projects. By 2034, Buiksloterham is expected to house 6,500 residents and 8,000 employees and become a model for circular, community-led urban development.

4. Results

This chapter presents the most important findings from the interviews and field observation carried out in the context of circular urban development (CUD) in Buiksloterham. Supported and guided by the theoretical framework from Lachapelle (2008) about the sense of ownership, the analysis is organized around four main interrelated dimensions of ownership: trust, process, outcome, and distribution. Instead of only focusing on outputs, these results show lived experiences, perceptions, and practices of stakeholders navigating in a complex and experimental urban environment. Every section identifies recurring themes and tensions that came forward in the data and illustrates how ownership is constructed, challenged, and maintained on institutional, interpersonal, and societal levels. Used interview quotes are translated from the spoken language (Dutch) to English. To maintain the authenticity of the voices of the respondents, translations are direct and unaltered.

4.1 Ownership through trust

In this section the results are presented of how a sense of ownership is established by trust between stakeholders who participate and are involved in CUD in Buiksloterham. Based on the theoretical framework of Lachapelle (2008) the data shows how trust serves as a basis for legitimacy, risk negotiation, and relational engagement within participatory processes. From the interviews several patterns emerged, suggesting trust is not just a condition for participation but also a dynamic result of continuous collaboration and shared values.

Trust as condition for legitimacy and transparency

All the respondents often stressed the importance of procedural transparency as a starting point for cultivating trust. Especially regarding municipal staff and project managers there was a clear dedication and engagement to make decision-making transparent and traceable for stakeholders. Transparency is seen as a way to show legitimacy to the development and governance structures involved in the development of Buiksloterham.

"I think that's quite transparent. But I also think it's important, in the end they are official texts. The word facilities, for example, is something we like to use in our vocabulary, but it means very little to the citizen." – (Respondent 3, project manager, May 21st, 2025)

"It's quite non-transparent, because of course there are all kinds of forms of it. You have the system world and the living world." – (Respondent 3, project manager, May 21st, 2025)

This quote illustrates a common tension: however formal processes are technically transparent, their communicative accessibility stays limited. Technical terminology, abstract planning terms, and bureaucratic structures create barriers undermining the intended transparency. Transparency in this context is referred to as 'herleidbaar' (accountable), but not necessarily meaningful for all stakeholders.

Several respondents (respondent 1, project manager, May 14th, 2025; respondent 2, sustainable advisor, May 16th, 2025; respondent 3, project manager, May 21st, 2025) mentioned concrete

examples of institutional transparency, pointing out publicly available documents and dialogue, such as investment briefs and public consultations.

"And that eventually landed in such an investment memorandum. You can find them too. You have to look at buiksloterham.nl. A beautiful document. And that has landed in it. It was still available for inspection. People still have views on that. There has been a note of reply to that." – (Respondent 3, project manager, May 21st, 2025)

"They are transparent to me. We also know what their ambitions are. [...] So in that sense, governments are sometimes also partners for us to achieve that sustainable and circular development." – (Respondent 5, architect, June 4th, 2025)

But even with the procedural efforts, respondent 1 (project manager, May 14th, 2025) showed limitations on the agency of the way these tools are perceived and used:

"No, not always. But if I had any questions about that, I could do it all... Then I can find out why all that was done and who and how and so on." – (Respondent 1, project manager, May 14th, 2025)

These responses show that formal transparency alone is not a guarantee for trust. Trust is more than transparency; it also revolves around clarity, relevance, and the feeling of being truly involved in the logic and decision-making process.

An important nuanced aspect of trust in the data was the difference between the trust in institutions and the distrust in political leadership. While municipal staff is often depicted as knowledgeable and dedicated, political actors are framed as unreliable or selfish.

"The current government is of course uber stupid and does nothing and is really only politicizing and creating contradictions." – (Respondent 4, community-active resident, May 23rd, 2025)

"Civil servants who have long lines of communication, who have long knowledge, who have knowledge of dossiers, who look at things in a completely different way than politics." – (Respondent 4, community-active resident, May 23rd, 2025)

This distinction resembles the thought-out understanding of how trust often is shaped by the institutional structure. The trust in governance processes is maintained by consistency and knowledge, while political volatility creates a feeling of precarity and limits the perceived trustworthiness of participatory initiatives.

Nevertheless all the respondents also pointed out positive examples of political leadership, where sustainability agenda's were prioritized more due to political and sustainable agency:

"And an alderman with a certain signature who also thought sustainability and circularity were important and eventually got that through in the city council." – (Respondent 3, project manager, May 21st, 2025)

"One is as partners. On the other hand, they should also be a bit of the early adapters. So they are the executors of the vision that the government also has. Where are we going with the Netherlands? I notice that at the municipal level, some municipalities really have a vision. Nationally, there is no vision yet, no urban development vision. [...] If you have a civil servant there with whom you work very often, you also build a relationship of trust." – (Respondent 5, architect, June 4th, 2025)

These moments of harmony between political and institutional actors appear to be crucial levers for embedding circular values in policy.

Risk, trust, and power in a complex institutional environment

Lachapelle (2008) emphasizes that trust plays a crucial role in the manner stakeholders perceive risk and negotiate. In Buiksloterham development was perceived by stakeholders as inherently risky and unsure, especially due to its experimental characteristics regarding circularity. In this context, trust enables stakeholders to move forward despite its ambiguity.

"It's a kind of undertaking. On a daily basis, endless obstacles come your way." – (Respondent 3, project manager, May 21st, 2025)

"And therefore also to become more familiar and also to gain more confidence in that process and how you can help that process." – (Respondent 3, project manager, May 21st, 2025)

These reflections show that trust is not only essential for planning but also for navigating daily challenges. Where institutional support lacks or is inconsistent, relational trust can fill the gaps and offer to take initiative for stakeholders, even on unknown territory.

However, trust is not spread evenly. Respondents 3 (project manager, May 21st, 2025) and respondent 4 (community-active resident, May 23rd, 2025) expressed their concern about the power asymmetries and manipulation, mostly when sustainability is used by developers as a superficial marketing tool.

"They say, come and buy our house from us, because it is built circularly in Buiksloterham. [...] They benefit from it, but it is often not the case." – (Respondent 4, community-active resident, May 23rd, 2025)

This recalls a deeper concern; performative participation, where market-driven stakeholders use circularity for personal or commercial profit without any authentic engagement. Such practices can break the fragile trust, the same trust others are trying to strengthen. Which can result in less participation in CUD projects treating the transition.

While many participants were hopeful, a significant number expressed concern about the fragility of trust, especially when institutional inertia, lack of coordination, or scarcity of resources made it difficult to achieve shared goals.

"If you do everything on paper according to the rules that we have come up with ourselves, then it is not possible. We are in a transition, so you are going to run into that." – (Respondent 2, sustainable advisor, May 16th, 2025)

In these cases trust does not immediately fade away but is gradually being eroded by unfulfilled expectations. This stresses the importance of not only promising transparency and collaboration but also making those promises consistent and continuous.

At the same time, the interviews showed that there is active work put into strengthening the trust by structuring the learning, reflection, and monitoring process:

"We try to be really active in that. What lessons have we learned? We're going to have a session about it soon, too." – (Respondent 2, sustainable advisor, May 16th, 2025)

These reflection practices serve to maintain and regain trust, iterative improvements, and the strengthening of the participatory culture in Buiksloterham.

Relational trust through shared goals and collaboration

Besides procedural elements, the importance of relational trust was a strong returning theme in the respondents' answers. Relational trust is the feeling of connectedness and mutual responsibility that is created via shared efforts over time. In Buiksloterham this often occurred in the principal of 'leren door te doen' (learning by doing), a local ethos that underlines an action-oriented, experimental approach of urban development.

"That's just, I think, inspiring enough for a lot of areas to get started with." – (Respondent 3, project manager, May 21st, 2025)

"So by just taking the plunge and by doing, learning more and more and therefore becoming more familiar and also gaining more confidence in that process." – (Respondent 3, project manager, May 21st, 2025)

This iterative, hands-on approach enables stakeholders to build trust by means of constant involvement and visible progress. It redefines trust not as a condition for action but as something cultivated in action a reciprocal process.

Respondent 2 (sustainable advisor, May 16th, 2025), respondent 3 (project manager, May 21st, 2025), and respondent 4 (community-active resident, May 23rd, 2025) also highlighted the importance of shared identity and collaboration. Within municipal teams and partnerships trust is framed as a collective source that strengthens a sense of common responsibility.

"As a result, I really feel that I'm not the only one standing there thinking, guys, we have to be sustainable. But in principle, the responsibility also lies a lot with my colleagues." – (Respondent 2, sustainable advisor, May 16th, 2025)

"Just from the officials and our apparatus within Buiksloterham that is involved, it is felt quite strongly by everyone." – (Respondent 3, project manager, May 21st, 2025)

This internal trust between professionals appears to be the backbone of the participatory ecosystem. When municipal colleagues trust each other to maintain shared goals, coordinating becomes easier with external actors, such as citizens or developers.

Respondents 3 (project manager, May 21st, 2025) and respondent 4 (community-active resident, May 23rd, 2025) stressed that trust is not only institutional or interpersonal; it also is cultural and embedded into the identity of Buiksloterham as a pioneering, circular neighbourhood.

"Well, I think in Buiksloterham, it's a bit of a pioneer area. So people are quite concerned with climate, environment and then circular. So they understand that concept and really like it." – (Respondent 3, project manager, May 21st, 2025)

This trust at the community level improves a sense of moral ownership, where participation not only is driven by duty but also by shared values and collective enthusiasm. Especially in the initial phase, grassroots initiatives and resident-led initiatives played a major role:

"So then there was a lot of room for citizens' initiatives on all those pieces of land in Amsterdam where nothing happened. And from there, the whole circular philosophy actually grew." – (Respondent 1, project manager, May 14th, 2025)

However it appeared to be difficult to maintain this trust over time. Respondent 3 (project manager, May 21st, 2025) pointed out that the initial enthusiasm may fade, particularly when participation feels symbolic or disconnected from the tangible impact:

"Everyone always participates and can decide for themselves at what level you want to participate. That's how we try to make it meaningful." – (Respondent 3, project manager, May 21st, 2025)

This underscores the importance of continuously building and maintaining trust instead of assuming that the involvement in the initial phase will maintain itself without any attention.

4.2 Sense of ownership in the process

In this section the findings are presented regarding how stakeholders experience and express a sense of ownership in the planning and participatory processes of CUD in Buiksloterham. Building onwards on the theoretical framework from Lachapelle (2008), ownership in the process is not only about being present and informed; it is also about having a real voice and influence shaping projects, decisions, and priorities. The data unveils structural approaches of stakeholders as well as emotional and practical experiences that helped shape the perception of the influence of stakeholders.

Participatory structures and tools

An exceptional finding is the conscious effort of institutional actors to create layered and flexible approaches for participation. This inclusivity is seen as a way to make participation more accessible on a broader scale for citizens, for those wanting to engage actively as well as for citizens giving way to less participation.

"So you can choose the degree of input you want to provide. So do you really want to work together? Do you really want to be part of a project team? [...] In other words, I just want to be able to participate a bit from the comfort of my armchair. That's also possible, because we have created a website." – (Respondent 3, project manager, May 21st, 2025)

By acknowledging different capacities and preferences for participation, the participatory structure shows that there is no one-size-fits-all for ownership. People get multiple entry points to participate, such as attending informative gatherings, submitting online ideas, or becoming a member of a project team. These entry points for participation resemble a shift of symbolic engagement towards a more personal-orientated model of participation.

"Everyone always participates and can decide for themselves at what level you want to participate. That's how we try to make it meaningful." – (Respondent 3, project manager, May 21st, 2025)

Importantly, these structures should decentralize influence, through which participation feels less like an institutional ritual and more like a self-directed choice. This self-guiding character of participation came also forward in the observation. *De Ceuvel* is very active and present in modular architecture, reused houseboats, and recycled materials showing the bottom-up ethos 'learning by doing' as recalled by respondent 3 (project manager, May 21st, 2025).

Perceived Influence and Voice

Besides participatory structures and tools the respondents clearly showed the level of influence they hold in the planning and development decisions. This is especially the case for stakeholders within the municipality or building environment, who have a high level of procedural engagement and the ability to shape design and procurement processes.

"Those projects also go through a planning process. And the question is, how much influence do you have on the planning process of such a project? A lot, is the answer." – (Respondent 3, project manager, May 21st, 2025)

"Well, that voice is very much heard. Wherever we are asked. We are not only designers of art or space, but also of solutions. And we also come up with insights from different angles." – (Respondent 5, architect, June 4th, 2025)

This sense of structural ownership extends to contract and design criteria, implying that ownership is embedded in the tools and rules used to guide development.

"That was only possible in Buiksloterham and it was only possible because we included those circular design principles in the contract with the contractor." – (Respondent 3, project manager, May 21st, 2025)

"So that choice for the contract form, the choice on which you award. We just have a lot of influence on that. And that is an important factor that determines what the influence is and the result in the end." – (Respondent 3, project manager, May 21st, 2025)

With these mechanisms stakeholders react not only to propositions, but they actively shape frameworks shaping circular development.

Despite these promising patterns respondents also show ambivalence about the limits of participation, especially in bigger bureaucratic or market-structured contexts. However all the respondents felt heard, respondent 1 (project manager, May 14th, 2025) acknowledged 'being heard is not always the same as getting your way':

"So being right is not the same as being proven right. So your voice is heard, but you don't always get your way." – (Respondent 1, project manager, May 14th, 2025)

This stresses a tension that is central in participatory planning: the gap between voice and influence. While many processes offer platforms for dialogue, results can still be altered and shaped by power dynamics, political interests, or technical constraints.

"If you do everything on paper according to the rules that we have come up with ourselves, then it is not possible. We are in a transition, so you are going to run into that." – (Respondent 2, sustainable advisor, May 16th, 2025)

Others mentioned how hierarchy and differences between departments can hinder the participatory ambitions. Not all actors within the municipality share the same values and priorities.

"There is no single municipal vision. [...] One says: you have to generate as much income as possible for the city. The other says: you should experiment as much as possible in a circular area." – (Respondent 1, project manager, May 14th, 2025)

Such reflections underline that while ownership in the process is possible, it is situated in a complex and sometimes contradictory institutional landscape.

Stakeholder Agency

A recurring theme is the interpersonal dimension of ownership, where individual engagement and leadership influence the way participation is carried out. Several respondents (respondent 1, project manager, May 14th, 2025; respondent 2, sustainable advisor, May 16th, 2025; respondent 3, project manager, May 21st, 2025) described how project managers and sustainability advisors play a crucial role in carrying out the participatory visions, even when formal processes are limited or hard to navigate.

"I do think it's my role to put the reminder for that every now and then. And what I really want to do is start monitoring those goals more." – (Respondent 2, sustainable advisor, May 16th, 2025)

These quotations show the relational character of participatory ownership, where the presence of dedicated individuals helps keep momentum and strengthen the collective responsibility. Instead of being a byproduct of institutional design alone, meaningful participation often relies on people who "push" the system forward.

"Really committed officials who just persevere. So it's often not due to processes or anything, but simply to people who have great perseverance or a large network." – (Respondent 2, sustainable advisor, May 16th, 2025)

"The question is, people don't ask me for nothing, we are very good at the creative process, walking the different paths, looking at options and with that I also claim my success every now and then in the process. You only dare to do that when you are a bit older, you have to be more experienced." – (Respondent 5, architect, June 4th, 2025)

Ownership in the process also got strongly addressed by respondent 4 (community-active resident, May 23rd, 2025) who has experience in grassroots and self-built initiatives. He views participation not only as a basic right but as a form of urban agency, a way to win back space, identity, and responsibility.

"You have to claim the right, you have to claim that land. The right to build, the right to design, the right to challenge, the right to co-create, the right to knowledge." – (Respondent 4, community-active resident, May 23rd, 2025)

These statements resemble a more radical understanding of participatory planning, where citizens are not invited in the current system but create new systems. Buiksloterham's history of self-initiated development (in times of municipal withdrawal and crisis) seems to have established a culture of experimental autonomy.

"I built a house myself. That also means that you have to create your own neighbourhood, your own system." – (Respondent 4, community-active resident, May 23rd, 2025)

This deep sense of ownership revolves less around using institutionalised participation frameworks and more around making use of basic rights and constructing alternatives.

4.3 Sense of ownership in the outcome

In this section the results of how participants experience the sense of ownership in the outcome of CUD in Buiksloterham. Based on the framework of Lachapelle (2008) the sense of ownership in outcome is to the extent to which participants can see their input materialize in tangible results, concrete results, and structural transformations. The interviews show that stakeholders are strongly committed to not only implementing circular projects but also embedding the lessons learned. However, the respondents acknowledge that translating participatory intention towards results remains uneven and is limited by systemic forces.

Tangible results

All respondents showed a clear relationship between participatory processes and tangible results, mainly regarding projects that embrace circular principles through design, reuse of materials, and innovation. A striking example was a pedestrian bridge built of only reused materials:

"I am proud of some of the projects we do. We are now going to start with the pedestrian bridge. The Pietse pedestrian bridge, a slow traffic bridge. It is made completely circular and it is actually a mess put together." – (Respondent 3, project manager, May 21st, 2025)

This quotation illustrates how ownership in outcome is experienced materially, through physical structures that manifest collective circular ambitions. Other respondent 1 (project manager, May 14th, 2025) and respondent 3 (project manager, May 21st, 2025) were pleased due to circularity being embodied and embedded in the project objectives from the start:

"Other project leaders, they are simply given an assignment and they reason from that assignment. So that's the step. And with us in Buiksloterham, that assignment is circular. So that's already nicely poured in." – (Respondent 3, project manager, May 21st, 2025)

"And that is baked into our investment memorandum. That's why that freedom comes too." – (Respondent 3, project manager, May 21st, 2025)

Circularity is not just an add-on it is institutionally formalised, through which stakeholders strengthen their sense of them being structurally influential and not just symbolical in the process.

While many results are physical (eg. Infrastructure, buildings), respondent 1 (project manager, May 14th, 2025) also showed the importance of sharing the results and making them accessible to the public. Artworks, QR codes, and storytelling were frequently recalled as tools to translate the technical dimensions of circularity, making it more accessible. They addressed that meaningful participation requires not only access and flexibility but also shared understanding and narrative clarity. To this end, visual communication and artistic interventions were used to make circularity tangible.

"We also have now in Buiksloterham, which we call the glimpses [...] And there is also a QR code and you can scan there and then you get even more information." – (Respondent 1, project manager, May 14th, 2025)

"You have an artist, who has made a number of works of art in public space. [...] And there is also a QR code and you can scan there and then you get even more information." – (Respondent 1, project manager, May 14th, 2025)

These approaches to public communication help close the gap between innovation at systematic level and daily experience, whereby the sense of ownership goes further than experts and project managers. Ownership in the outcome is thus narrative and emotional: stakeholders feel included when their work is recognized and when a wider audience can understand and appreciate the results. Also seen in the observation these QR codes translate abstract circular ambitions into a concrete narrative experience, allowing the public to connect to the results on a material and emotional level.

Knowledge sharing and learning

A central mechanism for strengthening ownership is reflecting on practice and learning from it. Respondent 1 (project manager, May 14th, 2025), respondent 2 (sustainable advisor, May 16th, 2025), and respondent 3 (project manager, May 21st, 2025) pointed out that pilots, even when they are unsuccessful, teach valuable lessons that are taken into account for the next projects. This learning cycle creates a sense of ownership in the outcome over time.

"Then I say, well the pilot has failed, we have to stop the pilot. But we are going to make an evaluation and we will learn from that." – (Respondent 1, project manager, May 14th, 2025)

This iterative approach resembles, as shown earlier in the section 4.1 the relational trust through shared goals and collaboration, the ethos of 'learning by doing', which was cited frequently by respondent 2 (sustainable advisor, May 16th, 2025) and respondent 3 (project manager, May 21st, 2025):

"We have an adage in Buiksloterham and that adage is learning by doing, so that helped me." – (Respondent 3, project manager, May 21st, 2025)

This lived experience shows that ownership in the outcome is not only used as a physical implementation but also as cognitive and institutional transformation. Showing that participants feel engaged when their insights shape broader organizational knowledge. Respondent 1 (project manager, May 14th, 2025), respondent 2 (sustainable advisor, May 16th, 2025), respondent 3 (project manager, May 21st, 2025), and respondent 5 (architect, June 4th, 2025) talked about platforms and projects that are dedicated to sharing insights:

"We try to be really active in that. What lessons have we learned? We will also have a session about it soon. And how can we share it?" – (Respondent 2, sustainable advisor, May 16th, 2025)

"Of course, we try to share lessons with colleagues, but also internally. [...] Ensuring that what works in your area also works in another area in the city." – (Respondent 2, sustainable advisor, May 16th, 2025)

"I can literally share that, also with my juniors, with my architects, they usually take them with me too. They are always behind me in a project. I even give them space, but transferring, I think that's a very important one." – (Respondent 5, architect, June 4th, 2025)

These efforts aim to upscale individual learning towards institutional results, suggesting that stakeholders experience ownership more deeply when their work goes beyond isolated cases.

Ownership in the outcome was also addressed in terms of social responsibility and collective wins. Respondent 3 (project manager, May 21st, 2025) stressed that a successful implementation not only has to do good for project teams and institutions but also must generate public value on ecological, social, and educational dimensions.

"So I feel very indebted to the city to share what we learn here." – (Respondent 3, project manager, May 21st, 2025)

"But what we are learning now must also benefit Nijmegen, Groningen, I don't know where all of them." – (Respondent 3, project manager, May 21st, 2025)

This broader orientation on redistributive learning suggests ownership is at its strongest when stakeholders believe that their input supports something bigger than themselves or their projects.

Institutional embedding

Another main theme coming forward was the role of embedding circular ambitions in institutional structures. Ownership in the outcome was felt stronger when circular ambitions were not only supported rhetorically but also embedded in legal, financial or administrative frameworks.

"We also have now in Buiksloterham, which we call the glimpses [...] And there is also a QR code and you can scan there and then you get even more information." – (Respondent 1, project manager, May 14th, 2025)

"You have an artist, who has made a number of works of art in public space. [...] And there is also a QR code and you can scan there and then you get even more information." – (Respondent 1, project manager, May 14th, 2025)

Through including sustainability goals in strategic documents and mandates of the municipality, stakeholders could see their input institutionalised, which turned ideas into concrete obligations. This formalisation supported the status of circular development of experiments to a city-wide mandate, strengthening a sense of sustainable ownership among stakeholders.

Despite strong local results, respondent 1 (project manager, May 14th, 2025), respondent 2 (sustainable advisor, May 16th, 2025), and respondent 3 (project manager, May 21st, 2025) warned

that upscaling successful projects on the city and national level is not easy. Contextual factors, institutional inertia, and unequal distribution of resources make replication a challenge.

"So that can be quite difficult. But I think ownership is very important. Yes, definitely. But in the end, it also has to come from the investors." – (Respondent 2, sustainable advisor, May 16th, 2025)

"So context matters." – (Respondent 3, project manager, May 21st, 2025)

"That we [...] trying to forge new coalitions and put that circularity back on the map." – (Respondent 1, project manager, May 14th, 2025)

Ownership in outcome weakens when successful efforts are isolated or lost while translating between pilot and policy. The inability to scale up can lead to feelings of frustration or uselessness, especially when institutional support is lacking.

Respondent 4 (community-active resident, May 23rd, 2025) pointed out that there are risks for symbolic implementation; in those cases circularity is more used as a branding tool than a lived practice. Mainly project developers were called out for selective use of the language of sustainability while not striving for its meaning.

"So the developers know those words and they then stick the photos of other projects in their folder. And yes, they benefit from it, but it is often not the case." – (Respondent 4, community-active resident, May 23rd, 2025)

This criticism shows the vulnerability of ownership in the outcome when appearance takes precedence over substance. Respondent 4 (community-active resident, May 23rd, 2025) called for the need for stronger regulatory frameworks and more transparent governance ensuring results reflect true circular values.

"So you have to claim the right, you have to claim that land. The right to build, the right to design, the right to challenge, the right to co-create, the right to knowledge." – (Respondent 4, community-active resident, May 23rd, 2025)

4.4 Sense of ownership in distribution

In this section, the results are shown of how stakeholders experience ownership in the distribution of opportunities, benefits, and responsibilities within the CUD process. Building on the broader framework of participatory equity, the sense of ownership in the distribution relates to those who participates, benefits, and whose input carries weight in shaping results. Respondents highlighted that structural barriers, market dominance, and institutional rigidity can undermine participation. While alternative community-led initiatives illustrate emerging models of more inclusive value creation.

Inclusivity and equity

A recurring theme in the interviews is the unequal distribution of participation opportunities unequal distribution of participation opportunities, mainly revolving around those who get reached and who remain excluded. While formal efforts are being made to invite community input, respondent 3

(project manager, May 21st, 2025) shows concerns for structural barriers limiting those who can participate meaningfully.

"Now we go into the neighbourhood to make people enthusiastic. And that is also where the youth came to the fore, I found interesting. So we're going to think about how we can still involve them." – (Respondent 3, project manager, May 21st, 2025)

Despite efforts to innovate participation strategies, such as switching from passive invitation to active outreach, respondent 3 (project manager, May 21st, 2025) considered that certain groups, especially young people and non-Western minorities, remained marginalised:

"And who comes to that? That May attract the white, highly educated man and woman. Especially adults." – (Respondent 3, project manager, May 21st, 2025)

Language, time, and systematic demands also play a part. Participation requires time, mental energy and understanding of bureaucratic language.

"So you have to be an experienced reader to eventually understand how things land in such a note." – (Respondent 3, project manager, May 21st, 2025)

"Maybe we ask for four, five, six evenings to join. That means six nights that you have to arrange a babysitter..." – (Respondent 3, project manager, May 21st, 2025)

"Well, if it's for a citizen, it always has to be after working hours. Because the citizen is a volunteer and he does that after working hours, after office hours. [...] So in principle, just like environmental dialogues, they are always in the evenings." – (Respondent 5, architect, June 4th, 2025)

These results stress that ownership in distribution is not only about offering access but also about addressing deeper social inequalities in time, knowledge, and cultural capital.

Governance and structural fairness

Another important returning theme was systematic rigidness and power dynamics, especially revolving around decision-making and financial leverage. Respondent 2 (sustainable advisor, May 16th, 2025), respondent 3 (project manager, May 21st, 2025), and respondent 4 (community-active resident, May 23rd, 2025) mentioned that even good-intended sustainability and participation goals can be overruled in favour of economical and political priorities:

"Then we have to provide the project, move on faster and draw the short straw about sustainability." – (Respondent 2, sustainable advisor, May 16th, 2025)

"And that is of course not my choice. For that, we have the hierarchical system of both municipalities." – (Respondent 2, sustainable advisor, May 16th, 2025)

An important challenge for distributive ownership was often described. Ownership in distribution is jeopardised when market logics replace community input or environmental ambition. This is often the case in developments led by private stakeholders. Although the municipality offers opportunities for citizen involvement, developers often work with profit-driven incentives, which limits the scope for co-creation.

"So then the responsibility for that circular ambition also lies much more with the investor." – (Respondent 1, project manager, May 14th, 2025)

"Some parties do take responsibilities in this and other parties I think less. And at the end of the day, they just have a profit motive and shares and investors to whom they have to answer to." – (Respondent 2, sustainable advisor, May 16th, 2025)

"[...] in the end it is also a question of what keeps the end of the line. As mentioned, this is mainly due to costs. The Excel sheet travels underneath." – (Respondent 5, architect, June 4th, 2025)

In areas where land is privately owned or decisions are governed by national or European law, the influence of the municipality will be strongly limited, resulting in fragmented and unequal results:

"So we as a government cannot enforce things on parties that they do not have to according to a law or policy on that kind of thing." – (Respondent 1, project manager, May 14th, 2025)

Respondent 4 (community-active resident, May 23rd, 2025) showed concern for symbolic participation and the co-optation of sustainability rhetoric by market participants:

"Come and buy our house from us, because it is built circularly in Buiksloterham. So the developers know those words..." – (Respondent 4, community-active resident, May 23rd, 2025)

This market dominance could create structural imbalances, where voices of local citizens are skipped or ignored, primarily when participation requires extra time and adds complexity to the understanding of the development project.

"The great force, the market development is indeed difficult. And then those little residents who sit like, hello, do you want to say something too?" – (Respondent 4, community-active resident, May 23rd, 2025)

Without useful accountability mechanisms sustainability and equity goals threaten to be weakened by business interests. In addition, formal procedures can hide exclusion if they are not coupled with mechanisms to reach the wider population.

"In that respect, you also get a significant picture, because you only hear 10% and 90% is not clearly audible anyway." – (Respondent 3, project manager, May 21st, 2025)

These quotations show that ownership in distribution is not only about institutional will but also about systematic design, including how economic structures shaped the participatory space.

Shared value creation

Respondent 1 (project manager, May 14th, 2025), respondent 2 (sustainable advisor, May 16th, 2025), and respondent 4 (community-active resident, May 23rd, 2025) linked the issue of distribution to whose contributions are visible and valued, mainly for informal or community-driven efforts. While market power developers reign within known economic systems, smaller community-driven initiatives make innovation possible.

"Of course, there is a certain value creation, but it does not manifest itself so quickly in real value. That makes it more difficult." – (Respondent 4, community-active resident, May 23rd, 2025)

"They naturally think much more freely in that. So yes, in the end those residents do much cooler things, but on a much smaller scale." – (Respondent 2, sustainable advisor, May 16th, 2025)

These unnoticed efforts can obscure the efforts of both public and private actors, undermining the legitimacy and impact of their work:

"Or you see a building, but you can't always see it well... So that's interesting to show that." – (Respondent 1, project manager, May 14th, 2025)

Ownership in distribution thus implies a recognition of hidden labour and innovation, not only an equitable distribution of resources but also a cultural shift in what and who counts.

The data also show a strong undercurrent of alternative models, varying from do-it-yourself development to commons-based governance. Respondent 4 (community-active resident, May 23rd, 2025) and respondent 5 (architect, June 4th, 2025) illustrated examples of communities and individuals taking the lead about their environment, often more creative and sustainable than large-scale stakeholders:

"That also means that you have to create your own neighbourhood, your own system." – (Respondent 4, community-active resident, May 23rd, 2025)

"Creating all kinds of small networks, small communities, small crowds, which are connected to each other through yet another network." – (Respondent 4, community-active resident, May 23rd, 2025)

"We are asked for homes. People really need to feel at home. That can really be in the plan, in the projection, in the environment. So all around, so it's not just about the project, it's about the public space that surrounds it." – (Respondent 5, architect, June 4th, 2025)

Respondent 4 (community-active resident, May 23rd, 2025) showed this ambitious vision of local self-management:

"Here you have 100,000 euros. And you have a duty to put down trees. But figure it out for yourself..." – (Respondent 4, community-active resident, May 23rd, 2025)

These quotations suggest that the sense of ownership in distribution is not only created by participating in formal structures but also by empowering local networks and shared mandates.

5. Discussion

In this chapter the most important results and insights of the study will be discussed in relation to the theoretical framework and research objectives. It synthesizes patterns emerging from the interviews, field observation and literature review to evaluate how participatory practices in Buiksloterham support the sense of ownership in circular urban development (CUD). The discussion is structured around Lachapelle's (2008) interrelated dimensions of sense of ownership in process, outcome, and distribution and using the foundational role of trust underlying these dimensions. This will be guided by chronologically answering the formulated and interrelated sub-questions to the theoretical framework. It concludes with a reflection on the recommendations for future research and practice.

5.1 Sense of ownership in the process

The participatory planning structures in Buiksloterham illustrate an important shift in the traditional paradigm of urban governance. The results of this research show that participatory planning in this context is not only accompanied by consultation with the community or symbolic participation but also uses a more integrative and co-productive approach. This is in line with Lachapelle's (2008) conceptualisation of 'ownership in the process', where procedural justice and meaningful inclusion are central in decision-making processes.

The case of Buiksloterham is an example of a form of deliberative participation empowering stakeholders, enabling them to shape project agenda's, contribute to planning strategies, and negotiate about development priorities. Such an approach contrasts with the prevailing technocratic narratives of the circular economy (CE). Which is often criticized in the academic literature, as Kirchherr et al. (2017) and Corvellec et al. (2021) state, often societal participation is marginalized in favour of market-based and institutional logics.

Participatory frameworks and procedural influence

Participatory tools such as co-creation workshops, design charrettes, and online platforms increased the accessibility to planning processes. Respondents addressed the layered culture in Buiksloterham, where individuals and communities can choose the different levels of participation based on their capacities and interests. This flexibility supports Lachapelle's (2008) statement of participatory equality, recognizing that procedural inclusion takes social, economical, and cultural realities into account.

The results show that stakeholders, especially those who are embedded in municipal organizations or long-standing community networks, report a high procedural influence. Sustainability goals are embedded in procurement contracts, which are direct results of negotiations with stakeholders. This shows not only the formalisation of the effort of stakeholders but also the institutionalisation of circular goals through participatory governance.

However, it is important to acknowledge the uneven field of influence. While many stakeholders had the feeling their voice was heard, repeatedly the difference between voice and influence was addressed. While many processes offer platforms for dialogue, results can still be altered and shaped

by power dynamics, political interests, or technical constraints. This resembles the participative ladder of Arnstein (1969), mainly the difference between reconciliation and empowered deliberation. Despite the existence of participatory frameworks the decision-making remained open for political volatility and financial fragmentation, weakening the continuity and collaboration of stakeholders.

Trust, iteration, and participatory culture

Another important result is the role of relational trust and the iterative characteristics of engagement. The respondents highlighted that the learning-by-doing ethos characterises the development culture in Buiksloterham. Participation is not understood here as a one-time event but as a continuous process of experimentation, adaptation, and mutual learning. This dynamic aligns with the 'empowered participatory governance' (Fung, 2006), where iterative collaboration support innovation and legitimacy.

Trust, as portrayed by Lachapelle (2008), is fundamental for meaningful participation. Relational trust is fundamental in Buiksloterham between municipal actors, project managers, and citizens as a critical factor for shared decision-making. The respondents stressed that trust not only is procedural, but also relational built by continuous collaboration, shared values, and mutual accountability.

However, the results also show that trust can be exploited by market-driven entities. Symbolic participation, inconsistent communication, and project delays can heavily undermine the participatory culture. Illustrating that ownership in the process is a fragile achievement, which is not only reliant on institutional frameworks, but also everyday practices supporting participatory legitimacy.

Sub-question I

How do participatory planning methods in Buiksloterham contribute to a sense of ownership among stakeholders during the circular urban development process?

The results show the participatory planning in Buiksloterham is characterized by a layered, flexible, and iterative model of participation. Stakeholders, varying from government officials to citizens and knowledge institutes, are given the chance to participate and negotiate on different levels. From informal negotiations and platforms for sharing ideas to embedded participation with project teams and co-design processes.

This inclusivity resembles Lachapelle's (2008) dimension of ownership in the process, we're stakeholders feel that their inputs matters and shapes the decision making process. Respondents highlighted that getting a sense of real influence, especially regarding setting agendas and shaping the design and procurement criteria, created a sense of deeper participation and collaboration over time. The local ethos of learning by doing ("leren door te doen") supports a further participatory culture wherein experiments and iteration are central in the planning process, strengthening the relational trust between stakeholders.

However this research also brings structural tensions to light. Despite inclusive frameworks the influence is not equally distributed. Certain stakeholders, mainly civilians with fewer resources or a non-Western background, remain underrepresented or are left unheard. Bureaucratic complexity,

hierarchical governance, and shifting political priorities often limit the translation of voice into agency. In these cases the sense of ownership participation is vulnerable and is being threatened to roll back into symbolic engagement.

Concluding, while participatory planning methods in Buiksloterham promote procedural ownership by disrupting top-down hierarchies and call for diverse engagement, structural and institutional limitations remain dependent who ultimately has an impact.

5.2 Sense of ownership in the outcome

Ownership in the outcome relates to the ability of stakeholders to influence substantive results of CUD and to see their participation materialized in tangible and institutionalised results. As highlighted by Lachapelle (2008), participatory processes need to be not only inclusive; they also need to generate tangible and lasting change that reflects the communities' input. In Buiksloterham the sense of ownership in the outcome is closely connected to platforms of knowledge sharing, iterative learning mechanisms, and the material realisation of circular principles in infrastructure and design.

Materialization of participation

Respondents pointed out several projects (e.g. experimental housing) that, according to them, embodied the values and decisions that came from participatory efforts. These tangible results strengthened the idea that participation, when effectively designed, not only leads to symbolic satisfaction but also a spatial and infrastructural transformation. Such as Ersoy and van Bueren (2020) suggest, Urban Living Labs (ULL's) like Buiksloterham offer a fertile ground for translating co-created visions into physical realities.

However, these results are not always distributed equally and are not institutionally supported. The success of certain circular projects is often dependent on engaged individuals or temporary political support. As the results suggest, participatory processes have the risk of being fragmented or short-lived when they are decoupled from sustainable policy frameworks or funding streams. This reinforces the warning from Van Uden et al. (2025), stating that participatory platforms need to be embedded into institutional structures to generate a sustainable impact.

Knowledge sharing and institutional learning

One of the most important contributions to a sense of ownership in the outcome is the role of participatory knowledge systems. Platforms such as *OpenResearch Amsterdam* and *De Ceutel* are examples of how stakeholder learning and knowledge exchange can be institutionalised to create collective memory and accountability. These mechanisms are not only technical they also support a culture of transparency where stakeholders see their insights reflected in evolving practices.

Coming from the interviews it appeared how iterative reflection (e.g. project evaluations, public learning sessions) strengthens the involvement of stakeholders and encourages adaptive governance. This corresponds to Matsuo and Aihara's (2021) concept of a 'community of practice', where shared

concerns and local localized knowledge form the basis of decision making and collaboration on the long term.

In addition, several respondents described ownership not only as what has been built or achieved locally but also the ability of Buiksloterham to contribute to broader city learning. The idea that outcomes in Buiksloterham positively affect other neighborhoods or cities underlines the deeper ethical dimension of ownership. Where the outcome's value of participation is measured in the distributive and educational potential.

Risks of symbolic implementation

Despite these successes, the findings warn against the commodification of circular outcomes. Several respondents share concern for 'greenwashing' and the strategic use of circular language by private developers without meaningful practice. This dynamic illustrates the argument of Corvellec et al. (2021) CE is vulnerable to superficial implementation when it is reduced to branding.

Symbolic circularity not only threatens the authenticity of the transition but also the legitimacy of the participatory governance. Such as a respondent noted, it is the result of a breach of trust and a weakening of stakeholder ownership when the language of sustainability is decoupled from transparent and inclusive processes. This calls for a robust policy framework and clearer accountability mechanisms to ensure that results align with this operatory input and circular ambitions

Sub-question II

How does stakeholder participation in Buiksloterham lead to tangible outcomes and long-term knowledge-sharing structures in circular urban development?

The tangible results and the institutionalisation of knowledge systems led to participation in Buiksloterham. Tangible results include infrastructure projects (e.g. Pedestrian bridges made from recycled materials), self-built houses, and circular systems on community level. These are not incidental but on directly related to co-creation visions and influence of stakeholders, resembling ownership in the outcome (Lachapelle, 2008).

It is crucial that the results are not limited to material output but also revolve around co-production of knowledge and collaborative learning. Platforms such as *OpenResearch Amsterdam* and *De Ceuvel* play a central role in shaping and maintaining transparency; they documents learned lessons and facilitate horizontal exchange between stakeholders. These participatory knowledge ecosystems promote adaptive governance, support the institutional mindset, and enable upscaling throughout the neighbourhood.

However, these results are not equally distributed among stakeholders. Several respondents highlighted the vulnerability of institutionalisation over time, mainly in means of market dynamics and political revolution. Projects are often dependent on key stakeholders or financial structures, resulting in a fragmented continuity. Also, tension arises between experimental success on the neighbourhood level and the challenge to embed these results into broader municipal policy.

Another challenge revolves around the symbolic implementation. Circularity can be co-opted by private actors as a market story, undermining the authenticity of participation results. Without strong governance mechanisms and community oversight the results of participation can be disconnected from the values that inspired them.

In short, stakeholder participation in Buiksloterham has demonstrably led to innovative, context-specific, and tangible results, but the sustainability and justification of these results are dependent on their institutional embedding and the integrity of their implementation.

5.3 Sense of ownership in distribution

The dimension of ownership in distribution has the most complex and structurally embedded challenge in circular urban development. Such as Lachapelle (2008) argues, justified equity, accountability, and decision-making are essential for the real inclusive and democratic model of community development. While there are significant efforts in Buiksloterham to include diverse stakeholders, the results show persistence inequalities about who's voice is heard, whose voice is valued and who profits from circular initiatives.

Structural asymmetries and market power

Structural power asymmetries between groups of stakeholders, especially between public institutions private developers and residents, came forward as a recurring theme. While Buiksloterham shows innovative participatory mechanisms, respondents often pointed out that the logic of market-based urban development is leading for the most important decisions. Due to developers maintaining substantial financial leverage and land ownership remaining out of public control, the influence of the community could be limited to design processes in an early stage, while all important decisions regarding the implementation are dominated by market-driven stakeholders.

This reflects the concerns of Barba Lata et al. (2023) and Long (2023), stating that CE strategies often fail at addressing structural inequalities and strengthening symbolically under the guise of sustainability. The interviews show that this dynamic is manifested in Buiksloterham as symbolic inclusion: residents are invited to participate but often lack the time, expertise, or institutional status to influence results that are comparable to those of professional and knowledgeable stakeholders.

Exclusion and participatory barriers

Ownership in the distribution often is also mediated by social and cultural barriers. The respondents highlighted that participatory efforts, despite their inclusive intention Attract disproportionately well-educated middle-class residents. Meanwhile youth, non-Western minorities, and working-class residents often remain excluded, not necessarily by design, but due to indirect limitations such as time, literacy, and access to decision-making forums.

These results earned the line the critique of Kastelein (2021) and Williams (2019), stress that procedural justification alone does not address the underlying socioeconomic inequalities. In

Buiksloterham, evening meetings, bureaucratic language and unclear participatory roles all contributed to a participatory environment that was formally open but, in fact, exclusive.

Recognition and value pluralism

A particularly insightful finding regards the acknowledgement of informal and societal-focused efforts to circular developments. While private developers often are able to quantify and advertise their sustainable statistics, resident lead grassroots-efforts, such as the “doe-het-zelfwoningen” or small scale ecological initiatives, often go unnoticed. This inequality in visibility and appreciation resembles a deeper structural epistemic injustice undervaluing certain types of knowledge and efforts.

Acknowledging shared value creation requires moving beyond the economical appreciation and take a more pluralistic understanding of the efforts and participation. Respondents called for accountability systems that innovate and work at all levels, not just those supported by institutional capital.

Alternative distribution models

Encouragingly, the data also revealed emerging practices of distributive innovation, where residents create their own systems of governance, ranging from commons-based infrastructure to cooperative networks. These practises suggest that ownership in the distribution is not only determined by formal institutions, but also can be created by combining governance at the grassroots level and local supervision.

This is inline with the literature by Obersteg et al. (2021) and Nabatchi & Emerson (2015), who state that shared governance can redistribute authorities facilitating equality and trust. While these experiments regard juridical and financial limitations, they offer a promising counter-narrative to top-down planning and market dominated urban developments.

Sub-question III

How is ownership of benefits and responsibilities distributed among different stakeholder groups in Buiksloterham’s circular city initiatives?

The most complex and controversial result regards the distribution of ownership: who profits from circular development, who carries the responsibilities, and how is power distributed. While Buiksloterham comprises progressive governance practices, structural inequalities remain present in participation and distribution.

Institutional private developers often keep their significant power due to their control of capital and land. Despite efforts of municipality stakeholders to embed the circularity in contracts and policy, market logic often takes precedence over participatory objectives, especially when development timelines or profitability take precedence over co-creation. Respondents show their concerns revolving around greenwashing without real participation and leveraging circular branding without inclusive practices.

Socially, participation tends to show patterns of privileges. Respondents acknowledge that highly educated, time-rich, and cultural stakeholders dominate participatory space. Marginalized voices such as youth, working-class residents, and non-Western communities are often excluded due to barriers such as lack of time, bureaucratic language, or lack of digital access.

In addition, informal contributions such as innovation at the grassroots, work on social cohesion, or small-scale sustainability efforts are underappreciated in dominant planning processes. This shows epidemic injustice, where certain sorts of knowledge and efforts are not acknowledged as a legitimate contribution to urban circularity.

Nevertheless there are alternative distributive models emerging. Examples are the cooperative housing programs, the citizen-led energy systems, and the commons-based governance networks. These initiatives reflect the bottom-up recovery of ownership, but their success is dependent on legal recognition, financial support, and institutional alignment.

Although Buiksloterham shows partial success in redistributing ownership, power asymmetries and institutional inertia limit the realization of justifiable circular governance. Ownership in the distribution remains conditional and controversial, dependent on a deeper structural transformation.

5.4 Recommendations for further research

This section shows the recommendations for further research aiming to get a deeper understanding of participatory governance and the sense of ownership in circular urban development (CUD). While Buiksloterham is an example for experimental and participatory planning, it uncovers structural limitations which need to be researched. The following recommendations are build on the interrelated dimensions – process, outcome, and distribution – as defined by Lachapelle (2008), with trust being the underlying element.

Firstly, more research is needed about participatory justice and procedural ownership. While the flexible participatory models stimulate inclusion, remain the models vulnerable for symbolic engagement and unequal influence. Future research should focus on how long-term participation influences the procedural legitimacy, compare different contexts of participatory models, and develop standards that reflect experiences of marginalised groups. These efforts will help refining the frameworks of Lachapelle (2008) and Fung (2006) to better document procedural dynamics.

Secondly, the institutionalisation of outcomes and knowledge infrastructures need more attention. The co-created results of Buiksloterham show the value of participation, but also the vulnerability of them. Future research should focus on how participatory results can be embedded into sustainable governance structures, how knowledge-sharing platforms influence legitimacy and transparency, and how successful local initiatives can inform broader urban governance.

Thirdly, addressing inequalities in the sense of ownership of distribution requires a structural approach. Buiksloterham reveals grounded insights into power imbalances and exclusions with regards to socioeconomic and cultural stakeholders. Future research should focus on intersectional barriers for participation and the effectiveness of alternative governance structures. This research

recommendation aligns with the broader call for explicitly embedding justice and equity in circular governance (Barba Lata et al., 2023; Kastelein, 2021).

Lastly, trust needs to be prioritized as a cross-cutting concern. Trust enables ownership, yet it is vulnerable, especially when participation is experience as symbolic. Future studies should research how trust is build and institutionalised, how asymmetries between stakeholders shape trust dynamics, and how transparency and accountability mechanisms can protect participatory legitimacy in the long run.

Concluding, Buiksloterham shows that participatory planning can stimulate ownership in multiple dimensions, but it is potentially dependent on the approach of deeper structural and institutional challenges. Future research needs to use a critical, interdisciplinary, and longitudinal approach to support a more justifiable and resilient model of CUD.

6. Conclusion

This thesis research explored how circular urban development (CUD) in Buiksloterham, an experimental circular neighbourhood in Amsterdam, supports the participation of stakeholders in the circular city transitions. Based on Lachapelle's (2008) interrelated dimensional framework sense of ownership in the process, outcome, and distribution the research analysed the participatory governance structures, stories of stakeholders and institutional practices by means of semi-structured interviews, document analysis, and the field observation.

In the following section the most important findings from the empirical results and theoretical underpinnings will be concluded. This will be done by answering the main research question, with taking the three previous answered sub-questions from section 5.1–5.3 into account. After which the recommendations for praxis will be stated. Lastly, the reflection on the limitations will be given.

6.1 Main research question

How does circular urban development in Buiksloterham support stakeholder participation in the circular city transition?

By synthesizing all the results from the three interrelated dimensions of ownership, it becomes clear that Buiksloterham supports participation of stakeholders by institutionalising participatory governance within an experimental, adaptive, and context-sensitive circular development framework. By means of inclusive planning tools, tangible results, and structures for sharing knowledge the neighbourhood creates a participatory ecosystem including a range of stakeholders.

Buiksloterham is a living model of circularity rooted in co-creation, where participation is both a method and an outcome of circular transition. It offers physical proof that meaningful participation can lead to systematic innovation, local knowledge sharing, and iterative urban transitions.

However, the research shows that participation is not inherently justified or sustainable. Participation in Buiksloterham operates within a broader urban system which is shaped by market dynamics, institutional fragmentation, and cultural exclusion. As such, CUD's ability to fully realize its participatory potential is determined by the way governance systems handle power, legitimacy, and distribution.

Concluding, circular urban development in Buiksloterham supports the participation of stakeholders by creating institutional openings, to build trust and to enable local experimentation. But in order to have such participation, it needs a real inclusive and justifiable circular transition; it needs to be connected with deliberate strategies to confront inequality, scale up grassroots innovations, and institutionalise co-governance beyond the experimental neighbourhood scale.

6.2 Recommendations for praxis

The findings of this research point in the direction of strengthening inclusive practical pathways and participation of CUD in Buiksloterham. First of all, municipalities and developers need to move beyond

symbolic inclusion by embedding participatory practices in long-term contracts, design notes, and public frameworks. This implies that stakeholders need to not only be invited in the beginning stadium, but need to remain practicing influence through the whole process.

Secondly, participatory instruments need to be diversified and accessible for a broader audience. Offering flexible engagement formats (both digital and physical) and targeted outreach to underrepresented groups, could help democratization the accessibility. Acknowledging that stakeholders do not have the same time, knowledge, and resources; participation needs to be tailored and not standardized.

Thirdly, circular results should remain transparent and verifiable, connecting it to shared learning. Projects who make use of QR-codes, knowledge platforms, or visible community branding show that results strengthen collective ownership when they are readable and traceable.

Finally, government institutions need to supports intermediary roles, such as sustainable advisors or community contacts, who can safe guard the trust, translate the policy into practice, and be able to monitor equity in participation and benefits. Governance innovation is not only change in structure, but also a dedicated personal involvement.

6.3 Reflection on limitations

This thesis research is based on a qualitative single-case study of Buiksloterham, which has shown strong points as well as limitations. The in-depth main focus offered a detailed understanding of context specific participation. However, it limits the generalisability. Therefore, findings can not be directly transferred to different cities with different institutional cultures, political structures, or socioeconomic differences.

Another limitation regards the amount and types of respondents. While efforts were made to gather different types of stakeholders, the sample tended towards professionals and active citizens. Groups with a lower sense of influence, such as renters, migrants, or youth, were underrepresented partly due to access restrictions. Their absence could have led to a partial view of ownership and exclusion.

In addition, the role of the researcher as an observer introduces a constructivist framework subjectivity. While transparency and triangulation were focussed on, interpretations of ownership, influence, and trust remained contextually constrained.

Finally, the research was conducted in a relatively stable political and financial moment. Changes in municipal leadership or financial policy could possible shift participatory structures, making several findings time bounded. Future research should validate longitudinal and comparison approaches to broaden and anchoring this continuous revolving theme.

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Appendix 1 – Interview guide

Introductie

Allereerst wil ik je bedanken dat je vandaag tijd hebt vrijgemaakt en bereid bent om mee te doen aan dit interview. Mijn naam is Jasper Driessen en ik ben een Bachelor student Planologie aan de Radboud Universiteit.

Voordat we beginnen, leg ik kort uit waar dit onderzoek over gaat en wil ik een paar praktische zaken met je doornemen.

Dit interview maakt deel uit van een onderzoek naar hoe circulaire stedelijke ontwikkeling in Buiksloterham, een experimentele circulaire wijk in Amsterdam, de participatie van verschillende belanghebbenden ondersteunt in de overgang naar een circulaire stad. In het bijzonder ben ik geïnteresseerd in hoe het gevoel van eigenaarschap dit proces beïnvloedt en versterkt.

Alle informatie die verzameld wordt, wordt veilig opgeslagen en is alleen toegankelijk voor mij en mijn begeleider. Jouw naam en persoonlijke gegevens worden geanonimiseerd, indien je dat wilt. Is dat oké voor jou?

Het interview zal ongeveer 40-45 minuten duren. Gezien de complexiteit van het onderwerp is er alle ruimte om rustig na te denken en uit te leggen wat je bedoelt.

Zoals eerder besproken, wil ik dit gesprek graag opnemen. Zo kan ik het interview later nauwkeurig analyseren. Ga je daarmee akkoord?

Deelname is vrijwillig. Je mag altijd stoppen of vragen overslaan. Er zijn geen goede of foute antwoorden. Ik ben benieuwd naar jouw ervaring en mening.

Heb je nog vragen voordat we beginnen?

Opwarmvragen

- Kunt u kort iets vertellen over uzelf en uw rol in het project in Buiksloterham?
- Hoe lang bent u al betrokken bij circulaire of duurzame gebiedsontwikkeling?
- Wat betekent, als in definitie, "circulaire stedelijke ontwikkeling" voor u persoonlijk?

Vragen

1. Vertrouwen en participatie (Eigenaarschap via vertrouwen)

- Kun je beschrijven hoe jij betrokken bent (geweest) bij circulaire initiatieven in Buiksloterham?
 - *Hoe had je het gevoel dat jij en anderen werden vertrouwd om een betekenisvolle bijdrage te leveren?*
- Hoe transparant vond je het besluitvormingsproces?

- *Kun je een voorbeeld geven van een situatie waarin transparantie jouw vertrouwen versterkte of juist ondermijnde?*
- Hoe hebben eerdere ervaringen invloed op jouw bereidheid gehad om deel te nemen aan dit soort projecten?
 - *Kun je uitleggen welke specifieke ervaring(en) daarbij het meest bepalend waren en waarom?*

2. Participatie in het proces

- Op welke manier had je het gevoel dat jouw stem werd gehoord tijdens de planvorming en uitvoering van projecten?
 - *Welke middelen of methoden droegen jou bij aan dit gevoel van invloed?*
- Hoe heb je deelname aan kennisdelingsactiviteiten, zoals bijeenkomsten of werksessies, ervaren?
 - *Wat viel je op aan deze activiteiten en op welke manier droegen ze bij aan jouw gevoel van betrokkenheid?*
- Hoe zou je jouw invloed of zeggenschap binnen het project omschrijven?
 - *Hoe ervaar jij jouw rol of invloed binnen het besluitvormingsproces?*

3. Invloed op de uitkomsten

- Op welke manier heeft jouw deelname volgens jou bijgedragen aan tastbare resultaten?
 - *Kun je voorbeelden noemen van besluiten of veranderingen die voortkwamen uit jouw of jullie input?*
- Hoe zie jij de ruimte om betrokken te blijven en je kennis te delen binnen het project of de organisatie?
 - *Welke platforms of initiatieven ondersteunen dit volgens jou, en hoe worden deze gebruikt?*

4. Verdeling van eigenaarschap

- Hoe ervaar jij de verdeling van voordelen en verantwoordelijkheden binnen circulaire ontwikkeling?
 - *Wat maakt dat je dit als (on)eerlijk ervaart?*
- Op welke manier worden verschillende groepen, (zoals huurders, nieuwkomers of kleine ondernemers,) betrokken bij circulaire ontwikkeling?
 - *Zijn er volgens jou groepen die onvoldoende worden bereikt of vertegenwoordigd?*
- Wat zou er volgens jou moeten gebeuren om circulaire strategieën inclusiever te maken?
 - *Kun je een voorbeeld geven van een aanpak of initiatief dat volgens jou goed werkt of potentie heeft?*

5. Rol van instituties en bestuur

- Hoe zie jij de rol van de gemeente of andere instituties in het ondersteunen van circulaire ontwikkeling?
 - *In hoeverre vind je dat betrokken belanghebbende voldoende ondersteuning krijgen bij hun participatie?*
- Wat zou participatie volgens jou makkelijker of betekenisvoller maken?
 - *Zijn er volgens jou regels, subsidies of structuren die aangepast of verbeterd zouden moeten worden?*

Mogelijke extra vragen

6. Persoonlijke reflectie en bredere visie

- Welke rol speelt het gevoel van eigenaarschap volgens jou in het slagen van een circulaire transitie?
 - *Waarom denk je dat dit (wel of niet) van belang is?*
- In hoeverre denk je dat Buiksloterham als voorbeeld kan dienen voor andere wijken?
 - *Wat zou jij zelf overnemen uit deze aanpak, en wat zou je eventueel anders doen?*

AFSLUITING

Ik wil je heel hartelijk bedanken voor je deelname aan dit interview en daarmee ook voor je bijdrage aan mijn onderzoek. Dit is erg waardevol voor mij en in mijn opinie de gehele planologie.

Heb je nog opmerkingen die je graag wilt toevoegen? Of wil je nog terugkomen op een van de vragen? Misschien is je nog iets te binnen geschoten dat je aan een van je antwoorden zou willen toevoegen?

Heb je ook feedback voor mij? Over hoe het interview is verlopen en wat je van de vragen vond?

Dan wil ik je nogmaals bedanken voor je bijdrage en tijd.

Mocht je op een later moment nog vragen hebben aan mij of over het interview, neem dan gerust contact met mij op via de contactgegevens die je hebt ontvangen.

Zou ik je eventueel mogen benaderen als ik later nog aanvullende vragen heb?

Mocht je op een later moment bedenken en niet langer willen dat dit interview wordt gebruikt in mijn onderzoek, dan kun je ook een e-mail sturen. In dat geval zal ik al je gegevens verwijderen uit het onderzoek of anonimiseren.

Dan zijn we hiermee aan het einde van het interview gekomen.

Nogmaals hartelijk dank voor je tijd en ik wens je een fijne dag verder!

Appendix 2 – Codebook

Code group	Main Code	Subcode
Ownership Through Trust	Relational Trust	Long-term relationships between stakeholders
		Trust among neighbors/community members
		History of collaboration
		Shared identity or collective purpose
	Risk and Trust	Perception of risks in participating
		Conditions under which people feel safe to participate
		Unequal risk perception (based on status, roles)
	Legitimacy and Transparency	Open and honest communication
		Transparency in decision-making
		Trust in institutions or facilitators
		Recognition of informal actors or voices
		Stakeholder agenda-setting
	Sense of Ownership in the Process	Participatory Structures and Tools
Use of participatory tools		
Feeling of being heard or taken seriously		
Perceived Influence and Voice		Examples of suggestions being adopted
		Appreciation from institutions
		Freedom to set priorities
Stakeholder Agency		Ability to challenge or reshape ideas
		Room for experimentation or alternatives
		Physical changes in the neighborhood
Sense of Ownership in the Outcome	Tangible Results	Projects initiated or shaped by residents
		Adjustments made based on participation
		Participation in learning platforms
	Knowledge Sharing and Learning	Feeling of contributing to shared knowledge
		Peer-to-peer knowledge exchange
		Ongoing support from the municipality
	Institutional Embedding	Formal integration into planning or governance
		Influence on policies or regulations
		Inclusion of low-income or marginalized groups
	Sense of Ownership in Distribution	Inclusivity and Equity
Perceived or experienced exclusion		
Distribution of benefits		
Shared Value Creation		Community ownership or cooperative models
		Perceived unfairness in outcomes
		Co-governance arrangements
Governance and Structural Fairness		Power imbalances in decision-making
		Access to formal platforms or processes
		Placeholder subcode to ensure equal length

Appendix 3 – Observation Model

To document the physical, spatial, and social manifestations of participatory planning, circular principles, and community engagement in Buiksloterham, in line with Lachapelle’s dimensions of ownership: <i>process</i> , <i>outcome</i> , <i>distribution</i> , and the foundational role of <i>trust</i> .	
<u>Categories for observation</u>	
Physical Infrastructure	
	<ul style="list-style-type: none"> • Circular materials (reuse, modularity, renewable systems) • Visibility of participatory results (e.g. shared mobility hubs, self-built homes)
Communication & Signage	
	<ul style="list-style-type: none"> • Informational transparency (e.g. QR codes, signage explaining sustainability features) • Accessibility of language and design (inclusive visuals, multilingual content)
Community Spaces & Interaction	
	<ul style="list-style-type: none"> • Evidence of shared use, collaboration, or co-ownership (e.g. gardens, tool libraries) • Observed engagement levels (e.g. who is using spaces, diversity of users)
Institutional Presence & Framing	
	<ul style="list-style-type: none"> • Presence of municipal tools/platforms (e.g. planning boards, public dashboards) • Framing of participation or sustainability (e.g. branding, greenwashing cues)
Barriers & Exclusion	
	<ul style="list-style-type: none"> • Design elements limiting access (e.g. gated areas, no multilingual content) • Unequal distribution of resources or facilities
<u>Each observation is timestamped and geolocated.</u>	