Driving Urban Transitions

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Circular Grassroots Innovations for Just Urban Transitions

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Library of Things, Barcelona. Photo: Patrik Zapata

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Schramm, Elisa & Federico Savini (2026) Toward post-growth infrastructure: Features, logics, strategies. *Environment and Planning F*, 26349825261425484.

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Zapata Campos, María José, Patrik Zapata, Ulrika Holmberg & Bruno Chies (2026) Alternate infrastructures of care: Restoring people's abilities to care in a city of thresholds. *Cities*, *169*, 106531.

Zapata, Patrik & María José Zapata Campos (2025) Waste Commoning as Critical Answer to the Property Question. In Hervé Corvellec (Ed) *Waste as a Critique*, 240. Oxford University Press.

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Zisakou, Anastasia & Blanca Callén Moreu (2026) Towards inclusive urban transitions: an intersectional analysis of reuse and repair grassroots initiatives in Barcelona. *Local Environment*, 1-21.

Zisakou, Anastasia, Blanca Callén Moreu & Carlos Diz (forthcoming) Repairing Time: Temporal politics in community repair and reuse practices in Barcelona.

Index

Popular science summary 3

Introduction 8
Research design 9
Conceptual framework 13
Findings
- Amsterdam 16
- Barcelona 25
- Gothenburg 43
- Nantes 52

Cross-cutting results 60
Grassroots decalogue 72
Research project publications 74
List of references 75



Popular science summary

Circular grassroots initiatives generate significant environmental, social, and economic value in cities. They reduce waste, extend the life of materials, support livelihoods, and create spaces of care, learning, and participation. Yet despite these contributions, they often remain invisible, under-supported, or poorly understood. The Circular Grassroots project examined the challenges and opportunities grassroots initiatives encounter when creating, maintaining, and scaling their practices and values. The project also explored how space, governance, and inclusivity shape grassroots contributions to postgrowth transformations from below. Drawing on research conducted between 2023 and 2026 in the cities of Amsterdam, Barcelona, Gothenburg, and Nantes, the following sections present the project's main findings.

Space: How grassroots initiatives shape cities

Across different cities, we see a common pattern: grassroots initiatives do not simply use space, they actively produce it. Empty buildings, kitchens, repair cafés, streets, community hubs, and abandoned urban corners gradually become meaningful places through repeated encounters, shared routines, and collective care. Over time, these spaces evolve into what we call 'postgrowth infrastructures of care': social and material arrangements that sustain everyday cooperation, mutual support, repair, reuse, and resource sharing.

Grassroots spaces become meaningful through repetition. Regular meetings, familiar faces, and shared activities gradually transform physical locations into communities. Temporary 'pop-up' spaces can help attract newcomers and experiment with new ideas, but they rarely create the same long-term social bonds as more stable spaces. Community-building therefore depends heavily on continuity. In rapidly changing neighbourhoods shaped by gentrification, or in low-density urban settings where attachment to place is weaker, sustaining these communities becomes more difficult.

A recurring tension across the cases concerns the balance between flexibility and permanence. Flexible and unfinished spaces often encourage experimentation, improvisation, and creativity. At the same time, lasting communities require a certain degree of stability. Grassroots initiatives therefore constantly navigate what we describe as grassroots incompleteness: the need to remain adaptable while simultaneously building durable social relations and infrastructures of care.

To survive, grassroots initiatives develop different strategies for accessing and stabilizing space. These include shared community hubs, borrowed or negotiated spaces, temporary or transitional locations, informal uses such as squatting, and home-based or mobile set-ups. Yet access to space remains difficult in all cities studied. Grassroots actors often operate in leftover or low-value spaces, such as underused buildings or marginal urban areas not designed for their needs. This creates what we call 'grassroots interstitial urbanism': grassroots initiatives fill the gaps left by markets and governments, while remaining constrained by limited resources, time, and recognition. Filling these gaps requires tremendous

work in tinkering with space: finding, maintaining, adapting, and repairing spaces that were never designed for grassroots needs.

Importantly, grassroots spaces rarely remain confined to a single location. Instead, they spread through the city like capillaries: into homes through shared cooking, into streets through repair or waste collection activities, and into everyday life through informal networks of exchange and support. Through these postgrowth infrastructures of care, people reconnect not only with resources that would otherwise be wasted, but also with each other. Someone who once received help may later become a provider of care.

These spaces also shape what people value and how they behave. We describe this as 'grassroots affordances': the ways spaces encourage certain forms of action, learning, and social interaction. Kitchens can foster togetherness and wellbeing; repair spaces promote learning and self-reliance; sharing initiatives build environmental awareness and collective responsibility. In this sense, space is never neutral. It actively shapes participation, inclusion, social relations, and value creation. Some spaces make grassroots initiatives visible and recognized, while others keep them hidden or marginalized, raising broader questions about fairness and access in cities.

Governance: How grassroots initiatives organize and interact with institutions

Grassroots governance operates at multiple levels, from the internal organization of initiatives to their relationships with governments and broader institutional systems.

Some initiatives are highly organized, while others remain informal and flexible. Their structure often depends on available resources, local conditions, and the kinds of activities they carry out. A common feature across cases is adaptability. Many initiatives rely on flexible roles, volunteer-based systems, evolving responsibilities, and informal coordination mechanisms. Rather than functioning through rigid hierarchies, they often govern through experimentation and continuous adjustment. This again reflects grassroots incompleteness: initiatives evolve while operating, learning through practice rather than following fixed institutional models.

Grassroots initiatives rarely form one unified movement. Instead, they operate as a network movement, that is, loosely connected networks that share knowledge, resources, contacts, and spaces. Their political impact often emerges less through formal advocacy and more through everyday action. They are, in many cases, 'political by doing', experimenting with alternative ways of organizing care, consumption, repair, reuse, and collective responsibility in daily life.

Relationships with local governments vary significantly. Some initiatives collaborate closely with municipalities, forming hybrid arrangements or community-public partnerships that provide stability, resources, or recognition. However, such collaborations can also introduce new constraints, including bureaucratic requirements and pressure to conform to institutional priorities.

Other initiatives operate in governance voids, where there is little formal support or regulation. In these situations, authorities may tolerate, ignore, or even repress grassroots activities. Supporting grassroots initiatives therefore often requires a different way of governing, which we describe as 'governing with incompleteness'. Instead of attempting to fully control, standardize, or measure grassroots practices, municipalities can work with uncertainty by building long-term relationships, adapting existing resources, and enabling collaboration across actors.

At the same time, grassroots initiatives face what we call the advocacy paradox. Many initiatives prioritize practical action over lobbying or formal advocacy. While this enables experimentation and immediate local impact, it may also limit visibility and political influence. Engaging in advocacy requires time, resources, and organizational capacity that are often already scarce. In this context, grassroots intermediary organizations can play an important role in bridging between grassroots actors and institutional systems.

Visibility and recognition also remain recurring challenges. Grassroots work is often overlooked by policymakers and only becomes visible during moments of conflict or crisis. This invisibility reflects a mismatch between how grassroots initiatives create value and how institutions measure it. Through what we call 'grassroots valuation', initiatives generate social, environmental, and community benefits that frequently remain unrecognized within dominant systems shaped by New Public Management logics, which prioritize measurable outputs and efficiency over more-than-monetary forms of value.

Inclusivity: Who can participate, and who is left out

Inclusivity within grassroots initiatives is complex and shaped by broader social inequalities. Even in open and collaborative environments, differences related to class, gender, race, education, language, migration status, and time availability continue to influence who participates and how. We refer to these overlapping dynamics as 'grassroots intersectionality'.

Grassroots initiatives can unintentionally reproduce inequalities through expertise hierarchies, cultural norms, gendered divisions of labour, or unequal access to time and resources. Participation often depends on having enough free time, confidence, skills, or social connections to engage actively in collective activities.

At the same time, many initiatives actively attempt to create more inclusive environments through infrastructures of care. Rather than treating participants as passive 'consumers' of services, they encourage active involvement, shared responsibility, and collective learning. Inclusion becomes strongest when people are not only users, but also contributors whose roles can evolve over time.

Shared activities such as cooking, repairing, sharing resources, or organizing events often become important mechanisms for building trust, recognition, and social equality. Through these practices, people who initially enter as recipients of support may gradually become organizers, teachers, or providers of care themselves.

Grassroots initiatives also bring together participants with very different motivations. Some engage out of necessity, for example to access food, materials, or affordable services. We describe this as ‘subsistence circularity’. Others are motivated primarily by environmental or social values, what we refer to as ‘ideology-driven circularity’. While this diversity can strengthen grassroots spaces, it may also generate tensions regarding priorities, expectations, and forms of participation.

This creates what we call the ‘participation paradox’. Many initiatives require significant time, energy, and emotional labour to participate meaningfully. As a result, more privileged groups may become overrepresented, while the voices and knowledge of less privileged participants remain marginalized. This raises broader questions of procedural, distributive, and epistemic justice: who participates, who benefits, and whose knowledge counts.

Scalability: How grassroots initiatives create broader change

Grassroots initiatives rarely scale by becoming large organizations. Instead, their broader impact often occurs through more subtle transformations of everyday life, social norms, and collective values.

Rather than primarily focusing on organizational growth, grassroots initiatives shape how people think and act. They promote sharing instead of ownership, sufficiency instead of overconsumption, collective responsibility instead of individualization, and territorially grounded practices connected to specific urban contexts.

However, scalability is deeply connected to visibility. Grassroots initiatives face what we describe as the ‘visibility paradox’. On the one hand, visibility is necessary to attract support, collaborators, participants, and public recognition. On the other hand, becoming too visible can expose initiatives to regulation, bureaucratic pressure, co-optation, or repression. Many initiatives therefore constantly navigate between remaining visible enough to survive while hidden enough to preserve autonomy. In moments of crisis, grassroots initiatives may become more visible, coordinated, and politically active. Yet sustaining these mobilizations over time is often difficult due to exhaustion, precariousness, and limited resources.

Grassroots initiatives also challenge social stigma surrounding activities such as food saving, repair work, reuse, or waste picking, which are often associated with poverty or marginality. Through visibility, storytelling, theatricality, and public engagement, these initiatives reframe such practices as environmentally valuable, socially meaningful, and politically important.

Cross-cutting paradoxes: Living with tension

Across all cases, grassroots initiatives operate through a series of ongoing tensions that we describe as ‘grassroots paradoxes. These are not failures but defining features of how grassroots initiatives function within complex urban systems.

Grassroots initiatives are often essential yet invisible. They focus on practical action rather than policy influence, while simultaneously depending on institutional recognition and support. They aim to create inclusive spaces yet may unintentionally reproduce existing inequalities. They rely heavily on care work and volunteer labour, which can itself become exhausting or exploitative. They address immediate everyday needs while also aspiring to broader systemic transformation.

Rather than resolving these tensions completely, grassroots initiatives continuously navigate, negotiate, and adapt to them. Their strength often lies precisely in this ability to remain flexible, relational, and experimental while building alternative forms of urban life grounded in care, cooperation, and collective responsibility.

The Circular Grassroots Decalogue

The following Circular Grassroots Decalogue summarises the project's main cross-cutting conclusions. Rather than offering universal prescriptions, it highlights recurring dynamics, tensions, and lessons emerging across the studied cases, contributing to a more grounded and politically attentive understanding of circular and postgrowth urban transitions.

1. Circular grassroots initiatives lack space across all studied cities, and are often pushed into marginal, temporary settings.
2. They invest enormous amounts of work, energy, and time in tinkering with spaces, resources, and people.
3. They form a new network and lose social movement, making significant contributions that often go unseen or unrecognized.
4. They are political by doing rather than by contention. This strengthens their impact, but can weaken their voice, making intermediaries crucial.
5. Public–community arrangements (e.g. public-common partnerships) are emerging as an institutional form of providing access to space. However, many initiatives face an institutional void that, at best, ignores and, at worst, penalizes their informal nature.
6. There is a deep mismatch between grassroots valuation and dominant valuation regimes influenced by New Public Management and ecomodernist logics, which prioritize measurable outputs and efficiency over more-than-monetary values.
7. 'Good value creation' in grassroots initiatives is not automatic and inequalities (class, ethnicity, gender, age) persist, but many initiatives actively reflect and counteract this by building alternative infrastructures of care.
8. Some initiatives are necessity-driven (what we call subsistence circularities, not enough recognised in the literature), while others are driven by environmental and social values. In the process, all rationales blend and reinforce each other within and across initiatives.
9. They transform society by reshaping norms and social relations, rather than by growing bigger: normalizing repair, sharing, sufficiency, commoning, and collective responsibility.
10. Grassroots initiatives navigate multiple paradoxes that both constrain and enable their innovativeness: they are essential yet invisible; they risk becoming service providers rather than transformative actors; and they rely on care work that can become exploitative.

Introduction

Cities are spaces of overconsumption, waste-intensive production, and high environmental footprints, but also hubs for creativity and innovation. Citizens experiment with a wealth of innovations to address the challenge of a steady consumption growth and overuse of resources.

Globally, food waste makes up a third of all food produced, the construction sector creates a third of the world's overall waste, and the generation of electronic waste is scaling at vertiginous rates. Locally, the steady consumption growth and overuse of resources in cities is being responded to by a wealth of emerging grassroots innovations that engage with ecological alternative practices for the provision of energy, food, mobility, housing or production. These initiatives develop through networks of practitioners, activists, and other actors generating bottom-up solutions based on local needs and socio-cultural values of local communities. Some examples are recycling social enterprises and cooperatives, repair movements, food networks, or housing cooperatives.

While the scientific literature has progressed in the understanding of the characteristics and impacts of these innovations, the role of space, governance, inclusivity and scalability requires further examination. More research is also necessary to understand how climate and social justice go hand in hand. The Circular Grassroots project comes to bridge this gap by building upon long-term research engagements in four forefront European cities: Amsterdam, Barcelona, Gothenburg and Nantes. The cities represent not only different institutional contexts, but also different cases of grassroots circular practices in repairing and recycling (Barcelona), collaborative housing (Amsterdam), food circular economies (Nantes), and sharing and social and solidarity economy (Gothenburg).

The Circular Grassroots project examined how grassroots initiatives create, sustain, and scale their practices under conditions of constraint, and how space, governance, and inclusivity shape their contributions to postgrowth transformations from below.

This research report presents its main findings, first organised by city, followed by a cross-cutting analysis and discussion, and concluding with practical recommendations.

Research design

The research draws on a multi-sited, qualitative study of grassroots initiatives and their interactions with local governance in four European cities: Amsterdam, Barcelona, Gothenburg and Nantes. The analysis draws on long-term fieldwork conducted by five local research groups between 2023 and 2026, building on earlier case-based studies and research analysis developed independently in each city.

The four cities were selected not as directly comparable units, but as analytically plural settings that together capture a wide range of institutional configurations, welfare regimes, and grassroots circular practices. This diversity enables an examination of recurring dynamics, supporting transferability of findings to other urban contexts.

Amsterdam provides insight into a global city marked by extreme housing unaffordability and ambitious sustainability and circular economy targets. The empirical focus here is on collaborative housing initiatives that combine self-organisation, commoning, and circular design, while remaining marginal to dominant municipal circular economy strategies.

Barcelona represents a paradigmatic case of progressive urban governance, with a strong cooperative and social and solidarity economy tradition, extensive civic infrastructure, and municipal programmes supporting reuse, repair, and recycling. At the same time, tourism-driven gentrification and housing pressures generate acute struggles over space, shaping grassroots repair initiatives, libraries of things, and the informal recycling work of thousands of waste pickers.

Gothenburg contributes with the perspective of a Northern welfare city with a strong associative life and cumulative grassroots innovations in food sharing, repair, and reuse. Despite supportive policy and innovation programmes at a discursive level, grassroots initiatives face instability due to urban redevelopment, fragmented municipal governance, and recurrent struggles over access to space.

Nantes adds the perspective of a centralised state context combined with a strong local social and solidarity economy (SEE) networks, and urban circular economy policies. However, Nantes is also the scene of growing urbanization, which questions the possibility for grassroots initiatives to access space. The focus is on grassroots food circularity, including agriculture production, food distribution and organic waste composting.

Across these contexts, the initiatives studied engage in repairing and recycling, food saving and redistribution, reuse and sharing, and collaborative housing, providing access to essential resources through collective practices (see table 1 for a description of the studied initiatives)

Table 1. Description of the grassroots initiatives studied in each city

	Grassroots initiatives
Amsterdam	The housing cooperative *de Nieuwe Meent* is one of the pilots of the City of Amsterdam's Action Plan for Housing Cooperatives, winning a municipal tender in 2018. Aiming to provide affordable and non-commodified housing, the cooperative is informed by four core values of commoning, care, diversity and sustainability. These guided a lengthy participatory co-design process, facilitated by the radical architectural studio *Time to Access*. Circa 50 residents live across 2300 sqm in 15 small social housing units with 5 living groups (mid-segment rental prices), along with ca. 180 m^2 of non-living spaces (a co-working and a café). The project is collectively owned and managed as a renter's cooperative. It significantly exceeds Dutch energy and building standards (EPC=0, MPG=0.45, A+++ energy efficiency rating), using a spruce wood load-bearing structure, prefabricated cement, and recycled/ second-hand materials, complemented by solar and geothermal energy. The project faced many financial and institutional issues, including inflation, COVID, the Ukraine war (inflating material costs) and a lack of established financial and institutional frameworks for cooperatives. As a result, residents were only able to move in mid-2025.
Barcelona	*Libraries of things* (LoT) are community-based lending initiatives that promote collective and reduce unnecessary consumption. Through a shared catalogue, members can borrow items instead of purchasing them, supporting non-commercial access to goods and waste prevention. In Barcelona, the first LoT opened in 2020, and several initiatives have received support from local governments during their initial stages. *Restarters BCN* is a grassroots, activist initiative, founded in 2015 and inspired by the London-based Restart Project. It focuses on challenging premature obsolescence by fostering local repair cultures. The collective organises free public 'Restart Parties', where volunteers support participants in repairing their own electrical and electronic devices in a collaborative, informal setting. Beyond repair itself, the initiative promotes the sharing of technical knowledge and collective responsibility towards technology, encouraging more sustainable relationships with devices. During events, organisers coordinate device intake and connect participants with volunteers, who guide them through the repair process to support learning, self-repair, and mutual aid.
	Informal waste pickers (IWP): an estimate of 2,000 mostly undocumented migrants, mainly from Senegal, Gambia or Roma communities from Romania, collect metal scrap from curb side containers and sell it to intermediate dealers. They contribute to the circular economy, connecting their informal activities with the formal waste management system. They push shopping or bicycle carts and sell the collected materials to established dealers located in the industrial areas of the city, or to other IWP who own motorised vans. Due to the precarious conditions and low income, most are homeless, camp in vacant lots, squat abandoned industrial estates or at best rent shared rooms in overcrowded apartments. They are often evicted and displaced elsewhere. These episodes expose structural contradictions of the neoliberal city, triggering responses from social institutions (e.g. municipal services) as well as solidarity groups.
Gothenburg	*Majorna Samverkansförening* (MC) is a grassroots association founded in 2005 after parents mobilised against the municipal closure of a local youth centre and took over the building. MC focuses on youth activities, citizen initiatives and neighbourhood sustainability and functions as a local hub hosting multiple initiatives, including *Folkkök* (community kitchen using surplus food, active since 2012), Sweden's first toy library (2018), the local currency Majorer (2017), and the food-sharing initiative *Solikyl*. *Solikyl*, active since 2015, is an open and collaborative food-sharing initiative aimed at reducing food waste through free redistribution; it operates around ten solidarity fridges in the city, collaborates with more than 25 grocery stores and bakeries, saves an estimated 210 tonnes of food annually, and engages over 120 active participants, reaching several thousand users. *Fixoteket Majorna* was a municipal repair initiative offering textile and furniture repair, tool lending and reuse, and hosted *Gratisbutiken* (free exchange of clothes and furniture); after a period of grassroots management marked by conflicts, the municipal housing company closed the space, leading to the loss of central facilities for repair and reuse initiatives in the neighbourhood.

	Grassroots initiatives
Nantes	51 food initiatives active in the two neighbourhoods of Bellevue and Ile de Nantes had been identified and interviewed. For clarity of the report, we focus on 6 of them that show the diversity of actions, strategies, arrangements and objectives of grassroots. The 6 are involved in one or two segments of the local food loop (2 in agriculture production, 4 in food distribution, 1 in composting). *Kiosque Paysan (farmer's kiosk*): association connecting organic and local producers with committed restaurants, facilitating transport and supply logistics *Commun'ile (common'island):* cooperative including a farm, four restaurants, and a third place for grassroots, with a solidarity-based economic model along the production chain *Marché Alternatif de Bellevue* (*Bellevue alternative market*): market for unsold food, managed by employees and volunteers-beneficiaries of the association *Tinhi Kmou* (*the 'old world' in Guéré, Ivory coast language*): market for unsold food, self-managed by volunteers, opposed to local authority *L'Autre Cantine* (*the other canteen*): association supporting people in exile, in precarious situations and homeless, especially through cooking and distribution of meals *Compostri* (*compost + sorting*): association promoting, implementing and supporting shared composting projects

Data collection

The field material consists of qualitative data generated through semi-structured interviews, participant observation, observant-as-participant, focus group discussions, surveys, and document analysis (see Table 2). In total, more than hundred interviews were conducted with participants in grassroots initiatives, municipal officers, politicians, and intermediary organisations. Fieldwork was complemented by long-term engagement in meetings, events, workshops, and everyday activities of the initiatives, allowing researchers to observe organisational practices, care work, internal tensions, and interactions with governance actors over time.

Each local research group conducted in-depth fieldwork in its respective city, often over several years and in some cases as part of ongoing action-research or scholar-activist collaborations. In most cases, researchers engaged closely with grassroots initiatives through collaborative projects, advisory roles, or long-term participation. This positionality provided access to backstage organisational practices, relational labour, and informal governance dynamics that often remain invisible in formal accounts. Rather than striving for detachment, the study embraces a situated epistemology, recognising partiality and relational engagement as conditions of knowledge production rather than sources of bias (Haraway, 1998).

Field material and analytical insights were discussed iteratively across the five research groups through three joint workshops, joint participation in four scholar conferences and collective writing processes of the project research report, several articles and book chapters.

Table 2. Conducted fieldwork in each city

	Grassroots initiatives	Municipal officers and politicians
Amsterdam	21 interviews with residents (12), former members (6), aspiring members (3), architects (3) Document analysis of 100 documents: designs, presentations, notes and minutes as related to participatory design process 25 hours of participant observation (general assembly, Do-it-together workdays)	Interviews with 9 municipal actors and stakeholders: 2 municipal officers; advisors (6), bankers (2); Document analysis of ca. 100 regulatory artifacts (municipal, national, e.g. documents, images, planning requirements)
Barcelona (LoT and repair)	22 interviews 45 hours of observations 4 focus groups	10 interviews with NGOs, municipal officers
Barcelona (waste pickers)	80 interviews with informal waste pickers 120 hours of observations	2 in-depth interviews
Gothenburg	41 interviews 80 hours of observations 4 group discussions and photo elicitation	25 interviews 25 hours of observations 2 group discussions with politicians and officers
Nantes	61 interviews 120 hours of observations 5 workshops (conducted in the frame of a participative research-action with 10 grassroots initiatives) Survey in 3 food distribution initiatives	10 interviews 20 hours of observation

Conceptual framework

This section brings together a set of concepts developed inductively through our research on circular grassroots initiatives across European cities. The concepts are grounded in empirical engagement with the everyday practices, material arrangements, and socio-political tensions through which grassroots actors sustain forms of circularity, care, and collective life. Together, they seek to expand dominant understandings of the circular economy by foregrounding dimensions that are often marginalised or overlooked: socio-metabolic inequalities, infrastructures of care, informal and subsistence practices, intersectional exclusions, and the contradictory roles grassroots initiatives play within contemporary urban political economies.

The concepts presented here do not constitute a unified theory or closed framework. Instead, they function as interconnected analytical lenses that illuminate different aspects of grassroots circularity and post-growth transformations.

Subsistence circularity refers to practices that transform linear flows into circular ones -reuse, repair, gleaning, informal recycling, and waste recovery – carried out primarily as a means of securing livelihoods and meeting basic needs, rather than environmental commitment or innovation. These practices often emerge under conditions of precarity and marginalisation, with limited access to formal economic opportunities. Unlike mainstream CE initiatives –typically policy-driven, technocentric, and market-oriented – subsistence circularity is rooted in frugality, care, and community resilience. It frequently involves socially stigmatised or invisible actors – informal waste pickers, squatters, or low-income households – whose contributions are significant yet rarely recognised or supported by formal institutions. This concept challenges narratives that equate circularity with efficiency and innovation and instead foregrounds the unequal socio-metabolic relationships that shape who circulates what, how, and under what conditions.

Publication: *Bahers, Jean-Baptiste, Claudio Cattaneo, et al. (forthcoming) Grassroots actors, material contribution and socio-metabolic inequalities in European cities, Ecological Economics*

Intersectionality for circularity This notion challenges overly technocratic understandings of circularity by showing that reuse and repair rely on unequal conditions and social infrastructures, not only on environmental motivation or better design. Rather than treating circularity as a uniform and neutral environmental project to which questions of inclusion may later be added, this perspective understands repair and reuse as socially produced practices, shaped by patriarchy, racism, class inequality, adultism, and neoliberal temporal regimes. From this viewpoint, circularity is not only about harnessing and extending the lifespan of resources, but also about the power relationships and unequal distribution of access, agency, recognition, time, knowledge, and belonging that conditions who can be part of circular material cultures and on what terms. Our cases show that these dynamics operate simultaneously at micro and macro levels: through everyday gestures, pedagogical styles, language use, fees, schedules and spatial arrangements; but also through wider urban political-economic processes such as precarious labour, gentrification, touristification, and consumer capitalism. Intersectionality for circularity thus thickens and reframes circular transitions as contested socio-material processes in which exclusion and empowerment are simultaneously produced, and where more just forms of circularity require transforming not only material flows, but also the power relations that organize them.

Publication: *Zisakou, Anastasia & Blanca Callén Moreu (2026) Towards inclusive urban transitions: an intersectional analysis of reuse and repair grassroots initiatives in Barcelona. Local Environment, 1-21.*

Postgrowth infrastructures refers to the socio-material arrangements that structure everyday life without depending on, accommodating or fuelling continual economic growth. As such, they stand in contrast with much of contemporary infrastructure whose reliance on debt often means that returns on investment or repayment are prioritised over meeting social needs they appear to serve and that exacerbate environmental harms (resource use, CO2 emissions, habit destruction), locking us into ecologically harmful patterns of consumption and production. Post-growth infrastructure, then, has three important features. First, it supports practices that meet situated essential needs for e.g., housing, mobility, food or care, instead of serving productivity or profit targets. Second, it aims to reduce rather than increase ecologically harmful consumption. This is achieved through its infrastructural design, ownership structures and everyday uses making low-consumption practices normal and convenient rather than accommodating and fuelling increasing consumption. Third, it resists capitalist capture, by building up forms of collective control that can withstand pressures of commodification, demolition or speculative redevelopment, keeping the value it generates in circuits of common use and self-government. Importantly, these features are not dependent on its technical or design features alone but depend dynamically on the practices it enables over time.

***Publication**: Schramm, Elisa & Federico Savini (2026) Toward post-growth infrastructure: Features, logics, strategies. Environment and Planning F, 26349825261425484.*

Infrastructures of care refer to the socio-material arrangements through which circular grassroots initiatives organise, sustain, and expand practices of care across people, resources, and urban space. They emerge through practices and conduits that deviate material flows from linear systems by creating alternative loops that reconnect discarded resources with people, for example through the redistribution of surplus food or the reuse of materials. At the same time, they reconnect people with their environmental footprint, making visible forms of waste and unsustainable production that are otherwise obscured by dominant systems, thereby fostering awareness and engagement. These infrastructures also operate through the creation of urban threshold spaces, where people with different life trajectories meet, interact, and experiment as equals within liminal and relatively safe environments. In doing so, they can foster social cohesion, generate bridging social capital, and contribute to the reappropriation of urban space by assigning it new social and ecological functions. Infrastructures of care transform passive recipients into active caregivers, enabling forms of mutual support and collective responsibility that reconfigure roles, identities, and relations of care. However, the effects of these alternative infrastructures of care are not uniform.

***Publication:** Zapata Campos, María José, Patrik Zapata, Ulrika Holmberg & Bruno Chies (2026) Alternate infrastructures of care: Restoring people's abilities to care in a city of thresholds. Cities, 169, 106531.*

Grassroots material affordances refer to the material affordances of activities, the physical and sociocultural composition of settings, and the theatricality through which initiatives are staged and lived. Different infrastructures of care reconfigure the spatial and material affordances of material flows and infrastructures, producing distinct value effects. In this sense, grassroots affordances shape both what participants are able do and what they come to value. For instance, kitchens enable embodied co-presence and shared temporalities through cooking and eating together, fostering wellbeing and social capital. Food-sharing initiatives often generate environmental awareness; libraries of things cultivate practices of sharing; community kitchens strengthen social cohesion; and repair initiatives promote learning and skill-sharing. Theatricality, understood as the way initiatives are presented, performed, and interpreted, also plays a crucial role in shaping these outcomes and values. In particular, it can influence whether such initiatives become spaces that politicise waste, care, and inequality, or merely function as stopgaps that absorb systemic contradictions, a risk discussed in the section on grassroots paradoxes.

***Publication**: Holmberg, Ulrika, María José Zapata Campos, Bruno Chies (forthcoming) Grassroots material affordances and grassroots valuation.*

Grassroots incompleteness refers to the open-ended, evolving, and deliberately partial character of the organisational and infrastructural arrangements through which grassroots initiatives operate. Rather than being fully formalised, stabilised, or optimised, these initiatives are constituted through provisional spaces,

flexible roles, and adaptive socio-material practices that remain unfinished by design. This incompleteness enables them to respond to changing conditions, sustain participation, and cultivate relations of care under contexts of scarcity, uncertainty, and precarity. However, such qualities are frequently misrecognised as signs of inefficiency, fragility, or lack of capacity, reflecting dominant governance imaginaries that equate legitimacy with completeness, standardisation, and measurable outputs. These imaginaries tend to privilege bureaucratic coherence, predictability, and economic rationality, and therefore struggle to account for forms of value grounded in social relations, learning, and care. In response, governing with incompleteness can be understood as an alternative mode of public action that does not seek to eliminate or correct this condition, but instead works with it. It involves forms of institutional practice that remain themselves partial, adaptive, and relational, including the recombination of existing tools and mandates (institutional bricolage), the cultivation of trust-based and situated engagement between public officers and grassroots initiatives (relational governance), and the development of polycentric and intermediary arrangements that coordinate without fully centralising. Governing with incompleteness shifts the role of public institutions from enforcing closure and standardisation toward enabling continuity, translation, and connection across heterogeneous actors and practices.

***Publication**: Zapata Campos, María José, et al. (forthcoming) Governing with incompleteness: Grassroots infrastructures and postgrowth urban transformations*

Grassroots paradoxes refer to the set of tensions through which grassroots initiatives operate within, and in relation to, capitalist urban systems. Drawing on Bauman's notion of 'wasted lives', these paradoxes emerge from structural conditions in which both material surplus (such as food waste) and human surplus (marginalised populations) are not accidental failures, but systemic by-products of growth-oriented economic logics. Grassroots initiatives intervene in these contradictions by redistributing surplus, creating infrastructures of care, and sustaining everyday life. Yet in doing so, they become entangled in paradoxical dynamics that they cannot fully resolve. Their contributions are simultaneously essential and invisible, as they perform vital metabolic and social functions while remaining undervalued and under-recognised. They operate between transformation and stabilisation, as their practices may challenge dominant systems by exposing waste and fostering alternative values, while also risking becoming stopgap mechanisms that absorb surplus and mitigate crises without addressing their root causes. They oscillate between emancipation and pacification: they can generate dignity, collective agency, and new forms of participation, but may also reproduce inequalities or maintain participants in positions of dependency if not accompanied by critical reflection and political articulation. More broadly, these paradoxes extend across multiple dimensions of grassroots action, including tensions between doing and influencing, flexibility and formalisation, autonomy and institutional support, inclusion and the reproduction of inequality, and care and exploitation. Rather than anomalies, grassroots paradoxes are constitutive of their very nature: they reflect the ways in which grassroots initiatives navigate, absorb, and at times subtly reconfigure systemic contradictions, while simultaneously being shaped and constrained by them.

***Publication**: Zapata, Patrik, María José Zapata Campos & Bruno Chies (2026) Feeding on Waste: Circular Grassroots Hope or Neoliberal Stopgap, in Myra Hird and Gabriela Dee, Research Handbook on Waste Policy, Regulation and Behaviour, Edward Elgar Publishing, Inc.*

City findings: Amsterdam

City context

Urban context: Amsterdam is a compact, densely populated Northwestern European city of around 900,000 inhabitants, and about 2.5 million in the wider metropolitan region. It is a very affluent, service-based city under intense housing, tourism and sustainability pressures. Because of its historical, yet shrinking, social housing stock, Amsterdam is still relatively diverse in terms of class and ethnicity. Amsterdam is keeping its image of diversity although it is becoming in reality very unequal, especially along racial and class lines.

Political and policy context, as relevant to circular grassroots: Since 2014, Amsterdam has set very clear targets of circularity in order to reduce its ever-expanding urban metabolism. Early circular economy programs focused on three streams: food, clothing and construction. The choice was motivated by evidence that these three sources were significantly affecting the everyday life of Amsterdam citizens. Construction is the prime generator of waste materials in tons, as well as the least circular sector, dominated by specific large players. The city of Amsterdam actively tried to reduce these streams through three distinct policies: A material passport for newly built residential estate, the promotion of timber construction, and the promotion of housing cooperatives to make these two possible. In this context, housing cooperatives are increasingly considered a means to address social, environmental and economic issues in the housing market.

Simultaneously, housing affordability has long been an issue in Amsterdam, escalating in very recent years, with housing prices surging by more than 10% in 2024 alone, with homelessness up by more than 20%. The situation is so dire that only 4.5% of new homes are affordable with an average income (Howard, 2025). In the Dutch context, this is at least partly linked to the liberalisation and residualisation of the historically very significant public housing sector since the 1990s (Musterd, 2014; Van Gent & Hochstenbach, 2025). The latter was also linked to a number of scandals of financial nature (financial mismanagement; fraud, see Hoeckstra, 2017).

Because of these developments, Amsterdam is witnessing the rise of a parallel, informally organized economy of sharing, collecting, diverting waste, and self-help. For housing, this meant the rise of the housing cooperative sector. The National Housing Act of 2015 made a provision for housing cooperatives (next to tightening financial and governance oversight of the public housing sector), following lobbying from social movements, which was translated into the Action Plan for Housing Cooperatives in Amsterdam that same year. The latter included 15 to 20 pilot projects, with the goal of constructing 7000 housing units by 2030 and reaching 10% of the housing stock by 2045. However, despite significant increases in the number of cooperative projects, this goal is not on track to being met. The regulations for these cooperatives include strong evaluation criteria for timber building, energy efficiency and circularity (the so-called MPG and EPC norms). Cooperatives are deemed to be grassroots, citizens-based endeavours where circularity goals can be more easily met. In practice, this is the case with existing cooperative presenting a high penetration of circular technologies, combining water reuse, timber construction, energy positive systems, ground-heat and high-isolation.

Circular grassroots

De Nieuwe Meent emerged as the second such pilot initiative, winning a municipal tender in 2018. It is situated in Amsterdam East, on a formerly unused plot of land. Aiming to provide affordable and non-commodified housing, the cooperative is informed by four core values of commoning, care, diversity and sustainability. These guided a lengthy and participatory co-design process (2018-2022), facilitated by the architects from the radical architectural studio *Time to Access*.



De Nieuwe Meent. Photo: Patrik Zapata

The building is designed to accommodate ca. 55 residents (current residents: 51, the arrival of the 52nd resident is imminent (a baby)) and was built as a 7-story complex with two plinths and an interior court over 2300 m^2. It combines 15 small studios and duplexes with 5 intentional living groups with 5 units each, along with ca. 180 m^2 of non-living spaces (a co-working space and a café). The former pays social level rents, while the latter correspond to mid-segment market prices.

While requirements for state and municipal governments in terms of energy and building performance are very high in the Netherlands, *de Nieuwe Meent* exceeded these substantially, with

an EPC=0, MPG of 0.45 and an energy efficiency rating of an A+++. *De Nieuwe Meent* aims to be 'circular, carbon neutral, adaptive and long-lasting' (Project Brochure, 10/11/2020), with energy derived from solar panels integrated into the building.

The bulk of its structure is made out of spruce wood, using a wood load bearing structure and dry construction, with all components separated from one another. All wood comes from sustainably managed forests (FSC-certified), from Northern Europe and has been processed in Belgium before being transported to the Netherlands. Furthermore, the lower parts of the tower and of the plinth use cement, in order to stabilize the building and shield it from vibrations from the train tracks situated immediately behind the building. This cement is prefabricated, resulting in lower emissions, with 30% additionally made from reused materials or crushed cement (Interview with Architect). For all non-structural parts, recycled or second-hand materials are used, e.g. upcycled textiles for insulation (using flax wool) and reused glass (emitting 96% less Co_2 compared to new glass). The exterior façade is built with (local) porotone cellular clay brick, a more sustainable alternative to ordinary clay brick.

Beyond these technical innovations, the circularity of the building is enhanced through user-led design, modularity, a high proportion of shared spaces (e.g. shared green roof, a shared courtyard, a two-storey communal lobby with large professional kitchen, laundry room, storage, and a 'poly-functional' room) to ensure minimum land use and construction for the maximum of inhabitants, also for subsequent generations of residents.

The project is collectively owned and managed as a renter's cooperative, with the term *Meent*, an old word for the commons, reflecting the cooperative's emphasis on decommodification, shared ownership and decision-making. It is organised through four decision-making organs, which include a board of directors with three members as required by Dutch law, the general meeting (Meentrad), which makes official decisions, the community meeting (Meentvergadering), and the Committee for the commons (Comité voor de Meent). The latter two include external stakeholders, the point of which is to ensure that the cooperative does not only meet the resident's needs but also considers their embeddedness in a wider web of relations. Internally, the cooperative is organised further through working groups, focusing on community (welcoming new members, organising events), design, legal issues (registering new members, developing contracts and statutes), finance and media. Formally, the cooperative dNM also rents out parts of non-residential spaces to other cooperatives, like the cooperative *WoonRuimte*, which runs the café', the cultural space and the co-working space. In the co-working space, other cooperatives active in the fields of energy and policy advocacy find their place to work.

The project ended up costing approximately €8 million, a substantial increase on the initial business case primarily due to inflation. The largest part of the budget is covered by a long-term mortgage with the cooperative bank *Rabobank* (47.2%) while 31% is financed by the municipality. This was complemented by 19.7% from crowdfunding, impact loans, subsidies and donations and 2.1% from the members' own contribution. Any future surpluses will be utilised to either improve the building or to support similar projects – the latter directly serving to strengthen the cooperative living sector in the Netherlands.

Over the years, the project faced a multitude of financial and institutional issues, which included tight and numerous municipal regulations, a disadvantageous plot, inflation, COVID, the war in Ukraine, which increased the cost of construction materials. This was heightened by the difficulties associated with the relative novelty of housing cooperatives as a form of organising housing, resulting in a lack of established financial and institutional frameworks. As a result, residents were only able to move into the building in the summer of 2025.

Analysis

Our analysis is based on fieldwork conducted between July 2024 and July 2025, consisting of interviews, document analysis and some participant observation: 33 interviews with residents (12 interviews with 11 residents), architects (3), advisors (6), bankers (1 interview with 2 bankers from Rabobank), municipal actors (2), former members (6), and aspiring but rejected members (3). We also conducted a document analysis of around 200 documents furnished by the architects, which included municipal and national regulatory artifacts (documents, images, planning requirements, circa 100 docs), and designs, presentations, notes and minutes as related to the participatory design process facilitated by our partner, the architectural studio *Time to Access*, and the community itself (circa 100 docs). These documents were translated from Dutch to English, as necessary. Furthermore, we punctually conducted participant observation, joining the general assembly and Do-it-together (DIT) working days in the final stretch before the move-in in May-July 2025, helping with finishing walls and floors.

Our analysis reveals the following in relation to the three objectives:

Objective 1. Space

We conceptualised de Nieuwe Meent as a case of durably grassroots place-making and deployed an 'infrastructural lens' to gain a better understanding of how they built circular grassroots spaces, in an unfavourable political economic climate. Notably, we emphasise the conjoined socio-material dimensions of place-making, which we find best encapsulated in the notion of 'infrastructure', that is, a set of socio-material arrangements that enable or constrain social practices (Star, 1999:380). This allowed us to consider how particular values (e.g. affordability, inclusivity, sustainability) were fixed into infrastructures, implying both material (e.g. the building itself; energy infrastructure, green spaces etc.) as well immaterial (selection procedures, governance structures) infrastructures.

Furthermore, our choice of an infrastructural lens to understand grassroots spaces is predicated on the fact that most grassroots initiatives tend to be focused on ephemeral practices rather than building arrangements that allow these spaces to endure on the long-run, and that ensure that these spaces will not be taken over by for-profit actors or demolished. We have examined two entwined strategies for infrastructural transformation, which we term appropriation and reconstruction.

Appropriation refers to the process of reclaiming and repurposing growth infrastructures and harks back to Lefebvre's concept (1996) of the 'right of appropriation', which stresses the right

to repurpose public space for decommodified rather than exchange value-maximising uses (Purcell, 2003). Reconstruction involves actively rebuilding infrastructure to 'script' or incorporate post-growth values directly into their socio-technical configuration (Akrich, 1992) to durably engender circular grassroots practices.

We argue that appropriation and reconstruction work as dynamic and mutually conditioning *processes* that serve to overcome power relations inherent in current infrastructural systems and to build new infrastructure that enable circular grassroots practices. In particular, appropriation shaped the ways in which reconstruction could take shape, while reconstruction, and especially the four key values of the project, guided and propelled forward the appropriation process.

Appropriation and reconstruction firstly worked through *selection*, new systems of exclusion, and compromise, mediating between the goals and values that organise reconstruction and the challenges associated with appropriation

Appropriation:

The Nieuwe Meent obtained its plot through a competitive tender issued by the municipality, which identified housing cooperatives as an urgent need in the city to counter the housing crisis and a perceived lack of suitable housing. Despite this rather 'symbiotic' appropriation, the cooperative has encountered many difficulties, chiefly in relation to (a) the difficult plot (very hard to realise spatial envelope, immediately adjacent to a train station, exceeding permitted noise levels), and (b) a rapidly deteriorating financial situation due to the war in Ukraine and inflation, which on several occasions raised both interest rates and the costs for materials (mainly wood). Thus, the appropriation of the space has been a lengthy and laborious process, directly linked to the fact that they were allocated a 'left-over' scrap piece of land (apparently unattractive for capital development otherwise) as well as the crisis-prone nature of capitalist economies more generally.

Reconstruction: Building infrastructures/spaces for post-growth

Within these constraints, *de Nieuwe Meent* sought to reconstruct the site around the key values of commoning, care, sustainability and diversity have been 'scripted' into the space (Akrich, 1992), to varying degrees, enabling durable place-making from the grassroots. In our understanding, these four values constitute a form of 'selection', instituting or more precisely, infrastructuring new systems of exclusion, that is, instituting which practices, people and places were excluded within the cooperative housing. It is through this process of infrastructuring specific values into the socio-material arrangements of the cooperative that the longevity of the project and the perpetuation of alternative values guiding housing is ensured, given the path-dependencies that infrastructuring generates (see Durrant and Cohen, 2024). In this context, there was some divergence in the extent to which the selected values were explicitly 'infrastructured' into the project, leading to more or less strong path dependencies. Further, given that four values were selected, they sometimes required trade-offs and compromise between themselves, with some arguing that the values were insufficiently selective. Finally, these values were mediated by the (mainly financial, but also regulatory) challenges linked to appropriation, requiring additional compromise.

1) *Commoning*: visible in shared common spaces: washing machines, gardens and the courtyard, two floors are shared by all, including a communal kitchen; living groups shared between 5 residents, thereby 'selecting' and enabling a number commoning practices. Ultimately, commoning's underlying decommodifying logic (Gómez-Baggethun, 2015) was somewhat compromised in the sense that the cooperative was obliged to increase the number and minimise the size of units, while increasing the rents.

2) *Sustainability*: A+++ energy rating, high material efficiency rating. Wood interiors, brick exteriors. Energy reductions are infrastructured mainly through energy efficiency measures. The exception to this was parking spots which have been reduced to only two (to accommodate for those with lower mobilities), corresponding to a more profound logic of 'sufficiency'. Water use reductions are not infrastructured in the space, since this was no longer deemed affordable in the deteriorating financial situation, they found themselves in. One of the biggest compromises, however, was arguably having to accept a mortgage from an 'unethical' bank, the Rabobank – a cooperative bank known for its investment in fossil fuels.

3) *Diversity*: was infrastructured in the accessible building, and different housing formats. To ensure true inclusivity, the community also renounced a desirable but wheel-chair inaccessible roof terrace, which constituted a compromise between values and the financial situation at hand. This criterion is perhaps most visible in the kinds of exclusions it instituted, namely excluding those with easier access to the housing market, including for instance nuclear families and those with privileges in terms of ability, race, sexual orientation and income/wealth.

4) *Care:* was the least infrastructured in the building itself and in conjunction with diversity (see below) has probably caused many issues. Usually, interviewees referred to diversity or commoning measures (sharing spaces; accessibility) when asked about care, revealing a lack of explicit infrastructuring in this space around care. Only recently a care group has been set up, which we consider an explicit way of infrastructuring care.

Objective 2. Governance

We also applied this infrastructural lens to governance, understood here more specifically as 1) the sometimes fraught relationship with the municipality, with whom the tender and building process was co-managed to a certain extent and simultaneously, 2) the commitment to basic democratic, consensus-oriented decision-making processes and governance structures and the commoning of resources, spaces, goods and services (Helfrich and Bollier, 2015). Our document analysis and interviews showed how the appropriation process impeded reconstruction in some ways, given that the cooperative had to engage with institutional requirements that were often unsuited or undesirable for those engaged in grassroots infrastructural governance. Here, *de Nieuwe Meent* members predominantly resorted to compromise as a strategy, but also, subtly, to instances of hacking (Micciarelli,2022).

This included the following issues:

(1) The development of the cooperative under the stipulations (size, disadvantageous location, sustainability requirements) and in consideration of a difficult economic situation (inflation) made it extremely challenging to find financing from banks, including cooperative banks, threatening the survival of the project, and limiting inclusivity. Choosing such unfavourable conditions reduced the space for basic democratic governance and free and open decision-making about the kinds of infrastructure the members of the cooperative wanted to build.

(2) The municipality includes a maximum size for units of social housing, which makes it impossible to accommodate more communal forms of living as social housing, and which meant that a significant percentage of housing had to be mid-segment housing. This meant the cooperative had to compromise on affordability as a key value and potentially excluding some lower-income households from the project.

(3) As a vereiniging (association), there is a requirement for a board that holds legal responsibility and serves as points of contact to the outside. This has some structuring effects, that the cooperative has tried to contravene by creating a wide array of ever-changing and dynamic work groups that emerge and fizzle out as needed, which we consider a small case of 'hacking'. In so far, the governance structure was partly constrained by the legal requirements set by the municipality but also contains flexible elements allowing for adaptation and tinkering.

Objective 3. Scalability and inclusivity

Inclusivity (diversity):

Inclusivity, or diversity, as it was typically referred to within the project, was one of the most hotly debated and contentious issues in *de Nieuwe Meent* and gained increasing salience to the self-understanding of the project as a whole.

Through an infrastructural lens, the construction process was concerned with creating infrastructures to durably enable a diverse group of people inhabiting *de Nieuwe Meent*. The main infrastructure to do so was the admissions procedure, and four associated admission rounds, that implied evolving definitions and understandings of diversity. As such, those who typically struggle more to access secure and affordable housing were preferred in the admission procedure, constituting perhaps the clearest case of instituting systems of inclusion.

In this context, it is worth emphasising that this was overall experienced as a very difficult and painful process. New members made the community more diverse and complexified and nuanced understandings of diversity – for instance, moving from 'box-ticking' exercises to consider more particular life stories and circumstances in situ. Diversity, however, also meant less harmoniousness rendering discussions more challenging, with many discussions emerging precisely because of the diverse make-up in the group.

There was initially a strong emphasis on admitting those who were most diverse, but this resulted in compromise between those able to contribute a lot of time, energy, resources and those that were not able (because of e.g. childcare obligations, precarious work, poor mental

and physical health). This has led to many people burning out and leaving the project, only to be replaced by new members who would burn out. There is therefore a tension between the depth of commoning and the ability to complete the project, on the one hand, and diversity -and the care, attention and time this often requires, on the other. In turn, this has also led to some resentment as some older, more privileged members were not admitted as members to the project. More recently therefore, the community has expanded its thinking of care within a diverse group, jointly considering care receivers and care givers. In later admission rounds therefore, there has been a stronger emphasis on ability to work, contribute and care for others. This in turn has the potential to create important power differentials, threatening a truly collaborative governance of the space, which is complicated by the fast pace of the project and high degree of expertise required for a lot of aspects of it (finance, legal, architecture). These can be understood as necessary compromises to finish the project in the face of the labour-intensity that was both instituted by the many requirements of the municipality and implied given the difficult wider market conditions.

Main findings

Highlight 1 – Durable place-making involves compromise-laden processes of appropriating and reconstructing infrastructure

De Nieuwe Meent engaged in infrastructure-building as a socio-material process, that sought to establish durability and permanency by selecting and instituting particular values and fixing them into the building, admission procedures and governance structures. Considering the ephemerality of many grassroots projects, this attempt to durably build alternatives to the capitalist system proved much more challenging and labour-intensive, requiring compromises along the way.

Highlight 2 – Municipal support both enables and disciplines grassroots infrastructural experiments

De Nieuwe Meent exists because the city of Amsterdam created a dedicated tender, making available public land for cooperatives, and assisted them financially and practically in doing so. Yet at the same time, they reproduced many growth-oriented and financial logics, expecting high levels of expertise and professionality, and imposed several highly limiting regulatory constraints on the cooperative. Thus, attending to the specific ways that 'progressive cities' attempt to support (and simultaneously constrain) grassroots projects can help give further insight into fraught dynamics around public-common partnerships (see Russell et al., 2023)

Highlight 3 – Grassroots infrastructuring depend on highly demanding 'labour of selectiveness'

Selecting values, which were fixed into infrastructure and continuously maintained, even in the face of a difficult 'appropriation' process, proved to be a very laborious, emotionally demanding and often conflictual process. This was perhaps most visible around the value of diversity. This was the case because diverse groups tended to require more care and support (e.g. single parents, people with chronic illnesses), and in turn, had less capacity to support the development of the project. As a result, other members tended to take on more work, often resulting in burnout (an issue more explored in the context of

social movements, see e.g. Beilmann, 2020). This shows that an explicit attention to labour and labour distribution can yield interesting insights into the 'energy economies' in grassroots infrastructuring projects, including on compromises and strategies to engage with such issues.



De Nieuwe Meent community. Photo: Vereiniging de Nieuwe Meent.

City findings: Barcelona

City context

Urban context: Barcelona is a highly densely populated mediterranean city of 1,7 million inhabitants -4 in the metropolitan region- with a very large tourist inflow and large migrant population from both Global North and Global South countries. It is an opulent consumerist city and also a very multi-cultural, with the population divided between social acceptance or dismissal of ethnic and population minorities.

Political context: Barcelona has been shaped between 2015 and 2023 by a progressive local government, with a history of cooperative movement and high immigration tolerance, which has slightly diminished with the new government in power since 2023. There are several innovative local and community projects, social economy cooperatives, and grassroots initiatives and associations. They are at the core of the city's vibrant social networks. In particular, Barcelona drives progressive policies on cooperativism and Social and Solidarity Economy (SSE) in Europe; designing inclusive urban planning programmes; and developing an infrastructure of technical services, civic centres, and municipal grants to support SSE. Barcelona's density and richness of grassroots and community experiences can be explained by the city's historical background, linked to experiences of self-management and social movements, and by the recent municipal politics emerging from the *15M movement* in 2011. At the same time, there are also tensions between privatisation/consumerism and progressive policies on cooperativism and sustainability. House prices – driven by e.g. tourism gentrification – threaten to displace both residents and small local economic activities.' In this context, local circular initiatives have emerged (i.e. *Barcelona ReCircula*), engaging residents in reuse (i.e. *Biblioteca de las Cosa*s, *Ban Mancomunat de Recursos*), repair (*Restarters BCN*, Repair Café) and recycling practices (i.e. the around 2000 informal waste pickers daily recycling waste at Barcelona). Issues of space and scalability in the repair and recycling movement are significant challenges in Barcelona.

Policy context: Barcelona does have CE-related policies, though with limitations (waste pickers are not considered, or grassroots repair communities or libraries of things are largely ignored), economic growth remains a central element. The most relevant policy frameworks are:

Barcelona Zero Waste plan 2021-2027, with a clear target to by year 2027, comply with the local and the EU legislation. Barcelona Circular Economy Plan (2019–2023) Promoted by the Barcelona City Council as one of the three cornerstones of its 'Barcelona Green Deal' as well as one of its 10 strategic goals. It is linked to the Zero Waste strategy and Urban Agenda 2030. This plan aimed to promote digitalization, more sustainable tourism, eco-design + reuse and repair + local circular business models + resource efficiency. However, economic growth is a central element of this plan, therefore undervaluing any achievement of sustainability: infinite growth on a finite planet is impossible.
The Metropolitan Area of Barcelona suffers the same fallacy in associating circular economy to economic development and growth. Catalonia too, with its plan for the green and circular econ-

omy reinforcing CE as part of regional sustainability transitions won't be able to achieve significant results because of the same focus on economic growth. *Rezero Foundation* and other NGOs are involved in pushing reuse and circularity. While Barcelona does not have a fully articulated CE system, there is an institutional framework and discursive commitment wrongly positioned on the economic growth imperative.

Circular grassroots

Circular grassroots studied are repair cafés, libraries of things and informal waste pickers. The team at Universitat Autònoma de Barcelona (UAB) has studied the first two cases while the latter have been analysed by the team at Universitat de Barcelona (UB). They are presented separately in the following.



Library of Things collage. Photos: Sant Marti's Library of things

The Libraries of Things (LoTs) offer a sustainable model for sharing resources within the community, by lending services where members can borrow various tools and objects promoting reuse and reducing the need for new purchases. This way, they enhance community networks by providing access to tools and resources that might otherwise be unaffordable or inaccessible.

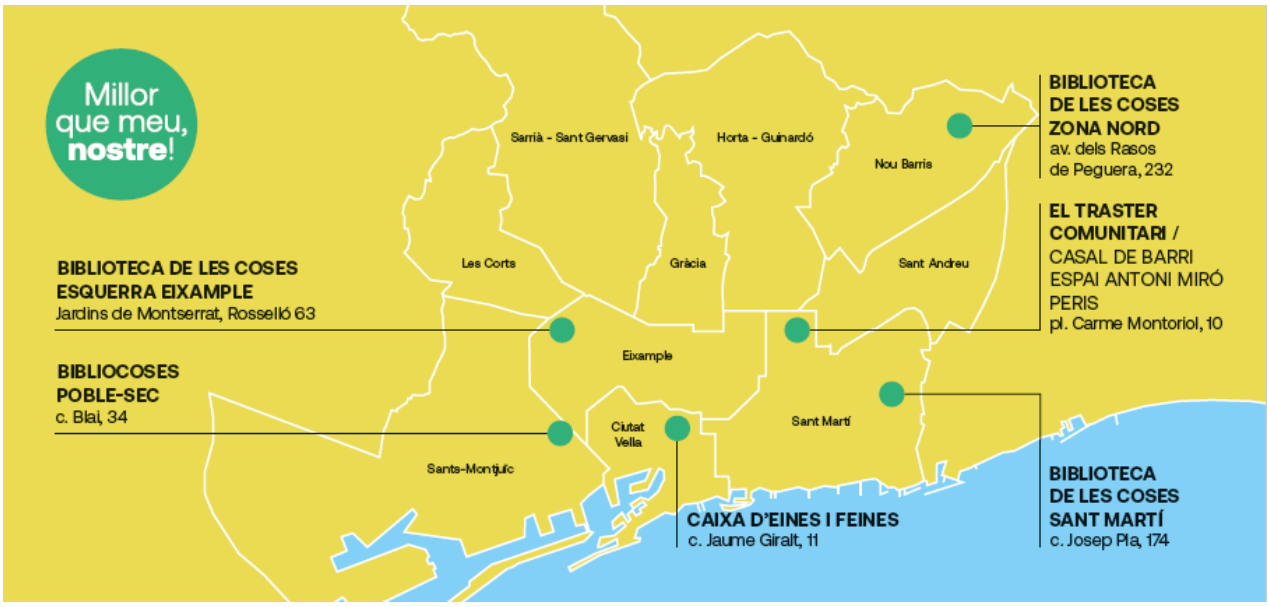
Restart Parties (RPs) are free, public and community events, organized by the *Restarters BCN* collective, where participants are pedagogically guided by volunteer repairers to fix their own electronic devices. This collective promotes the repair culture to reduce electronic waste by ex-

tending the life of devices and it promotes ecological and economic benefits through repair rather than replacement and purchase. This way, as the organizers state: 'we don't only repair electronics, but our relationship with them'.

Informal Waste Pickers (IWP) offer an opportunity to reconsider waste management models including relevant but overlooked actors for the Circular Economy by also understanding the type of relationships (silent collaboration) with household actors. They contribute to a notable part of the metal waste flows, highlighting the systemic failure of a cost-shifting capitalist society and the super exploitation of its most precarious workers. In turn, this constitutes a paradox where current CE performance is maintained by the work of mainly undocumented migrants who are considered illegal.

Barcelona UAB

This project focuses on two repair and reuse grassroot initiatives, *Libraries of Things/Tools* and *Restarters BCN*, exploring their features, challenges and opportunities in order to delve deeper into the possibilities of scale up and establish more extended and stronger repair and reuse networks.



Space, governance, inclusivity and scalability

Empirically, this section draws on participant observation (7 RPs; repeated visits to 5 LoTs), 31 interviews, 4 focus groups, a Focus Group devolution session, and five user databases from LoTs in different neighbourhoods (Sant Martí, Ciutat Vella, Poble Sec, Clot, Eixample Esquerra).

1) Space: stability, neighbourhood anchoring, and visibility

Repair and reuse initiatives do not simply need 'a place' in which to operate. Instead, space is one of the central conditions through which circular practices become possible, visible, accessible and socially meaningful, as space shapes participation, continuity, and collective identity. A recurring theme in the repair focus groups was the strong value attached to stable, recurrent locations (as opposed to sporadic 'pop-up' events). While the latter enable projects to reach a wider range of people in different neighbourhoods across the city, the former help to establish and sustain these projects as reference points for local neighbours, who build a sense of community around them. In this sense, volunteers emphasised that having a regular place produces stronger relational continuity: 'you can reference a place, you can reference a time', which allows a local community to form around rhythms, recognisable faces, and routines of help and learning. In the case of Libraries of Things, space is needed to store, display, classify, lend, repair, clean and maintain objects. Participants repeatedly state that 'a place is needed' or that 'if there are objects and a place you can go for it'. In repair communities, temporary space is needed for tables, tools, electricity, lighting, safety, comfort and the possibility of working side

by side. The material requirements are usually a not so demanding request ('with a small table, some tools and a little bit of space you can do it everywhere') but it is never irrelevant. Even when participants emphasise improvisation and flexibility, they also identify concrete spatial conditions, such as enough room to move, light to work with precision, access to electricity, comfortable furniture, protection from sun or rain.

Yet a key insight from the LoT focus group discussions is that a 'bigger' space is not automatically better; what matters is the circulation of objects. One volunteer described an 'ideal' library as one where objects are almost never idle, an aspiration that reframes spatial needs away from volume and accumulation towards strategic flow (what comes in, what stays, what circulates, what is refused). For Libraries of Things, the question of space is also linked to the selection of objects. Participants note that if they do not put a filter on the objects they receive, those can eventually fill in all the available space. This produces the need for filters as not every donated object should be accepted, and not every useful object is appropriate for a Library of Things.

Libraries of Things respond to a particular urban condition which is the scarcity and cost of domestic space. They allow households to externalise and communize ownership without losing access. The problem is not only environmental overconsumption, but also the spatial burden of possession. Participants describe homes filled with objects 'pending repair' or objects that are kept even when they are not used. Repair and reuse initiatives therefore intervene in the relation between domestic space and material culture, as they offer a way to reduce accumulation without relying only on disposal.

The LoT model is not only a circular economy device, but it also reorganises the spatial relation between households and objects. Instead of each home functioning as an individual storage unit for rarely used goods, the neighbourhood can develop shared infrastructures of access. This is particularly relevant in dense urban contexts such as Barcelona, where storage space is limited and housing pressures are high. At the same time, the data warn that access over ownership only works if shared access is easy. If borrowing requires long journeys, complicated schedules or multiple checks, ownership may remain more convenient despite its environmental and spatial costs.

Spatial anchoring also creates an important territorial identity. Participants repeatedly state that needs and publics are attached to place. LoTs are largely 'neighbourhood resources', but the databases show they simultaneously function as inter-district infrastructures, serving demand beyond their immediate area. LoTs databases also showed that 38.33% of users came from other districts or even outside Barcelona, suggesting a metropolitan pull that exceeds 'local community' imaginaries and at the same time underscore the indirect demands for more libraries of things. The same initiative may attract different profiles depending on whether it is located in Casc Antic, Sant Martí, Poble-sec, Eixample or another neighbourhood. One repairer describes users coming from Hospitalet with several objects and even a large screen, suggesting that participation may involve significant effort when material need is high. At the same time,

other participants note that certain groups living nearby still do not attend, pointing to cultural, gendered, racialised or symbolic barriers that are not solved by physical proximity alone. These findings are directly connected to debates on proximity-based urbanism (e.g., five-minutes city), where access to everyday services is understood as both spatial and temporal (Moreno et al., 2021). The data suggest that repair and reuse should be treated as everyday urban services, not as exceptional ecological activities for people willing to make extra efforts.

Another point related to space is the importance of embedding initiatives in existing neighbourhood ventures. These are not only potential venues; they are infrastructures of trust and circulation. People already go there for other reasons, and this reduces the threshold for discovering repair and reuse initiatives.

Finally, urban context conditions space and belonging. In neighbourhoods specially affected by gentrification/touristification, like the city centre, weaker long-term rootedness and resident turnover can make it harder to sustain and stabilize participation and volunteer commitment, undermining in this way the social infrastructure that these initiatives depend on and provide too.

2) Governance: voluntarism, institutional support, and the 'service vs community' tension

Governance in Barcelona's circular grassroots initiatives is shaped by a fundamental contradiction: they enact alternative, community, non-commercial economies, yet operate inside a capitalist urban international environment with scarce resources, high rents, and time-scarcity lives. This contradiction appears sharply in how participants narrate sustainability and governance needs: e.g., one LoT volunteer framed the 'main limitation' as economic and argued that this kind of project ultimately requires an 'arm' to hold it, namely, the state, because community time and resources alone are insufficient under current conditions.

However, across the material, municipal support appears, ambivalently, as both necessary and constraining. On the one hand, institutional recognition provides resources, space, communication channels, symbolic legitimacy and trust. Several participants noted that the presence of the City Council gives confidence to users. If an activity is supported by the municipality, it appears safer, more serious and more legitimate. This symbolic dimension is important because circular grassroots initiatives are still unfamiliar to many people. Hence, public backing can help transform them from marginal or activist experiments into recognised neighbourhood resources.

On the other hand, participants also express concern that institutionalisation may dilute the grassroots character of the initiatives. Some repairers and organisers worry that when the administration becomes involved, it may 'take over' the project, claim visibility for work developed by volunteers, impose bureaucratic requirements, or transform a community of practice into a conventional service. The problem is not simply whether public institutions should support these initiatives, but how they can do so without absorbing or neutralising them.

Regarding RPs, these are largely autonomously self-managed and volunteer-driven, and internal governance is explicitly enacted through everyday norms of patience, care, and expectation management, since volunteers repeatedly stress that participants must come 'without hurry or demands,' because volunteers 'do what they can'. This creates an ethos of mutuality and limits the consumer-style expectation that a repair event is a mere 'free service.' Yet it also produces fragility for the group's continuity because when governance rests heavily on volunteer availability, continuity and expansion turn difficult, and participation becomes easier only for those whose life circumstances allow them to contribute (often retirees, frequently men in technical roles).

LoTs, in contrast, often involve hybrid arrangements (paid staff or semi-formal roles, sometimes supported by municipal programmes at early stages). Governance challenges here concentrate around financial sustainability (membership fees, opening hours, staff time) and around deciding how 'open' and accessible the service can be while remaining workable. Notably, there is no single model: some LoTs apply flexible, discretionary fee practices ('no one should go without an item they need because they don't have money'), while others maintain stricter protocols but offer volunteering as a pathway to access. These are not just administrative choices; they are governance decisions that shape who can belong, and they distribute power to frontline staff/volunteers who effectively become 'gatekeepers' of access and inclusion.

Economic management is one of the most important governance bottlenecks. Participants repeatedly insist that these initiatives do not 'make money' and are not designed to do so. This is particularly clear in comparisons with public libraries: nobody expects a library of books to be economically self-sufficient, yet Libraries of Things are often evaluated through a viability logic that asks whether they can cover rent, staff and maintenance through very small membership or loan fees. In practice, the most expensive elements are not the objects themselves — which are often donated or can be sourced through community networks — but rent, paid coordination, storage, maintenance and opening hours. Several participants noted that projects located inside municipal or community facilities are more stable precisely because they do not have to pay market rent. This means that the governance question is also a question of urban political economy: in a city with expensive premises and limited community space, circular grassroots initiatives cannot survive if they are expected to operate under market conditions.

Regardless of the diversity of governance models among Barcelona's various LoTs, there is a consensus on the desirability of adopting an ideal 'public-community' management model that combines financial support from the local administration with community-based management at the neighbourhood level. This institutional financial backing would ensure the continuity of projects without impacting members' fees, whilst benefiting from the knowledge and local networks stemming from the deep-rooted local presence of the managing communities.

Similar dilemmas arise about RPs as many participants negotiate whether repair and reuse should become public services. Some participants argue that service provision is necessary because not everyone has the time, confidence or desire to learn repair. Affordable repair services, lending services and reuse infrastructures may be necessary if circularity is to reach beyond already committed publics. However, others worry that if these initiatives become services only, they may lose their capacity to build community, politicise consumption and redistribute knowledge. The challenge, therefore, is not to choose between service and community, but to design governance models that hold both together. Circular grassroots initiatives need enough stability to function as reliable public-community infrastructures, but enough autonomy and participatory depth to remain spaces of learning, mutuality and collective transformation.

A further governance challenge concerns the mismatch between grassroots temporalities and administrative logics of evaluation and funding. Participants repeatedly highlighted that the community value generated by repair and lending initiatives – such as trust-building, skill-sharing, neighbourhood ties, and cultural shifts around consumption – tends to remain marginal within institutional support frameworks, which prioritise short-term, quantifiable outputs. This creates a tension between the slow, relational and cultural transformations that circular grassroots initiatives seek to foster and the accelerated, metric-oriented temporalities of public administration. At the same time, funding structures are often precarious and project-based, making initiatives dependent on short-term solutions and exposing them to shifts in local political priorities depending on whether grassroots circularity aligns with current municipal agendas. More broadly, municipal agents and other participants described administrative procedures as relatively rigid and shaped by what could be called a 'neoliberalisation of time' and 'chrononormativity' (Freeman, 2010) which underscore the use of time to organize experience toward maximum productivity, rendering certain life schedules, speeds and sequences as 'normal.'

This mismatch is also visible in the politics of indicators. Participants and institutional actors recognise the need to collect data: number of sessions, loans, uses, users, repaired objects, avoided waste, estimated CO_2 savings, and so on. Such indicators help justify public investment and make circular initiatives legible to administrations. However, several participants warn that numbers alone do not capture the whole value of these initiatives. A project may have modest quantitative impact in terms of total waste reduction, but still generate significant community value, inclusion, learning, confidence and neighbourhood belonging. One institutional participant explicitly argued that data always need interpretation because without knowledge of the territory, numbers 'do not say anything' by themselves. Governance therefore requires evaluation frameworks that combine quantitative indicators with qualitative assessments of social and community impact, accessibility, wellbeing, learning and territorial relevance.

A key governance tension that cuts across both initiatives is the 'community of practice vs service provision' dilemma. RPs aim to democratize knowledge and foster self-repair, but time

pressure and efficiency norms can lead repairers to prioritise fixing over pedagogy ('device arrives, device is opened, device is repaired, device leaves'). When 'collective learning' is replaced by 'silent fixing,' governance shifts: participants become passive recipients, expertise hierarchies harden, and the initiative risks reproducing the very dependence it seeks to undo. Conversely, some repairers explicitly frame explanation as care work and political education, an effort to protect the initiative's emancipatory intent ('explain while doing,' translate technical language, discuss obsolescence and consumerism).

A further governance challenge concerns administrative fragmentation. Several interviews show how repair and reuse initiatives fall between different municipal categories: are they environmental projects, community projects, social inclusion projects, waste-prevention projects, education projects, or neighbourhood services? This ambiguity can be productive because the initiatives connect all these dimensions. But it can also make institutional support difficult. Participants describe situations in which environmental departments see the initiatives as social/community projects, while social departments see them as environmental or circular economy projects. Districts, central municipal departments, waste agencies, civic centres, neighbourhood technicians and community-action structures may all be relevant, but their responsibilities do not always align. This produces a 'ping-pong' effect in which grassroots actors must navigate multiple administrative doors without a clear institutional home.

Finally, the governance axis reveals a broader political question: who should pay for repair, reuse and waste prevention? Several institutional actors note that waste collection and treatment are compulsory and highly visible municipal responsibilities, while prevention is less demanded, less institutionally prioritised and harder to quantify. This creates a structural bias: administrations are compelled to manage waste once it exists, but less pressured to fund the infrastructures that would prevent waste from being generated in the first place. Participants challenge this logic by arguing that repair and reuse should not remain dependent on goodwill, volunteers or symbolic environmental commitment. If public policy is serious about circularity, then repair and reuse require stable budgets, legal frameworks, spaces, staff and evaluation systems.

3) Inclusivity: who participates, who is visible, and whose knowledge counts

Our data show that inclusivity is not only about accessibility and 'open doors.' It is shaped by intersecting inequalities (class, gender, racialisation, age, time), and by micro-practices inside the initiatives that can unintentionally reproduce exclusions.

(a) Migrant underrepresentation and racialised belonging.
Migrant residents are notably underrepresented in both repair and reuse spaces. Field accounts highlight how language hierarchies (Catalan/Spanish dominance), literacy assumptions, and a subtle sense that institutional civic/community-centre spaces are 'not for migrants', constrain participation.

(b) Class, stigma, and the moral economy of repair/reuse.
Repair and borrowing can carry stigma: repair is narrated as 'for the super-poor or the super-

nerds,' and participation can be filtered through whether people identify with a countercultural ecological identity or come out of financial necessity. This matters because when repair/reuse is socially coded as either poverty or hipster or progressive environmentalism, both framings can deter broad uptake.

(c) Gendered divisions of labour and epistemic authority.
Across sites, gender dynamics shape who repairs and who organises. Repair roles are often male dominated, while women more frequently appear in organisational/care roles and learner participants, reproducing traditional divisions even within alternative spaces.

Participants and repairers also describe 'mansplaining' and paternalism, where women must insist on being taught rather than creating knowledge collaboratively.

Yet the data also document countertendencies: women gaining confidence through guided 'opening up' of devices, and non-mixed training workshops (women/non-binary/migrant youth) that temporarily remove male authority and create safer conditions for skill acquisition.

(d) Age and youth marginalization.
LoT databases show the largest user group tends to be 26–35, followed by 36–45, with relatively low representation for 15–25. Qualitative accounts explain this through practical needs (young people not managing households due to housing constraints) and through adult-centred organisational cultures that struggle to reach youth communication styles and schedules. However, there are promising examples of school collaborations where students created 'mini libraries of things', suggesting that youth inclusion grows when initiatives meet young people in their own spaces and with relevant object inventories.

4) Scalability: expansion, diffusion, and the limits of voluntarism

The scalability of repair communities and Libraries of Things should not be understood simply as the capacity to 'grow' or to multiply initiatives quantitatively. Across the material, scalability appears as a multidimensional question of how these initiatives become more visible, more accessible, more stable, more institutionally recognised, and more capable of transforming everyday habits without losing their grassroots, neighbourhood-based and community-oriented character. This understanding resonates with the literature on grassroots innovation, which conceptualises community-based sustainability initiatives as locally embedded forms of innovation that develop alternative socio-technical practices, while often facing difficulties in expanding their influence beyond protected or marginal niches (Seyfang & Smith, 2007). It also connects with social innovation debates that distinguish between 'scaling out' through replication and diffusion, 'scaling up' through institutional and policy change, and 'scaling deep' through changes in values, meanings and everyday practices (,, et al. 2015).

Participants repeatedly describe these initiatives as meaningful but still fragile 'points on the map': they demonstrate that other ways of consuming, repairing, sharing and relating to objects are possible, but their broader transformative capacity depends on the material, temporal,

institutional and cultural conditions that support them. Their current scale is therefore ambivalent. On the one hand, they already produce important local effects: they extend the life of objects, generate learning, create spaces of encounter, and make repair and reuse visible as practical alternatives. On the other hand, their impact remains limited if they depend on the same small groups of volunteers, open only a few hours a week, remain unknown outside specific activist or environmentally aware circles, or lack stable support from public institutions.

A first scalability bottleneck concerns visibility and public familiarity. Several participants insist that 'we do not reach' enough people, even when the activities themselves work well and generate satisfaction among those who attend. This is not simply a problem of communication in a narrow sense, but of how repair and reuse initiatives become part of the social imagination of the city. This indicates that scaling requires more than advertising isolated events. It requires a sustained cultural and pedagogical effort to normalise repair and reuse as everyday practices. In this sense, the data point towards what Moore, Riddell and Vocisano (2015) call 'scaling deep': transforming meanings, expectations and routines, not only increasing the number of initiatives.

Participants propose more dissemination through neighbourhood networks, schools, social services, civic centres, health centres, municipal communication channels and social media. They also suggest that impact data could be communicated back to users, for example, showing how much CO_2, waste or material extraction was avoided through a repair or a loan. Such feedback could turn participation into a visible achievement and help people explain the initiative to others. In this sense, data are not only useful for evaluation, but they can also become part of the initiative's public pedagogy.

However, the material also shows that visibility alone is insufficient. Repair and reuse initiatives may already be admired by those who encounter them, but admiration does not automatically translate into regular participation, volunteering or collective responsibility. This suggests that diffusion must be connected to practical accessibility, stable infrastructures and shared forms of responsibility.

A second bottleneck is the fragility of volunteer-based models under conditions of temporal dispossession. People with precarious work and care duties often cannot participate regularly (as volunteers or users), even though they might benefit most from repair/reuse infrastructures. This produces a distributive paradox: initiatives aimed at justice and sustainability risk being sustained and also used by those with relatively more time and stability (e.g., retirees for the case of volunteers, middle-class users), while those facing the sharpest material constraints remain underrepresented.

Libraries of Things that open only one or two days a week, often for a few hours, face a self-reinforcing problem related to limited opening hours that reduce public familiarity and habitual use. Also, low use makes it harder to justify more resources; and limited resources keep opening hours restricted. Several participants explicitly connect opening hours with uptake: the more

hours a service is open, the more people can integrate it into their everyday routines. If the opening hours do not match work schedules, care responsibilities, school pick-ups, shopping, or urgent needs, the service becomes less accessible even if it is geographically close. Some initiatives try to compensate through informal flexibility, lockers, coordination with civic centres or *ad hoc* arrangements.

The same temporal constraint appears in repair communities. Restart Parties are often episodic, itinerant and dependent on the availability of repair volunteers, organisers and host spaces. Participants value itinerancy because it brings repair closer to different neighbourhoods and publics. At the same time, irregularity makes it harder for people to plan, remember, accumulate objects for repair, or develop a habit of attending. A fixed place can build recognition and trust, but it may limit reach; itinerancy can broaden reach, but it requires strong communication and organisational capacity. The data therefore suggest that scalability may require a hybrid temporal model with stable recurring repair points in neighbourhoods, complemented by itinerant events that circulate across the city.

The temporal dimension also has an important justice implication. If accessibility is not facilitated, those with more time, flexibility and organisational capacity are more likely to benefit. People with precarious jobs, care responsibilities or irregular schedules may be precisely those who would benefit from access to shared objects or free/low-cost repair, yet they may be less able to adapt to restricted opening hours. Scalability, therefore, must be understood as a question of temporal justice since expanding repair/reuse infrastructures means embedding them into the rhythms of everyday life rather than expecting people to adapt to the limited rhythms of volunteer-based provision.

A third bottleneck is the broader political economy of consumer capitalism. Cheap replacement goods, planned obsolescence, and the cultural prestige of 'newness' make repair the 'tortuous, uphill path,' while disposal/replacement remains the easy default. In this context, scaling requires more than growing volunteer networks. It requires institutional and policy shifts that make repair/reuse structurally easier (e.g., right-to-repair enforcement, spare parts access, procurement, municipal support), apart from cultural changes.

The question of institutionalisation appears throughout the material as both a need and a source of concern. Many participants see public support as necessary for stability, legitimacy and expansion. Municipal involvement can provide space, funding, communication channels, technical support and symbolic trust. Public institutions can also integrate these initiatives into existing infrastructures such as civic centres, libraries, schools, waste prevention facilities or resource centres.

This dimension can be understood as 'scaling up' as the target is not only multiplying local experiences, but changing the institutional conditions that make them possible, durable and recognised (Moore, et al., 2015). However, institutionalisation is not perceived as automatically positive. As already mentioned, participants worry that if the administration 'takes over', the

initiative may become a different kind of service, losing its community character, flexibility, political autonomy and capacity to generate mutual support. Becoming an association or entering formal funding schemes can also generate bureaucratic work that volunteers do not want or cannot sustain. Tendering processes may not guarantee continuity with the existing community actors; subsidies often require inventing 'new' projects rather than maintaining what already works; and public procurement logics may privilege formal organisations over informal communities with situated knowledge.

The data therefore point towards hybrid governance as the most promising direction. Hybrid governance would combine public support and grassroots management with stable resources, spaces, paid coordination and technical infrastructures on the one hand and community participation, local knowledge, volunteer involvement and neighbourhood anchoring on the other. Some institutional actors mention models such as civic management, integration into civic centre management, technical offices for Libraries of Things, or formal agreements that allow informal communities to contribute to public repair/reuse obligations without being fully absorbed by the administration. These possibilities require legal and administrative creativity, because public administrations need identifiable interlocutors, transparency and accountability, while grassroots initiatives often operate through informal relations and flexible participation.

The scalability of repair/reuse initiatives depends on moving from isolated, fragile and volunteer-dependent projects towards a distributed ecosystem of public-community circular initiatives. Scaling should not mean simply making initiatives bigger, nor transforming them into conventional services detached from their grassroots origins. Rather, it should mean creating the conditions under which repair and reuse become ordinary, accessible and supported practices across the city.

This would require more stable spaces; broader opening hours; paid coordination; recognition of invisible organisational labour; stronger neighbourhood and citywide networks; shared digital and logistical tools; public communication channels; formal but flexible agreements with administrations; repair-oriented regulation; and evaluation frameworks that recognise both material and social impact.

Main findings

- **Inclusion/exclusion dynamics**
  Although these initiatives are formally open, the data show that participation remains socially uneven. Migrant residents, young people and people with less flexible schedules are often underrepresented, while repair roles continue to be marked by gendered divisions of labour and technical authority. Repair and borrowing are also affected by classed meanings: they can be associated either with poverty or with countercultural ecological lifestyles, both of which may discourage broader participation. The findings therefore suggest that inclusion requires more than accessible prices or open doors. It requires attention to language, communication channels, symbolic belonging, gendered

learning dynamics, youth-specific spaces, and the everyday schedules of people with work and care responsibilities. Importantly, the data also show transformative possibilities: guided repair, non-mixed workshops, school collaborations and flexible fee practices can create safer and more empowering conditions for participation. Inclusivity is therefore not a fixed characteristic of the initiatives, but an ongoing practice that must be actively organised.

- **Grassroots does not automatically mean egalitarianism**
  Horizontal ideals coexist with expertise hierarchies (technical authority), gendered labour divisions, age hierarchies and cultural capital barriers. The contribution is to document how inequality can be reproduced inside alternative spaces, and what counter-practices can disrupt it (expanding dissemination, conducting special sessions for LGBTIQQ+ participants, intervention of local administration to seek economic support).
- **Tensions between governance models**
  A central finding is the tension between grassroots autonomy and the limits of voluntarism. Restart Parties and Libraries of Things generate mutual aid, learning, care, trust and collective responsibility, but they often depend on small groups of highly committed people. The case challenges dominant 'scale-up' imaginaries by suggesting that meaningful growth requires hybrid models (municipal support + grassroots management) and inclusion as a design problem, not an afterthought. The findings therefore point towards the need for public-community governance models, namely arrangements in which public institutions provide resources, spaces, funding and recognition, while grassroots actors retain local knowledge, autonomy and community-based management.

Barcelona UB

Informal waste pickers (IWP) are abundant in the streets of Barcelona and its surrounding municipalities. They collect metal waste and other objects from the kerbside next or inside municipal waste containers as well as from construction sites. They move with their own energy pushing shopping or bicycle carts. They are largely sub-Saharian immigrants – most undocumented – or Roma people from Romania, with poor access to institutional frameworks for the formalization of their activities.

Due to this informality the grassroots level of their initiatives is the highest. Differently from other cases, mainly from the Global South, they largely lack any institutional recognition, be it any sort of unionization of the workers, registration with social security or the setting up of local associations or cooperatives.

The phenomenon tends to be largely unobserved until something happens in relation to the places that some of the IWP use for housing and storage. The first case was in 2013 following the eviction of the building in c.Puigcerdá 127, a formal industrial estate squatted by hundreds of IWP, which got large media attention which can be associated to, later on, the constitution of Alencop, a cooperative run by IWP but that was not a successful case. Formalization unfortunately implies higher running costs for the business which cannot be sustained by the cheap price metal scrap is paid. Alencop has later been absorbed into Andròmines, a social inclusion association.



Informal Waste Pickers and their bicycle carts. Photo: Eva Gómez

In December 2025 B9, an abandoned school of Badalona was evicted by its major, an event that has once again sparked media attention because 400 immigrants, many working as IWP, have been left in the street during winter. Related to it is the attempt to constitute UTCAT, a coop run by IWP who lived in B9 and who are currently squatting an abandoned factory in a nearby municipality and where they focus on building bicycle carts (they live 5-10 km away from the city where most scrap metal can be found and walking is probably too far).

The main challenges related to this are the survival of the cooperatives that are created to formalize their activities; the challenge of being undocumented and the lack of empowerment with bureaucratic processes; the fragility of their housing, aggravated by the high cost of housing in the city; and the institutional racism they suffer from the public administration, its employees and in general the European culture shaped by a fear for the diverse, and in particular racialized and or Muslim persons.

Space, governance, inclusivity, scalability

Space is a central element for this grassroots case as it permeates the lifestyle of IWP. Most IWP are migrants from other spaces, be it Romania or sub-Saharan countries like Gambia or Senegal. Virtually any outdoor urban space is the territory where IWP move around, gathering the materials and objects they need to survive. These are notably municipal containers of undifferentiated waste however, there have been cases of interaction with neighbour, i.e. when they need IWP's help in moving some piece of furniture or other heavy /hard to handle objects from an apartment to the street containers; construction sites where at times IWP go asking for any metal to throw. And spaces are also relevant for IWP housing, often homeless people who camp in the interstices of the urban fabric, under bridges, next to construction canters, in small green areas, etc. Finally, they tend to squat buildings -as Puigcerdá 127, B9 or Gorg hangar, where 6 people ended up dying because of a fire.-or vacant slots -such as Romanian Roma in Vallcarca, tent encampments as in Zona Franca (with 175 camping in tents until their eviction in spring 2026), in Montjuic, with a diverse ethnicities, in Vila Olimpica or by the rail works of La Sagrera. 400 homeless have been displaced in less than one year by the Barcelona municipality.

When they gain media attention a subjacent and enduring problem is made visible during a short period of time, with many reactions that come afterwards in response to such an increase in IWP's visibility.

Governance processes could be defined from the IWP's perspective or in relation to the institutions. Given their high level of informality, we can claim that there is not an explicit governance system behind the phenomenon. As mentioned, attempts to formalize their activity with the constitution of a workers' cooperative have occurred only in one isolated case, in 2015 with Alencop, as a top-down approach prompted by the social services office. At date, there is one incipient attempt to organize it from the grassroots with Utcat -now constituted as an Instagram group only. In relation to institutions, IWP are absent from the circular economy or waste reduction policies presented above.

Inclusivity of IWPs can also be approached from the institutional or grassroots level. In relation to institutions, IWP are not considered by the municipality offices -be them social services, economic development or waste management. In the cases where something had to be done because of the social and media visibility the IWP phenomenon gained in relation to the evictions or fire accidents, then it became a question for the social services office of the Barcelona municipality, a fact that highlights the paternalistic and top-down approach to the phenomenon. At worst, such as in the case of Badalona and its major, the people evicted from B9 have been considered as undesired criminals to be kicked out not only of their residence, but also, allegedly, from Spain.

Scalability: the IWP is a phenomenon that can hardly scale up and that it might be undesirable to be scaled up. It is a temporary phenomenon: supposedly, from the perspective of the Circular Economy, because in the future waste will be reduced dramatically because of a better product design. Therefore, it is a phenomenon that is supposed to last until there are products of the linear economy in circulation that sooner or later will be turned into waste. It might happen, as it seems to be from its stagnant figures, that the circular economy will not improve, as the amount of waste is ever increasing and circular design is still a long distance away. New products are still designed with a planned obsolescence mentality. This however does not imply that it is desirable that more waste is generated because it constitutes a survival opportunity for IWP. Also, from the IWP perspective, it is a temporary phenomenon as most of them tend to move out after 2 years of activity, once they get documents that allow them to work under better, less precarious and more formal conditions.

What could at best be imagined is an 'institutional scalability' in the sense that the phenomenon is treated more seriously and IWP stigma is diminished, being their work recognised as a valuable and essential service for the circular economy. As a consequence, their social consideration can scale up the ladder of social acceptability. Or that their informality can be paired with the formal (be it the municipal waste management system or the interaction with private businesses from and to whom IWP collect and sell their materials) so that a better integration can happen all together. Moreover, the phenomenon is related to a global phenomenon related to the cost shifting capacity of capitalism and the lack of political interest in sustainability, so that the real cost of natural resource extraction is not paid for essentially maintaining mining as a cheaper alternative than recycling.

Main findings

- **A case for capitalist super-exploitation due to the undocumented and precarious status of IWP, who receive payment for their job 4 times lower than the Spanish minimum wage and face extremely precarious and unstable working and living conditions**
  Substandard housing, with almost 50% of them being homeless or living in informal settlements, low quality nutrition and high risk of work-related injuries, who they struggle to properly treat due to lack of access to healthcare. Because of this economic and social marginalisation, their labour power - i.e. their bodies - is progressively depleted, making

it harder and harder to sustain the very working routine on which their livelihood depends.

- **Subsistence circularities -Urban environmentalism of the poor and socio-metabolic inequalities**
  While circular economy figures are stagnant and design-first solutions are not coming, the grassroots circularity observed chiefly with the IWP case, but also in most of grassroots actors of our project cities show that the phenomena in quantitative metabolic values are not minor. However, the reasons to do it are more related to subsistence (hence a case for the environmentalism of the poor in urban context) than to lifestyle environmentalism (more typical of the green consumerism of the middle and upper classes) and even less so related to institutional and policy frameworks that sustain mainstream growth-based Circular Economy policies.
- **Pop-splash (top-down) solutions versus ongoing silent (grassroots) collaboration**
  Informal recyclers' organizations in Barcelona tend to develop reactive forms of organization in response to specific threats such as evictions, warehouse closures, fires, or pressure from neighbourhood residents. In these moments of crisis, recyclers often mobilize collectively and articulate their efforts with existing organizational traditions in the city, including neighbourhood movements, migrant organizations, and actors within the cooperative sector. However, many of the organizations that emerge in response to these threats tend to disappear relatively quickly after institutional interventions take place. This occurs largely because these spaces of collective organization are rarely recognized by public institutions. Instead, interventions often focus on individualized approaches to assistance, while new programs or projects are designed without meaningful participation from the recyclers themselves. As a result, the fragile collective structures that had formed to address shared challenges are frequently weakened or dismantled once the immediate crisis has passed.

Circular Economy Paradoxes.

Paradox 1: The reality shows that the circular economy is stagnant. The mainstream Circular Economy framework is centred on growth-based technological and design-first solutions and oversees an alternative approach which is i) degrowth-based ii) centred on social solutions and iii) centred on waste-management approaches. Paradoxically, we observe that outside official statistics, there is an invisible phenomenon of IWP – related to this alternative circular economy approach that, moreover, achieves better recycling results than the mainstream.

Paradox 2: The social actors promoting these achievements towards a better and less stagnant circular economy are stigmatized persons, migrants, often undocumented, who suffer racism and exclusion and who do it for their subsistence. This is what Elana Resnick (2025) conceptualizes as racial sustainability.

Paradox 3: IWP are dehumanized persons who gain legitimacy because of their contribution to grassroots circularities. However, even if they were not contributing to it as they do, the subsistence status they are relegated to, is already an evidence for claiming the betterness of their human condition because they live in an opulent and consumerist society of a global North city.

City findings: Gothenburg

City context

Urban context

Gothenburg, Sweden's second largest city and around 600.000 inhabitants (1 million in the metropolitan area), is historically based on industry (Volvo, biomedical), shipping and trade for its economy, but nowadays also knowledge and visitor industries. In Gothenburg, despite extant collaborative governance spaces and supportive innovation programs (Mistra Sharing Cities) grassroots initiatives struggle to stabilize and grow. As a result of high-end central urban developments, grassroots organizations (*Bike Kitchen*, *Solidarity Fridge*) have lost their space in central parts of the city. Other initiatives (*Library of Toys*, *Gratisbutiken)* have however stabilized as a collaboration between housing companies, and neighbourhood associations (*Majorna Association* hosting *People's Kitchen*). Urban spaces in less affluent neighbourhoods are also experimenting with place-making to create circularity spaces for citizenry (e.g. *Fixoteket in Hammarkullen*). Gothenburg originally focuses on the scaling of the sharing economy and the challenge of space in contexts of intensive urban development.

Political context

The city provides a context of a stable Nordic public welfare with cumulative grassroots innovations and a strong associative life, but is currently experiencing increasing inequalities, and gentrification. During the last decades, Gothenburg has been at the forefront of urban sustainable development with local political will and programs. Nationally, Gothenburg has been seen as a progressive city to follow, but also internationally because of programs such as Sharing Cities and C40, it's high profile in waste prevention and organizational experimenting city districts.

Policy context

As mentioned, Gothenburg has in the last decades been at the forefront of sustainability and transition policies. At present, Gothenburg has a 'climate and environmental programme' with goals for nature, the climate, and people. It aims to create a city with high biodiversity, a climate footprint close to zero, and a healthy living environment for its residents. To achieve the ambitious targets set out in the programme, seven strategies are formulated with the intention to accelerate progress and help translate the ambitions into practice.

One of these strategies, 'We create the conditions for sustainable living,' outlines how the city plans to use the tools and policy instruments at its disposal to enable more sustainable lifestyles and make the sustainable choice the default. To achieve this, urban planning of the city aims to facilitate sustainable living, and the city seeks to ensure that municipal services, public provision, and events are environmentally and climate smart. The strategy also seeks to facilitate the development of a sharing economy for its residents and to draw on ideas from civil society by inviting organizations to co-create solutions for a sustainable Gothenburg.

The strategy 'We create the conditions for sustainable living', is organizationally placed at the *Department of Democracy and Citizen Service* within the local government. During the spring

2024, the city invited to 'sakfrågeforum' or 'policy issue forum', a specific type of participatory platform where stakeholders – such as citizens, officials, politicians, experts, and citizens – discuss and develop positions on particular issues or policy areas in a participatory process. We observed the forum. During it, the relationship between circular grassroots ('sharing economy actors', as named by the city) and the city was discussed, based on a proposal from the city about a new form of subsidy, to 'sharing economy actors'. From the discussions, the most acute issue was access to space, long-term stability and acknowledgement from the city. Later the same year, the subsidy was launched and has been operating since. The participatory process continues with stake-holder workshops, evaluation of the subsidy, and citizen assemblies – one planned later 2026.

Circular grassroots



Food Distribution, Solikyl. Photo: María José Zapata Campos

Majorna Samverkansförening [Majorna Collaboration, MC] is a grassroots association founded in 2005 after parents mobilized against the municipal closure of a local youth centre and took over the building. MC focuses on youth activities citizen initiatives and neighbourhood sustainability and functions as a local hub hosting multiple initiatives, including *Folkkök* (community kitchen using surplus food since 2012), Sweden's first toy library (30128), the local currency Majorer (2017) and the food sharing initiative *Solikyl*.

Solikyl is active since 2015, is an open and collaborative food-sharing initiative aimed at reducing food waste through free redistribution; it operates around ten solidarity fridges in the city, collaborates with more than 25 grocery stores and bakeries, saves an estimated 2010 tonnes of food annually, and engages over 120 active participants, reaching several thousand users.

Fixot*eket Majorna* was a one of initially five municipal repair initiatives (~2015), offering textile and furniture repair, tool lending and reuse, and repair guidance; after a period of grassroots management marked by conflicts, the municipal housing company closed the space 2025 leading to the loss of central facilitates for repair and reuse initiatives in the neighbourhood.

Fixoteket Majorna also hosted *Gratisbutiken* [Free boutique], who organized free exchange of clothes and furniture. They lost access to space by the closure of the *Fixoteket*, but have re-opened in another locality 2026, which opens once a week.

Fixoteket Hammarkullen, as the one in Majorna is now run by the municipal housing company Bostadsbolaget, who operates three neighbourhood-based Fixotek aimed at extending the lifespan of everyday items. These spaces, called Fixotek, are located in the peripheral city districts Hammarkullen, Rannebergen, and Norra Biskopsgården. At the Fixotek, residents can repair items, borrow tools or equipment, exchange goods, and repurpose old materials to create something new. The Fixotek in Hammarkullen and Rannebergen are run by Bostadsbolaget in collaboration with the Social Services Administration.

Bike Kitchen Göteborg is a do-it-yourself workshop for anyone who needs to repair or service their bicycle. It regularly opens its workshop to the public and occasionally organizes courses and workshops on bicycle repair. The idea for a bicycle kitchen in Gothenburg began to take shape in the spring of 2011 during an event with the theme 'build your own climate-smart bicycle. Since then, the initiative has moved between several locations. Since spring 2025, the *Bike Kitchen* has been located at the *Transition Lab* in Frihamnen.

Collaborative Economy Sweden (KES) is a non-profit association that aims to facilitate and promote a collaborative economy. An increasing number of people believe in the growing collaborative economy. Together we connect through, among other things, a Facebook group and organize meetings, lectures, events, and activities to spread awareness of and highlight the collaborative economy. One way to describe the collaborative economy in a single sentence is that it prioritizes access over ownership. This principle applies not only to the consumption of goods but also to finance, education and knowledge, and production.

The *Transition Lab* (Omställningslabbet) in Frihamnen is being developed as a future prototype and meeting place. Its purpose is to explore methods for co-creation and inclusion in the transition to a sustainable society. The site experiments with how citizens can actively participate and how different actors can meet and exchange ideas. The Lab opened 2 June 2023 and hosts workshops, discussions, film screenings, exhibitions, and prototype-building activities. The *Transition Lab* is developed by the City of Gothenburg in collaboration with *Collaborative Economy Sweden*, the University of Gothenburg, Urban Futures, Chalmers University of Technology, and HDK-Valand, among others.

Grassroots space

Physical space is fundamental for circular grassroots and sharing initiatives in cities, given the material dimension of their activities and flows. Space is not merely a backdrop but actively shapes, and is shaped by, the activities and communities that inhabit it. Many circular grassroots initiatives operate in relatively 'incomplete spaces', spaces characterised by indeterminacy, in-betweenness and unfinished qualities that enable new activities and functions to

emerge. In contrast, a dominant urban culture of 'completed' spaces tends to suffocate grassroots appropriation. Our findings suggest a pressing need for more space that allows circular grassroots initiatives to continue supporting the slowing of social metabolism and their circular degrowth practices (Lane et al., 2026).

Access to space is also intimately connected to value, as we will elaborate below. How the space is organized, where, by whom, how the scene is set affords certain practices and values. Simultaneously the 'valuation' of these grassroots spaces and their practices is perceived by officers and politicians as a need for motivating the allocation of public space to autonomously managed facilities. This comes as public accountability in local democracy is often misunderstood as based on metrics, influenced by a NPM perspective pushing for output measurements, and efficiency metrics. While from a Public Value public institutions should create value (trust, legitimacy, social cohesion, environmental sustainability) as defined through democratic processes, not merely efficiency. From this perspective performance management, economic rationality and efficiency, must be subordinate to democratic value creation.

Alternate infrastructures of care

Circular grassroots initiatives create alternate infrastructures of care in several ways. First, they deviate material flows from linear waste management systems by creating new loops that reconnect resources with people, for example by redistributing surplus food. Second, they reconnect people with their environmental footprint, which is often obscured by efficient waste management systems, making visible unsustainable global food chains or the scale of clothing waste, thereby raising awareness. Third, they reconnect people with different life trajectories through shared physical settings, creating urban thresholds that contribute to social cohesion and social capital. These threshold spaces (Stavrides, 2010) constitute liminal, neutral and relatively safe environments where participants share temporary identities and where people from diverse backgrounds can meet, exchange, socialise and experiment as equals, becoming urban living labs that foster bridging social capital and help bridge social divides. These initiatives are characterised by reclaiming and reappropriating urban space with new functions. Finally, and most importantly, they transform passive recipients of care into caregivers, encouraging participants to actively engage in practices of mutual support.

However, the effects of these alternate infrastructures of care vary depending on the material affordances of the activities, the physical and socio-cultural composition of the setting, and the theatricality through which the initiative is staged. Different circular grassroots practices generate different values and effects. Theatricality refers to the way the initiative is presented and interpreted, which becomes crucial for ensuring that such initiatives do not become mere stopgaps; a risk discussed further in the grassroots paradoxes section.

These initiatives also tend to develop both backstages and frontstages. Backstages are spaces where volunteers can organise activities and operate comfortably, while frontstages are designed for interaction with participants. Porosity and permeability characterise the flow between these spaces, allowing backstages to open when needed, sometimes even outside regular hours, following a logic of care rather than strict operational boundaries.

Grassroots valuation and affordances

Circular grassroots initiatives generate diverse but incomplete value configurations. The practices, meanings and values they produce do not constitute universal solutions but rather fragmented contributions that together form an unfinished puzzle, offering a plurality of partial responses to social and environmental challenges (Acheson, 2025). Motivations to participate are equally diverse and reflect flexible identity movements (Rojas, 2019), combining economic, environmental and social rationales. This diversity facilitates broad recruitment of participants and coalitions, as people may engage for social, material or environmental reasons. While some initiatives may emphasise one dimension more strongly than others, the remaining motivations often reinforce continued participation (Schanes & Stagl, 2019). At the same time, this plurality of rationales can generate tensions, for example between members pursuing radical systemic change and those focused on more cumulative improvements.

Two broad participant groups can be distinguished: economically vulnerable participants, often with migrant backgrounds and predominant in food-sharing initiatives, and middle-class, higher-income, Swedish-born participants, who are more common in libraries of things. This socio-demographic differentiation raises the risk of reproducing inequalities. Moreover, grassroots initiatives often remain hidden from municipal officers due to their decentralised and intimate character (Davies & Evans, 2019), which in turn limits their transformative potential (Lane et al., 2026).

Beyond environmental and material benefits, these initiatives generate values that exceed monetary valuation (Holmes, 2018) and contribute to processes of decommodification (Morrow, 2018). However, positive values do not emerge automatically and can sometimes reproduce inequalities, for instance through elitist power structures within white middle-class-run initiatives (Anantharaman et al., 2019).

Circular grassroots initiatives also foster epistemic agency and collective identity. They contribute to restoring a sense of collective agency in contexts marked by political disillusionment and declining incentives for collective action. Participants' knowledge — such as repairing skills — is recentred (Callén & Duque Hurtado, 2023), while existing norms such as stigma or strict notions of private property are destabilised (Callén & Duque, 2023; Zapata Campos et al., 2020) and new norms gradually institutionalised, for instance through role-modelling and the creation of subjective norms around sufficiency and commoning (Schanes & Stagl, 2019; Lane et al., 2026). In contrast to techno-managerial framings of circularity that reduce value to growth-oriented logics, grassroots initiatives mobilise broader socio-ecological framings and a plurality of values, challenging the dominant 'value-frame' of circularity described by Savini. Circularity is thus reframed from individual to collective practices, from placeless solutions to territorially grounded practices, and from commodifying waste to prioritising use value.

Different infrastructures of care reconfigure the spatial and material affordances of material flows and infrastructures, producing distinct value effects (Acheson, 2025). These affordances are activated in particular spatial settings. For instance, kitchens enable embodied co-presence and shared temporalities through cooking and eating together, fostering wellbeing and social

capital. Food-sharing initiatives often generate environmental awareness; libraries of things cultivate practices of sharing; community kitchens strengthen social cohesion; and repair initiatives such as Fixoteket promotes learning. In this sense, space is not simply a backdrop but constitutive of value production. Spatially configured affordances shape what participants can do and what they come to value. Different initiatives and spaces therefore do not merely reflect distinct value orientations but actively produce them by reconfiguring material and spatial relations.

The 'valuation' of grassroots spaces and their practices is often perceived by public officers and politicians as necessary to justify the allocation of public space to autonomously managed facilities. This perception is partly linked to how public accountability in local democracy is frequently interpreted through measurable indicators, influenced by a New Public Management (NPM) perspective that prioritizes output measurement and efficiency metrics. However, from a Public Value perspective, public institutions are expected to create value (such as trust, legitimacy, social cohesion, and environmental sustainability) as defined through democratic processes, rather than focusing primarily on efficiency. From this standpoint, performance management, economic rationality, and efficiency should be subordinate to the broader goal of democratic value creation.

Grassroots paradoxes

Drawing on Zygmunt Bauman's concept of wasted lives (2013), we examine how forms of human and material redundancy — wasted people and wasted food — are not anomalies but necessary by-products of economic growth–driven logics under neoliberal capitalism. These contradictions are governed through containment, which renders paradoxes stabilising mechanisms of the system itself. Surplus people and food thus emerge as interconnected outcomes of hegemonic food systems, managed through downstream containment infrastructures rather than systemic transformations. Grassroots paradoxes therefore coexist and persist rather than being resolved.

The first paradox concerns grassroots essentiality yet invisibility. Grassroots food-saving initiatives perform essential metabolic, reproductive and caring work that sustains urban life. Yet the more essential this work becomes, the more it is rendered invisible, undervalued and under-resourced, relegated to the background infrastructures on which city life depends.

The second paradox asks whether grassroots food-saving initiatives constitute a challenge or a stopgap. Food-sharing can risk becoming a form of greenwashing, where continued overproduction is justified by redistribution infrastructures that absorb surplus after consumption rather than addressing its structural causes. The food-sharing movement is highly diverse in motivations and orientations (Zapata Campos & Zapata, 2017). This diversity enables broad participation across economic, social and environmental concerns but also generates internal tensions. Some participants prioritise the material satisfaction of needs, while others pursue systemic change and seek to expose unsustainable food systems. Moreover, the everyday operational demands of these initiatives risk diluting their critical message if theatricality, public discourse

and representation do not sustain systemic critique. Without such efforts, grassroots food-saving initiatives risk reproducing the system they aim to challenge.

The third paradox concerns whether these initiatives are emancipatory or pacifying. Food-saving initiatives can cultivate dignity, empowerment, collective agency and care. Yet they can also function as pacifying stopgaps — forms of welfare and environmental provision that maintain citizens in positions of exclusion, reproduce racialised and class inequalities, and legitimise corporate overproduction and waste. Whether they operate as emancipatory practices or pacifying mechanisms depends on how initiatives are framed, organised and narrated. Without actively articulating and politicising the values they generate, grassroots initiatives risk being reduced to compensatory mechanisms that absorb social and ecological crises without transforming their structural causes.

Governing with incompleteness

Grassroots initiatives operate through deliberately incomplete infrastructural and organisational arrangements that enable adaptation, endurance and care under conditions of scarcity, uncertainty and precarity. These qualities are often misrecognised by public authorities as signs of failure, immaturity or lack of capacity, reflecting dominant epistemic imaginaries of completeness and economic rationality.

These imaginaries prioritise formal structures, bureaucratic procedures and measurable outcomes, rather than more-than-monetary value creation. As a result, complete governance tends to become risk-averse, often treating circular grassroots through governance by exception, where a single setback triggers heightened control requirements, undermining grassroots autonomy and eventually leading to their closure. Rather than accommodating incompleteness, governance structures often try to eliminate it.

Nevertheless, we identified instances of governing with institutional incompleteness through bricolage, relational engagement and polycentric arrangements that open possibilities for more democratic forms of governance. Municipal officers sometimes engage in forms of relational depth (Durose & Lowndes, 2021), working beyond formal mandates and job descriptions to support grassroots initiatives through proximity, trust-building and shared ethics of care (Tronto, 2013), even when such practices diverge from bureaucratic norms of neutrality and detachment. This engagement does not necessarily take the form of explicit activist institutional work (Vestergaard and Schmid, 2026) or activist bureaucracy (Abers, 2019) but rather unfolds through subtle everyday forms of institutional practice.

Instances of institutional bricolage were also observed, involving the patching together of existing tools, mandates and funding schemes. Middle-level municipal officers played key roles in assembling a new social and solidarity grant scheme by repurposing instruments across departments and navigating internal siloed structures.

Emergent and polycentric governance arrangements also appear in recent initiatives such as the creation of a guide system (lotsar) designed to help grassroots initiatives navigate the city's institutional complexity. Rather than resolving fragmentation resulting from New Public Management reforms through comprehensive restructuring, this system functions as an incomplete coordinating device that partially reduces institutional complexity while facilitating connections with polycentric governance arrangements at the margins of grassroots initiatives and society.

Similarly, the *Majorna Collaboration* or the *Transition Lab* represent another expression of emergent, polycentric and incomplete governance through looser forms of commons–public partnership. These two spaces are run with the participation of intermediary organisations (a neighbourhood association and *Collaborative Economy Sweden* respectively) through a public–community arrangement. Intermediaries cultivate what Zapata Campos et al. (2020) call a 'grassroots gaze': the capacity to recognise and mobilise local grassroots actors interested in developing initiatives such as repair cafés, sharing-food initiatives, or bike kitchens. Intermediaries do not complete governance arrangements; rather, they temporarily stabilise incompleteness by translating between otherwise disconnected actors and institutional logics.

Although interfaces between local governance and grassroots initiatives remain limited, efforts are being made to strengthen democratic interaction. One example is the Platform for Civil Society Organisations, established as a forum for dialogue between grassroots initiatives and municipal officers working on sustainability transitions, with an open agenda.

Main findings

- **Highlight 1 – Circular grassroots initiatives reconfigure urban space and infrastructures of care.**

  These initiatives depend on and actively transform physical spaces, often operating in 'incomplete spaces' that allow experimentation and new uses to emerge. Through practices such as food sharing, repair, and community kitchens, they create alternative infrastructures of care that reconnect material flows, environmental awareness, and social relations. These spaces function as urban thresholds where people from diverse backgrounds meet, fostering social cohesion, collective learning, and active participation in care practices.

- **Highlight 2 – Circular grassroots initiatives produce plural and spatially mediated values.**

  The values generated by these initiatives extend beyond environmental benefits to include social cohesion, learning, empowerment, and the decommodification of everyday practices. These values are diverse and partial rather than universal, emerging through different practices and participant motivations. Crucially, they are shaped by the spatial and material affordances of each initiative: kitchens foster shared temporalities and wellbeing, repair spaces support learning, libraries of things promote sharing practices, and food-sharing initiatives raise environmental awareness.

- **Highlight 3 – Grassroots initiatives operate within structural paradoxes and incomplete governance arrangements.**

  While grassroots initiatives perform essential metabolic and caring work in cities, they often remain invisible, undervalued, and under-resourced. Their activities can simultaneously challenge unsustainable systems and risk stabilising them by acting as downstream stopgaps that absorb surplus and social exclusion. At the same time, governance interactions between grassroots and municipalities emergently occur through incomplete and emergent arrangements—such as institutional bricolage, relational engagement, and intermediary organisations—which create openings for more polycentric and democratic forms of governance.

- **Highlight 4- Shifting from economic rationality and efficiency to logics of care**

  Circular grassroots operate according to a logic of care, in contrast to the city's predominant economic rationality and efficiency logic. This creates tensions in how circular grassroots are valuated in terms of management performance, prioritizing output measurement and efficiency metrics, rather than in the public value they generate (e.g. trust, social cohesion, environmental sustainability). However, ecological transformations require a shift in perspective: performance management, economic rationality and efficiency should be subordinated to broader goals of democratic value creation.



Toy Library Majorna, Göteborg. Photo: María José Zapata Campos

City findings: Nantes

City context: Nantes, a green metropolis?

Elected European Green Capital in 2013, the city of Nantes appears to be at the forefront of a local ecological transition, driven by a rich network of associations and citizens. With a left-wing municipal government, the city is relatively supportive of social and environmental citizen projects - although this support is usually conditional and tends to be severely restricted in times of significant pressure on public budgets. A strong local network has developed over the past 20 years on environmental issues, supported including by *Ecopôle,* an environmental association that is part of the project. In recent years, alternative initiatives to food aid have also been developed, ranging from self-sufficient agricultural production to the collective composting of organic waste by citizens, as well as food processing and distribution projects.

However, this 'exemplary' approach to environmental issues (Epstein, 2022) goes with its paradoxes. An attractive medium-sized city of 300 000 inhabitants, Nantes and its metropolitan area are also the scene of growing urbanization, inevitably affected by the dynamics of land commodification and gentrification, which are opposed by residents' and activist movements. Some are reclaiming spaces, particularly through agriculture and food, giving rise to now famous struggles such as the Notre-Dame-des-Landes ZAD (zone to defend), or more localized ones - such as the Jardin des Ronces, where a self-managed collective opposed a construction project (Garat, 2024). It seems a particularly fruitful place to question the possibility of accessing the city, land, and property in this constrained context, where two visions of urbanism clash.

The project focuses more specifically on the industrial but gentrifying neighbourhood of Ile de Nantes and the deprived and peripheric neighbourhood of Bellevue, where an ecosystem of grassroots initiatives working with circular local food loops has emerged. Although the two neighbourhoods are subject to very different socio-demographic histories, public policies and perceptions, converging dynamics can be observed: similar demographics (approximately 20,000 inhabitants), working-class communities, a strong network of associations particularly on food issues, and urban renewal that tends to reconfigure the relationship with the territory, questioning the inhabitants and grassroots' 'right to the city' (Lefebvre, 1968).

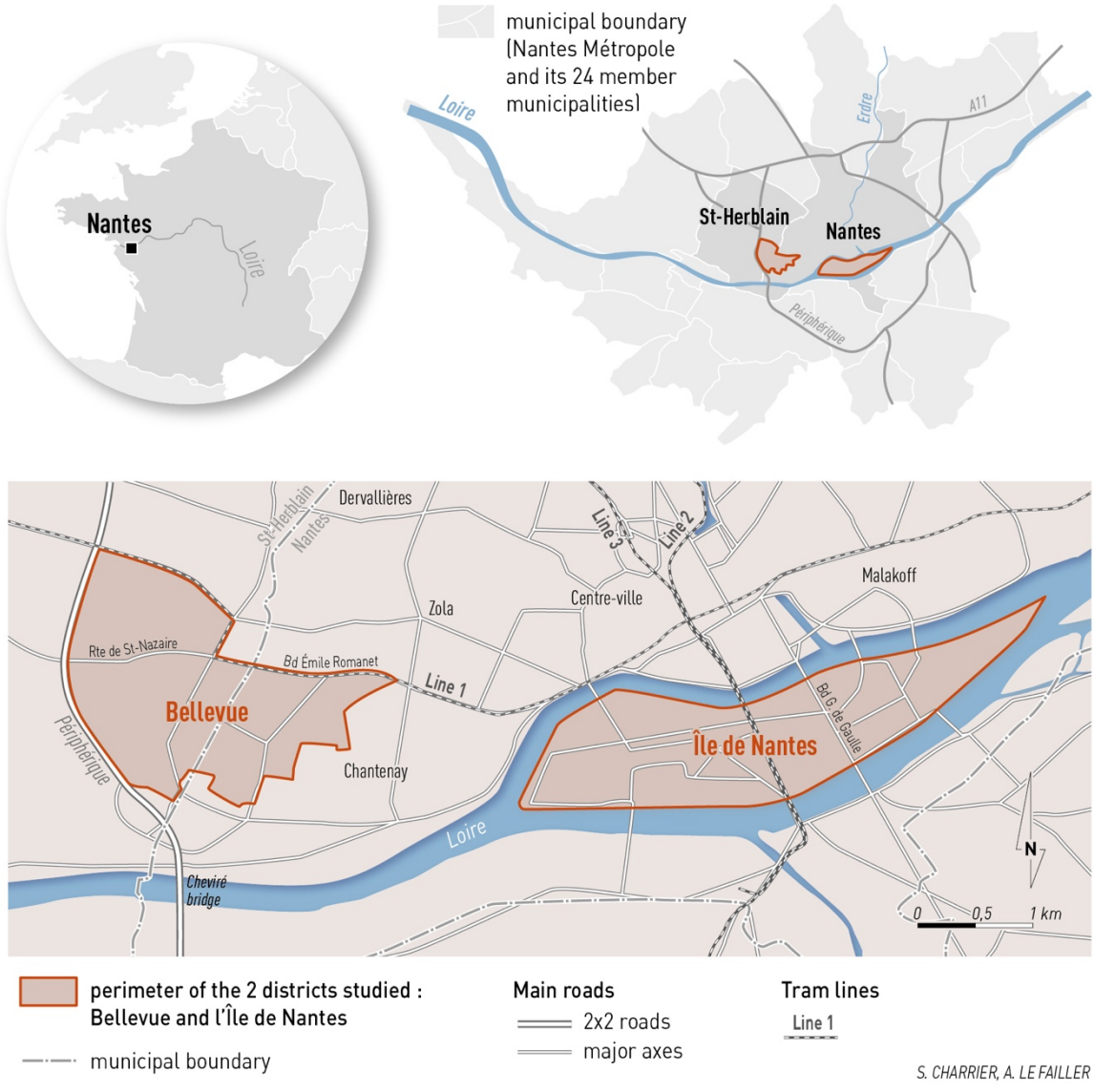
Circular grassroots: food loops, socio-environmental transition & grassroots in Nantes

Based on the topic of this European project, various criteria were selected to qualify *a priori* these grassroots initiatives, then refined according to specific food issues and the research field:

- Be collective, citizen-led, ecological, and grounded (Seyfang, 2007)
- Be directly or indirectly related to local food loops. This includes initiatives involved in agricultural production (a volunteer-run urban farm), food distribution and processing (a solidarity restaurant, markets of unsold food), and composting (e.g., bicycle-based compost collection). The initiatives therefore fall into three main 'segments' of the sector (production, distribution, recovery) and have two main modes of action, which we will

detail further (compensating for the shortcomings of the existing system or recreating an alternative system). They address environmental and/or social transition issues (although, as we will see, it is often difficult to separate the two dimensions). We also looked at initiatives indirectly involved in the sector, such as an association facilitating logistics between farmers and restaurants, or a networking and advocacy association.

- Be located in the Bellevue or Ile de Nantes neighbourhoods, selected for their dynamism and involvement in local food loops as well as socio-environmental transition. Nonetheless, our analysis is not strictly limited to these two neighbourhoods but follows the flows of materials and the interactions of the actors that compose them beyond administrative boundaries (Cook, 2024).



Space, governance, inclusivity and scalability

1. Accessing space: an interstitial right to the city

Access to space by grassroots relies on several strategies, including sharing arrangements, alliances with institutions, bypass strategies, and, more rarely, autonomy.

First, some associations access spaces through sharing arrangements. Institutional pooling refers to an organized form of mutualization that allows several activities to occupy the same place. This type of arrangement often supports the creation of incubator sites, although these spaces are not always permanent and may be linked to transitional urbanism. The Île de Nantes, which aims to serve as a model for environmental transition, hosts different third places that facilitate collaboration and joint work among various organizations: one example is the *Kiosque Paysan*, which shares the former *Nantes National Market* with other food-related initiatives. In addition, cooperative pooling can occur when two stakeholders agree to share a space, either between two grassroots actors or between a grassroots organization and a more institutionalized actor, such as a social centre.

Second, associations may obtain access to spaces through alliances but also dependencies with institutions or dominant stakeholders. In some cases, grassroots organizations depend on partnerships with more powerful actors, such as social-housing landlords, to obtain free or affordable premises. However, such collaborations may also reveal diverging visions regarding the objectives of the association's project (e.g., waste management vs empowerment of the public). Another common arrangement is transitional urbanism, particularly in competitive and rapidly transforming cities such as Nantes. In this context, associations temporarily occupy spaces scheduled for demolition through precarious occupancy leases, often for periods ranging from months to a few years. For example, a restaurant part of *Commun'ile cooperative* was established in a former car factory under such conditions. Public policies may also facilitate access to space, as illustrated by initiatives such as 'places to reinvent', previously presented.

Third, some organizations rely on bypass strategies to overcome difficulties in accessing space. These strategies are often creative but usually reflect constrained situations rather than deliberate choices. Squatting, for instance, was previously common in Nantes but has become increasingly rare due to a more restrictive legal framework. This strategy has been used by *Tinhi Kmou* and *l'Autre Cantine* to access space and provide unsold food in the city, showing the difficulties to access space but also the political support received to prevent these spaces from closing. For a volunteer in Other Canteen, 'Closing the association would be political suicide' – given the essential role of it over the territory. Other actors rely on productive domestic spaces, conducting their activities from home. Some groups also adopt nomadic practices, operating without a permanent space but relying instead on a network of partnerships that allows them to use different venues when needed. For example, solidarity cooking workshops take place in the kitchens of various partner associations.

Finally, a smaller proportion of associations achieve relative autonomy in accessing space. This situation is more common in rural areas, where property prices and rents are generally lower,

particularly for agricultural projects. The cooperative farm of *Commun'ile* own, for instance, the land they cultivate. In other cases, organizations with sufficient financial resources, such as private companies or large national associations, are more able to access private leases independently.

In conclusion, grassroots meet difficulties to access land or space, so they develop tactics to avoid land market, privatization, gentrification. They don't always choose their spaces, on the contrary spaces define how initiatives are organised: space shapes initiatives, what they do and how they organise. Nonetheless, despite these strategies, grassroots encounter spatial and temporal precariousness: most of them are uncertain about their future at short or medium-term, enabling a relative or interstitial 'right to the city'.

2. Cooperation and political positioning among grassroots food initiatives

Cooperation between initiatives plays a significant role in the functioning of grassroots food projects. These initiatives are embedded in a fragile but important relational ecosystem that can be described as networks of 'inter-subsistence' (Pruvost, 2024). Within these networks, individuals and groups build alliances to launch or sustain new initiatives. For example, an established organization has strongly supported the creation of *Marché Alternatif de Bellevue* project, by providing administrative resources and institutional recognition, such as access to food aid accreditation. Cooperation also takes the form of everyday practices of mutual support, including gifts and counter-gifts such as loan of equipment, sharing of vehicles, or exchange of practical knowledge. For instance, the *Kiosque Paysan* shares its cold storage units and shelving with other initiatives they work with. However, these relationships are not free from tensions. Conflicts may arise over access to resources, such as the collection of unsold food in markets, over competition for public funding, or over leadership within local networks. As a result, these initiatives do not form a unified or coherent movement. Instead, they constitute a polycentric network of actors whose interactions collectively contribute to the development of pathways toward ecological food justice (Gottlieb, 2010).

Grassroots initiatives also interact with public policies through a variety of relationships. These interactions may take the form of partnerships with public authorities, the provision of services supported by public institutions, negotiation processes, or, in some cases, open conflict. While public authorities often provide relatively strong support to these initiatives, this support can also shape and constrain their activities. Public programs tend to promote the standardization of practices, which may reduce the diversity of approaches and limit the flexibility of grassroots actors in adapting their modes of action to local contexts. Consequently, grassroots initiatives face a double tension. On the one hand, receiving support from municipalities can provide stability and resources but may also impose constraints on how projects operate. On the other hand, remaining independent from institutional support can preserve greater autonomy and freedom of action, but often results in precarious working conditions and limited resources. This situation illustrates the paradox of a supportive institutional environment that simultaneously produces regulatory constraints, creating a dilemma for grassroots actors between accepting or refusing the conditions attached to public support.

Finally, the question of whether grassroots food initiatives can be considered political remains complex. Many of these initiatives are closely connected to the principles of food justice – without using this term. The concept of food justice encourages a rethinking of food systems through the lens of social justice, by taking into account racial and economic inequalities while promoting sustainable and community-based food practices (Alkon & Agyeman, 2011). These initiatives are also close to environmental justice spirit, defending environment as the place 'where we livre, work and play … and eat' (Gottlieb, 2010). However, unlike traditional activist movements that organize direct opposition against specific actors or processes — such as the agri-food industry, gentrification, or the privatization of resources — grassroots food initiatives often prioritize the development of alternative practices. Through the creation of local food systems, solidarity distribution networks, or collective cooking activities, they contribute to a broader food justice movement. Although they rarely engage in direct advocacy or protest, their practices reflect a clear political vision regarding the transformation of food systems. In this sense, their approach can be understood as a form of 'militancy of alternative practices' (Paddeu, 2016), in which political engagement is expressed primarily through the implementation of concrete alternatives rather than through conventional forms of discourse or protest.

3. Inclusion, exclusion, and the limits of participation

Grassroots food initiatives often place a strong emphasis on inclusion, yet the reality of participation varies across different types of projects. In more institutionalized initiatives, a gap can emerge between employees and beneficiaries. This divide may reflect differences in racial background, as well as disparities in cultural and economic capital. As a result, these initiatives sometimes face difficulties in mobilizing local residents or encouraging them to become actively involved. In contrast, projects based on self-organisation tend to involve a more diverse range of participants. In such initiatives, volunteers are frequently also beneficiaries of the activity, which reduces hierarchical distinctions between those who organize and those who receive support. In some cases, institutionalized initiatives may gradually shift toward more grassroots forms of organization through processes of delegation and reappropriation by beneficiaries. For example, in the *Marché alternatif de Bellevue*, a large proportion of volunteers are beneficiaries that later became actively involved in the organization of the project.

However, despite these efforts, grassroots initiatives may still reproduce existing power dynamics. Inequalities related to social class, gender or racial barriers can appear in the distribution of tasks and responsibilities. For instance, men may be more likely to manage logistical activities such as food transport and collection, while women are more frequently involved in sorting and distribution. Similarly, employees may often come from outside the neighbourhood and belong to more socially privileged groups, whereas local residents, who are often from racialized or economically disadvantaged backgrounds, may participate primarily as volunteers or under precarious contracts.

Overall, while inclusion remains a central objective for many grassroots initiatives, it is not always fully achieved. Mechanisms such as self-organization or the delegation of responsibilities

to beneficiaries nevertheless appear to be important pathways for strengthening inclusive participation.



Collective work at the Commun'ile cooperative's agricultural farm. Photo: Aline Le Failler

4. The question of scalability

Another key issue concerns the scalability of grassroots food initiatives and the ways in which their practices may spread across social groups and territories. The relationship between inclusion and scaling raises important questions about how these initiatives expand, who participates in them, and at what spatial or social scale they operate. Different forms of scaling can be identified (Moore et al., 2015).

First, scaling deep – defined as the transformation of social relationships, cultural values, and everyday practices – appears to be central to many grassroots initiatives. Rather than prioritizing quantitative growth, these projects often aim to foster deeper changes in local food cultures and social interactions. Second, scaling out, which refers to the replication or multiplication of initiatives, is relatively common. Some projects inspire similar initiatives in other contexts or territories. However, many grassroots actors remain cautious about expanding their own organizations. They often emphasize the importance of maintaining a critical size that preserves their core values and remains closely connected to local communities. Finally, scaling up, understood as influencing policies or institutional frameworks, is less common among grassroots initiatives.

These projects rarely engage directly in advocacy or policy-oriented activism. This relative absence of scaling up may represent a limitation in the development of a broader and more coordinated food movement.

More broadly, a question emerges: do grassroots initiatives actually want to scale? Many of them are less interested in growing larger, refusing the risk of being instrumentalised by authorities or reappropriated by the market. They commonly don't even have the possibility of growing in a neoliberal framework: their activities are rarely profitable, and when they do become profitable, they run the risk of being replaced by the market. This is the case of grassroots involved in composting such as *Compostri*, active in collective composting since 2007. Nevertheless, the legal framework has recently evolved, requiring each French city to provide a solution for sorting organic waste to its inhabitants: the collection of organic waste and composting have therefore become profitable and private companies are now involved in the sector, progressively excluding grassroots such as *Compostri* that had historically paved the way.

Main findings

- **Highlight 1 – grassroots are material**

  A first important characteristic of grassroots initiatives is their strong material dimension. These projects are deeply embedded in everyday practices related to the production, transformation, and distribution of food. In this sense, they can be understood through the perspective of 'sustainable materialism' developed by David Schlosberg (2019). Rather than focusing only on discourse or advocacy, grassroots initiatives act directly on the material organization of food systems and participate to transform food from a market product to a common, accessible to everybody (Rossi, 2021). Through practices such as food recovery, collective cooking or urban agriculture, they contribute to the creation of local and circular food loops, and the communing of food.

- **Highlight 2 – grassroots are vital**

  A second key element is the vital role played by grassroots initiatives within local food systems, that should not be considered marginal or minimal. Quantitatively, the multiplication of small initiatives creates a dense ecosystem of actors involved in alternative food practices, redirecting material flows from the agro-industry and limiting waste, or recreating alternative local supply chains. Qualitatively, some initiatives play a direct role in supporting subsistence, particularly for vulnerable populations. As a result, grassroots initiatives contribute not only to experimentation but also to the everyday functioning of local food support systems and to a 'subsistence circularity' (Bahers et al., forthcoming).

- **Highlight 3 – grassroots are (diversely) political & paradoxical**

  Finally, the political character of grassroots lies in the implementation of concrete alternatives that challenge dominant models of food production and distribution – but that

can also absorb the surpluses of agroindustry and contribute indirectly to its permanence. Between refining food metabolism from below and being the stopgaps (Zapata Campos & Zapata, 2025) of agroindustry, grassroots contribution to food system transformation remains complex and limited. What is most striking is their contribution to reshaping narratives about food systems, sustainability, and social justice.



Distribution of unsold food at the Tinhi Kmou facility. Photo: Aline Le Failler

Cross-cutting results

Space

Our findings across the cities point to a processual model of grassroots spatial production: from the creation of grassroots spaces, to their expansion through post-growth infrastructures of care, and the consolidation of diverse strategies of spatial appropriation, which in turn shape how grassroots actors organise, negotiate, and govern space, as we elaborate below.

1. Community grassroots spaces

Regular times and stable space enable grassroots-communities to form and structure around rhythms, recognizable faces, and routines. Grassroots communities are thus constituted around a relational continuity and a recursive relationship both with space and time, shaping a sense of community, in contrast to pop-up spaces, which are on the other hand, useful for recruitment. However, the constitution and maintenance of grassroots communities can be undermined in contexts of high residential turnover, such as gentrified areas in Barcelona, or in low-density residential areas, such as in the *Transition-lab* in Gothenburg, where weaker territorial attachment limits the consolidation of these communities.

2. From space to postgrowth infrastructure: between durability and flexibility (how grassroots spaces stabilize)

Grassroots can create durable spaces via the creation of postgrowth infrastructures (of care). Grassroots infrastructure is understood as the set of socio-material arrangements that shape grassroots practices. Examples are housing cooperatives, but also permanent grassroots spaces. To make them durable and resist market and other disruptions grassroots develop appropriation and reconstruction strategies. Durability requires appropriation strategies, reconstruction and adaptation, and resistance to market pressures.

However, there is a fundamental tension between flexibility and durability: while temporary or 'incomplete' spaces enable innovation and appropriation, long-term stability is essential for building communities, maintaining practices, and scaling impact. In Gothenburg, for example, 'incomplete' or flexible spaces enable experimentation and emergence, but also highlight the need for protected, enduring spaces to sustain alternative practices, as all the initiatives claim.

Space and socio-material arrangements are shaped by trade-offs and compromises between market logic and logics/values of commoning, sustainability, diversity and care.

3. From space to infrastructures of care: expansion

Grassroots infrastructures build up alternate conduits and capillary systems that stretch and seep across the city. Capillaries thus extend grassroots practices and spaces beyond fixed sites into distributed urban nodes, from the intimacy of homes, such as private kitchens in Nantes, to outdoor urban spaces such as the streets used by waste pickers in Barcelona.

Grassroots create alternate infrastructures of care: socio-material alternate conduits that create new loops for discarded things deviating them from linear waste management systems, and re-connecting people with discarded resources. They also connect people with hidden systemic production system failures (e.g. global food losses, planned obsolescence), and people with different life courses that would have not met otherwise, transforming care receivers into care givers.

These reconnections do not happen automatically and depend on the physical and socio-cultural composition of the setting, and the theatricality through which the initiative is staged.

Different infrastructures of care reconfigure the spatial and material affordances of material flows and infrastructures differently, producing distinct value effects (Acheson, 2025), as they shape what participants can do and what they come to value. E.g. kitchens enable embodied co-presence and shared temporalities cooking and eating together, fostering wellbeing and social capital. Food-sharing initiatives generate environmental awareness; libraries of things cultivate practices of sharing; and repairing initiatives learning.

This means that value is not pre-existing. It is generated through socio-material affordances. Across cases, space emerges as a normative and selective socio-material infrastructure that actively configures what practices are possible and which values are enacted: space operates as a material and organisational script that embeds values, enables certain practices, and excludes others.

In this sense, space mediates visibility, recognition, and inclusion in uneven ways: for example, central areas are usually more visible than peripheral but are also more strongly affected by gentrification undermining grassroots stability. That is, spatial positioning affects whether initiatives are recognised, supported, or marginalised, pointing to a broader issue of spatial justice in urban governance.

Spaces shape what people can do, and therefore what they come to value (this is further developed in the next governance section).

4. Grassroots spatial strategies – or modes of spatial appropriation (how grassroots organize, negotiate space and govern space, and the right to the city)

4.1. Strategies of appropriation of space. Circular grassroots develop a variety of strategies and tactics for accessing, appropriating, and mobilising space, to regain an interstitial 'right to the city'. These included shared or institutionalized spaces, sharing arrangements in community hubs that can be sites for further grassroots incubation and community pooling; borrowed or negotiated spaces, for example from housing companies, often at no cost or through community-public partnerships such as Gothenburg's IOP; transitional spaces or 'meanwhile' spaces (particularly in rapidly transforming cities such as Nantes); interstitial appropriation or by-pass strategies such as squatting; productive domestic spaces that extent community infrastructures (e.g. kitchens); nomadic pop-ups; and, more rarely, autonomous spaces, particularly where market value is lower, such as rural sites or peripheral urban areas. These peripheral spaces often

function experimentation niches, offering greater autonomy but also increased isolation compared to city centres.

4.2. Structural dynamics across strategies for appropriation of the space. Grassroots are labour intensive. The process of accessing, organizing and optimizing (e.g. storage) space is lengthy and laborious. It requires intensive and continuous labour (tinkering) from initiatives such as housing cooperatives, LoT, food-sharing initiatives, and waste pickers, the latter often physically occupying or squatting spaces for both living and working.

Grassroots are relegated to interstitial spaces /interstitial right to the city. This implies that access to space is structurally constrained and uneven, forcing grassroots initiatives to develop adaptive strategies, as we saw before. Grassroots initiatives are often confined to low-market-value, under-used spaces (e.g. under bridges). These spaces are not chosen by grassroots initiatives, and are therefore not fit for their needs, which in turn shapes their practices. While grassroots initiatives demonstrate highly efficient use of such spaces (e.g. storage systems, use of marginal areas), this interstitial condition simultaneously constrains their capacity to grow and expand and requires continuous labour, tinkering work.

Grassroots lack space. While grassroots initiatives show a diversity of spatial needs, across all cities they share a generalized lack of space. As access to space is closely tied to monetary value, grassroots initiatives are systematically relegated to lower-market-value spaces. It means that grassroots rarely choose space freely; instead, they navigate structurally produced scarcity, resulting in precarious, residual, or conditional spatial arrangements. This produces an 'interstitial urbanism', where grassroots practices occupy gaps left by market and state priorities.

In contexts with stronger cultures of control in public space, incomplete grassroots appropriation of space are more likely to be constrained, regulated or suppressed.

Governance

Our analysis grassroots across cities engage a multi-scalar grassroots governance work: from micro (internal governance), to meso (movements, hybrid arrangements with local governments and governance voids) and macro governance levels (valuation regimes, institutional logics).

1. Internal governance (how grassroots govern themselves)

Diverse internal governance models can be observed among the studied grassroots initiatives. The complexity of the governance model is dictated by the complexity in the institutional environment, as well as by the socio-material arrangements and spatial needs of the initiative. E.g. LoTs need more space for storage than food-sharing initiatives; housing cooperatives are subject to greater public regulations. More complex environment and socio-material arrangements'

needs might lead to reduce internal open democratic governance within circular grassroots. Despite that, flexibility and discretionary (that is, grassroots incompleteness) seems a common feature in most initiatives (volunteering as a pathway to access subscription to LoT, flexibility in opening hours etc).

2. A polycentric movement: governance across grassroots (how grassroots relate to each other)

Circular grassroots initiatives form a polycentric and networked movement across cities and regions. Rather than acting in isolation or through unified or hierarchical structures, they operate within a decentralised, interdependent and relational ecosystem—or networks of 'inter-subsistence' (Pruvost, 2024)—through which they build alliances and support one another, for instance by sharing resources, exchanging services, or collaborating on administrative tasks. That is, governance is not centralised but emerges from relational ecosystems, characterised by cooperation, negotiation, and distributed responsibility across actors.

This movement is loosely connected rather than unified, composed of diverse actors whose interactions contribute to pathways toward socio-ecological justice. Governance is therefore distributed rather than centralised, emerging from these relational dynamics. Their political character is primarily expressed through practice: they are 'political by doing' rather than through contention or formal advocacy. While this enables experimentation with alternative socio-ecological arrangements, it also contributes to the movement's relative looseness, as less emphasis is placed on collective discourse and coordinated advocacy. As a result, intermediary organisations often play a key role in translating these dispersed practices into shared narratives and making them visible in policy and public debates, articulating forms of advocacy that might otherwise remain diffuse (see also 4. Advocacy Paradox).

3. Grassroots governance (how grassroots relate to local governance).

Governance is unevenly present across initiatives. Circular grassroots initiatives with greater demands for space, labour, or materials often require greater institutional support, giving rise to hybrid governance arrangements. By contrast, more informal or 'grassroots' initiatives tend to operate more autonomously, within governance voids.

3.1. Hybrid governance arrangements. Hybrid governance arrangements emerge between circular grassroots initiatives and local governments, varying in complexity depending on the type and intensity of support required. Initiatives with a stronger socio-material dimension (such as Libraries of Things or cooperative housing, whose governance combines internal democratic structures with externally imposed legal frameworks) tend to rely on more elaborated governance forms, including public-common partnerships. Across cities, these partnerships are emerging as an institutionalised governance arrangement for managing access to space and other resources.

These institutional arrangements both enable and discipline grassroots initiatives, for example by imposing internal governance requirements such as the creation of formal boards. At the

same time, grassroots initiatives actively adapt these demands to better align with their values and practices, (e.g. housing cooperative in Amsterdam establishing flexible working groups that are activated and deactivated as needed).

These institutional demands generate contradictions and trade-offs for grassroots initiatives, particularly between autonomy and dependence, as well as between flexibility and formalisation (as observed in Barcelona and Nantes). It implies that grassroots governance operates within a paradox of dependence and constraint: institutional support is often necessary for survival, yet it can undermine autonomy, diversity, and core values. They also produce tensions between market-oriented logics and values such as sustainability, diversity, care, and commoning. Institutional pressures tend to be stronger for initiatives operating in more durable spaces, such as housing or established grassroots hubs. At the same time, governments often place high expectations on grassroots initiatives in terms of expertise and organisational completeness, particularly when allocating space or subsidies. Given that the main limitation to growth is not a lack of interest but limited capacity—in terms of time and volunteer labour—stronger connections with hybrid governance models, particularly public–commons arrangements, are emerging as a potential way to address these constraints.

3.2. Governance voids and selective absence. Governance in institutional voids (Khanna & Palepu, 2010), that is, contexts characterised by the absence of regulation or support, is more commonly observed among highly informal or community-based grassroots initiatives, such as waste pickers, repair communities and food-saving groups. In these cases, explicit governance arrangements are largely absent. Instead, interactions with public authorities often take the form of persecution (as in the case of waste pickers), outright bans, or benign neglect, such as turning a blind eye to certain food-sharing practices. More broadly, local governance may be absent from circular grassroots initiatives either because they are highly informal and loosely organised, or because they constitute emerging activities that have not yet been recognised or institutionalised within the capacities of local governments.

4. The advocacy paradox (doing versus influencing)

Grassroots initiatives engaging in advocacy or policy-oriented activism are relatively uncommon, as the movement is primarily oriented towards 'doing, 'which enables experimentation but can limit visibility, coordination, and influence in formal policy arenas. In this sense, governance reflects a mode of political engagement centred on practice rather than explicit advocacy, protests or overt political mobilisation. However, this creates a key contradiction: without sustained advocacy, the institutional arrangements necessary for their continuity and expansion are less likely to emerge. As a result, the movement often remains relatively new, under-recognised by policymakers, and largely invisible. 'Doing' alone is therefore insufficient; hence developing forms of public discourse and advocacy becomes necessary both to enable supportive governance frameworks and to increase visibility. Where this occurs, it often takes the form of public events, debates, theatricality, and participation in governance processes, all of which again require intensive work.

Intermediary organisations can play an important role in facilitating this discursive and advocacy work. In Gothenburg, for example, organisations such as Collaborative Economy Sweden and the Transition Network contribute to advocacy and visibility, although they do not function as formal umbrella or representative organisations. Rather, they operate in alignment with grassroots initiatives within a politically diverse and heterogeneous movement. Grassroots initiatives thus face an ongoing inherent contradiction between sustaining practice and developing political articulation.

5. Visibility, valuation and recognition (how governance 'sees' or fails to see grassroots)

Grassroots spaces, practices and values are often invisible to local governance. For the most informal grassroots, they tend to become visible only sporadically, when they shift from everyday, largely hidden forms of resistance to more collective and visible resistance (Bayat, 1999), as in the case of waste pickers. Their everyday activities are informally tolerated until they become too visible; which is often the moment when authorities crack down, and disband their occupied spaces (squatted houses, informal working spaces). In these moments, collective resistance can be articulated, for example, through efforts to create cooperatives or networks with the support of external actors. However, such collective resistance is difficult to sustain and often dissipates as events fade over time. Governance operates through selective recognition (look into Barcelona's report).

In most other cases, grassroots spaces and practices remain unnoticed, invisible, by policymakers, who often do not acknowledge the diversity of grassroots spaces and values they generate. They are commonly perceived as informal, unstable, unable to scale, or incomplete, and therefore as unreliable or ineffective from the standpoint of dominant models of 'complete' governance. This perception is shaped by a hegemonic imaginary rooted in Northern modernist ideals of economic rationality, efficiency and formalisation.

Circular grassroots generate diverse but incomplete value configurations. Their practices are evolving, and improvised arrangements or fragmented contributions that together form an unfinished puzzle, offering a plurality of partial responses to socio-ecological challenges (Acheson, 2025). This 'incompleteness' is a resource for flexibility, but it might also be a source of fragility.

Motivations to participate are diverse, as flexible identity movements (Rojas, 2019), combining material, environmental and social rationales (Zapata & Zapata Campos, 2017). This diversity facilitates broad recruitment and coalition-building, making this circular grassroots movement one that is expanding compared to traditional contention movements. While some initiatives emphasize one dimension, other motivations help sustain continued participation. At the same time, this plurality of rationales generates tensions, for example, between more radical and more accumulative views within the grassroots movement.

Beyond environmental and material benefits, grassroots initiatives generate values that **exceed monetary valuation** (Holmes, 2018) and contribute to the decommodification of nature, food, and other basic needs (Morrow, 2018). These include social capital, epistemic agency, and col-

lective identity. They also contribute to restoring a sense of collective agency in contexts of political disillusionment and declining incentives for collective action, while recentring collective knowledge within circular economy discourse and policies.

The 'valuation' of grassroots spaces and their practices is framed by policymakers as necessary to justify the allocation of public space and other resources. This reflects the dominance of an economic rationality logic influenced by New Public Management logics (NPM), which prioritizes output measurement and efficiency metrics and indicators. There is a mismatch between valuation regimes (NPM versus public value), reflecting a gap between grassroots value creation and dominant valuation regimes and public accountability in local governance. From a public value perspective, however, democratic value creation should not subordinate to ecomodernist and economic rationalities.

Another red thread-line for organizing this section might be to present it in terms of tensions and trade-offs: flexibility vs formalization, autonomy vs institutional support; doing vs advocating; doing value vs metric valuation

Inclusivity

This section brings in a justice-oriented lens to circular grassroots practices, examining how participation is shaped by intersecting inequalities and how inclusion and exclusion are produced within everyday micro-practices. It brings together questions of procedural, distributive and epistemic justice (who can participate, who benefits, and whose knowledge counts).

1. Intersectionality and micro practices.

Inclusivity is not only about accessibility and open doors, but is shaped by intersecting social positions (class, gender, race, age, time) and everyday micro-practices that can either reproduce inequalities or challenge them: In/Exclusions are actively constructed through organisational arrangements, spatial settings, and everyday practices that enable meaningful participation. While in Amsterdam, inclusivity is deliberately 'infrastructured' through admission procedures, prioritising those with limited access to housing; in Gothenburg, it is fostered through 'threshold spaces' that enable encounters across difference and support the transformation of participants from recipients into contributors; and in Barcelona and Nantes, it is shaped through micro-practices such as fee structures, teaching approaches, or the distribution of roles.

However, even in spaces guided by horizontal ideals, inequalities persist through expertise hierarchies, gendered divisions of labour, age and racial hierarchies, and barriers related to cultural capital. Inclusivity efforts operate within broader structural inequalities, and crossed by that same structure, grassroots initiatives can unintentionally reproduce patterns of exclusion they seek to overcome. These dynamics can reproduce traditional roles, for instance through forms of 'mansplaining' in repair initiatives, depending on the socio-material arrangements of the initiative and its context. For example, such patterns tend to be more visible in repair settings. For

the case of informal waste-peakers, exclusion is most extreme as they are largely absent from institutional recognition and subject to stigmatization and marginalisation.

2. Care and participation as pathway to inclusion.

Despite these tensions and ambivalent in/exclusions, all the analysed cases point to care practices and active participation as key mechanisms for fostering deeper inclusivity. In one way or another, grassroots initiatives actively experiment with counter-practices to disrupt these inequalities. Gendered or neutral spaces can be temporarily created to facilitate more equal participation (e.g. Barcelona repair initiatives), while others use theatricality and spatial staging to produce 'thresholds' or liminal spaces that suspend hierarchies and enable more equal forms of engagement (e.g. food saving initiatives in Gothenburg). Some initiatives (e.g. in Gothenburg and Nantes), enable participants to shift from passive recipients or beneficiaries to active caregivers or organisers, strengthening inclusion through mutual support and shared responsibility and reducing hierarchical divides between roles and expertise. In this sense, inclusivity can also be enabled through collective learning, care relations and collaborative work, rather than service provision and recognising both care needs and contributions within the community. That is, inclusivity is strengthened when grassroots initiatives move beyond mere access toward active participation, shared responsibility, and care-based relations.

3. Subsistence vs ideological environmentalism.

Circular grassroots are materially grounded, which explains why the movement is expanding in large cities marked by growing inequalities. However, the material dimension is more determining for some participating groups than for others. In this sense, circular grassroots bring together two broad groups: subsistence circularities (linked to the environmentalism of the poor), and more lifestyle-oriented or ideological environmentalism (often associated with middle- and upper-class green consumerism).

Subsistence circularities are primarily driven by material needs. At the same time, some grassroots initiatives initially driven by subsistence concerns can evolve to include a more diverse range of participants motivated by environmental and social rationales. In such cases, this diversity supports broader recruitment and coalition-building, but also generates tensions in terms of interests, time availability, and care capacities. The coexistence of ideological and material motivations thus produces trade-offs and frictions within grassroots initiatives.

In grassroots initiatives with more ideology-driven participation, social hierarchies can risk being reproduced. These may emerge through language, literacy, or implicit norms about who belongs in community spaces, thereby constraining access, time, and willingness to participate (e.g. in libraries of things or community kitchens).

4. Distributive paradox.

In grassroots initiatives that require intensive work to participate (e.g. housing cooperative or LoT), precarious groups cannot participate equally due to time poverty. This leads to overrepresentation of certain groups affecting procedural and epistemic justice, that is, whose knowledge

counts (LoT, Repair, community-kitchen), compared to initiatives such as waste picking and food-sharing where participants with material needs are more directly involved in self-organising. There is thus a risk that grassroots circularity is sustained disproportionately by those with greater time and stability (middle-class, retirees), raising concerns about epistemic injustice. It implies that inclusivity is constrained by time, resources, and organisational demands, leading to difficult trade-offs between openness, care, and long-term viability, the practical capacity to sustain initiatives.

Scalability and societal and climate transformations

This section shows how grassroots can transform society despite constraints. It shows how grassroots do not scale primarily by growing bigger, but by transforming meanings, norms, and visibility under conditions of constraint and ambivalence.

1. Scaling deep and normative transformation

While scaling through replication is the more common form of expansion, grassroots initiatives often reject or redefine conventional notions of scaling based on growth and expansion in order to contribute to 'scale deep' by reshaping norms and meanings. This includes both the deinstitutionalization of dominant 'consumer expectations' and the gradual institutionalization of alternative norms, such as an ethos of mutuality, collective responsibility (e.g. in repair initiatives or community kitchens), and role-modelling, and the creation of norms around sufficiency and commoning. In doing so, grassroots initiatives mobilize a plurality of values that challenge dominant value frames (Savini, 2023), or valuation regimes (Appadurai, 2001) within the circular economy. Rather than individualized and placeless solutions, circularity is reframed as collective, territorially grounded practice, shifting from the commodification of waste towards the prioritisation of use value. All this implies that scalability is primarily understood as qualitative transformation (scaling deep practices, values, and social relations), diffusion (in terms of proliferation, replication, and embedding in everyday life), and social recognition and recognition (specially for waste-pikers), rather than quantitative and growing expansion.

2. Visibility paradox

Grassroots initiatives are often powered by volunteer labour embedded within the time constraints and contradictions of capitalist societies. This limits the frequency and continuity of activities, and therefore their visibility, constraining their capacity to expand. Hence, scalability is not only an organisational challenge but a structural issue constrained by time, resources, and dominant economic systems (market pressures and consumer capitalism). At the same time, visibility itself is ambivalent. For more informal or 'under-the-radar' initiatives, such as waste picking or food-sharing, becoming visible can trigger regulation and discipline by local authorities, ranging from policing and prohibition to formalization requirements (e.g. food-sharing initiatives in Gothenburg being required to obtain permits for food handling).

Informal grassroots thus oscillate between invisibility and exposure: they remain tolerated while hidden, but risk sanction when they become visible. And when visibility and social recognition

open the pathway for the institutionalization and integration into formal systems, new risks appear: while this support can provide stability and sustainability (some kind of scalability-durability) it can also bring standardisation, loss of autonomy, and even displacement by market once activities become profitable, diluting grassroots values or exposing them to co-optation and competition.

3. From everyday to collective resistance

In some cases, visibility emerges through moments of crisis, when authorities crack down on grassroots practices. Events such as evictions or accidents can trigger the transition from dispersed, everyday practices to more visible forms of collective resistance. In these moments, grassroots initiatives may organize and connect with supportive networks, including neighbourhood organisations, migrant groups, or the cooperative sector. However, such mobilisations are often difficult to sustain and tend to dissipate once the immediate threat subsides, limiting their influence on structural and policy-level change. This dynamic is particularly evident among waste pickers and other initiatives operating in legal grey areas (e.g. gleaning, dumpster diving), where sustained support beyond local government becomes crucial after moments of crisis.

4. Stigma and reframing

Circular grassroots initiatives are often stigmatized, as their activities are associated with poverty and care-receiving, despite participants' active roles as caregivers. This is particularly evident when waste is reclaimed for material subsistence, often by migrants or undocumented individuals suffering racism and exclusion. Grassroots initiatives actively counter this stigma by reframing their practices as environmental action. Strategies such as theatricality and storytelling are used to shift perceptions, transforming stigmatized practices into socially and environmentally valued contributions.

Cross-cutting paradoxes of circular grassroots

In our work we have identified several grassroots paradoxes: tensions that structure and condition grassroots action, rather than purely contradictions that weaken them. Paradoxes are not anomalies or shortcomings. They are constitutive of circular grassroots initiatives operating within capitalist urban systems characterized by inequality, overproduction, and institutional fragmentation. Rather than solving tensions, grassroots initiatives continuously navigate the trade-offs and compromises of their ambivalences.

The paradoxes are interconnected. For example, invisibility limits advocacy and reinforces marginality; time poverty limits inclusivity and shapes limited governance capacities; and stopgap practices absorb crisis while potentially delaying systemic change. From this perspective, paradoxes do not operate in isolation but form a system of tensions that co-evolve and reinforce one another.

The identified cross-cutting paradoxes of circular grassroots are:

1. Grassroots essentiality (vital) yet invisibilised and stigmatised

While the dominant circular economy centred on growth-based techno-managerial solutions is not delivering its promises of waste reduction, grassroots initiatives make significant metabolic contributions and often achieve better results (e.g. waste pickers collect around one-third of recycled metals in Barcelona; grassroots initiatives save 18-20% of food in Nantes and Gothenburg). Yet these contributions are frequently invisibilised or disregarded. Beyond material impacts, they also sustain livelihoods, with substantial contributions to the welfare of society. Paradoxically the more essential this work becomes, the more it is rendered invisible, undervalued, and under-resourced, relegated to the background infrastructures and forms of household work on which the urban fabric depends. Invisibility, in this sense, is not absence, but a condition of systemic under-recognition.

2. Doing vs influencing. Grassroots are material while discourse and advocacy are also necessary

Circular grassroots operate primarily through practice, as movements grounded in doing rather than in explicit advocacy, protests or contention. However, this orientation limits their ability to influence the institutional arrangements that shape their own existence. Without engaging in advocacy, public discourse, and representation, their practices remain unrecognized and unsupported, with the risk of remaining and reinforcing their position as niche alternatives. What sustains the movement locally can weaken it politically.

3. Community of practice vs service provision

By 'only doing' (e.g. repairing, redistributing food), in detriment of 'teaching to repair' or 'explaining why there is food surplus', they risk becoming a stopgap and reproducing systemic contradictions: that is, absorbing surplus and mitigating crises without addressing root causes, thereby stabilising the system they seek to transform. This tension is addressed with 'explanation as care work and political education', connecting with another tension between pacification vs emancipation, which implies that if participants are not informed or taught, they can become pacified rather than emancipated.

4. Inclusion vs reproduction of inequality

While grassroots spaces are often framed as open and inclusive, participation is shaped by intersecting inequalities (class, gender, race, time) that create other kinds of exclusions. Horizontal ideals coexist with subtle hierarchies and participation is unevenly distributed. At the same time, grassroots initiatives actively experiment with practices that attempt to disrupt these inequalities. Inclusivity is continuously produced but never guaranteed and always leaving someone outside. This results in the redistributive paradox: many grassroots initiatives tend to be disproportionately used and sustained by people with more available time and resources. So, as a result, participation is skewed toward more privileged groups, while those who might benefit most remain underrepresented. This provokes an imbalance that can also produce epistemic injustice, as the knowledge, skills, and experiences of these

overrepresented groups are more likely to be recognised and valued than those others who are overlooked.

5. Care work vs exploitation (labour paradox)

Grassroots initiatives generate infrastructures of care and mutual support, yet they rely on intensive, often invisible labour, including emotional, spatial, and organizational work. These efforts are frequently uncompensated and unevenly distributed, raising questions about sustainability and justice also within the initiatives themselves. Care infrastructures are sustained through precarious intensive labour. That is, grassroots initiatives require an enormous amount of work and emotional labour to make it happen and uphold their values, navigating ongoing contradictions, trade-offs and compromises. Hence, the everyday operational demands risk diluting their critical and transformative potential if not accompanied by efforts in theatricality, public discourse and representation that sustain systemic critique. Without such discursive and political work, grassroots initiatives risk reproducing the very systems they seek to challenge. Paradoxically, maintaining this critical edge requires even more labour from already overstretched initiatives.

6. Stopgap vs systemic solutions

Grassroots initiatives operate within contemporary capitalism that systematically produces both surplus populations and commodities. These are not anomalies but necessary by-products of economic-growth-driven, neoliberal economic logics. Phenomena such as food waste alongside food insecurity, or material waste alongside economic precarity, exemplify these contradictions. Initiatives such as food-sharing, repair, libraries of things, and waste-picking work within these tensions: they may either help stabilize the system by absorbing surplus and mitigating its effects, while rendering these contradictions visible and politically contestable. There is a risk that continued overproduction becomes normalized or justified through redistribution infrastructures that manage surplus after consumption rather than addressing its structural causes. The diversity of the movement, and the varied rationales for participation, generate tensions between meeting immediate material needs and pursuing systemic change. At the same time, waste management and circular economy systems often rely on the intensive labour and super-exploitation of grassroots, including waste pickers, food-savers, and those sustaining sharing initiatives, revealing how these systems are underpinned by forms of exploitation and undervalued work.

Grassroots decalogue

This report has explored how circular grassroots initiatives create, sustain, and transform urban life through practices of repair, reuse, redistribution, sharing, and collective care in four European cities. Across highly diverse contexts, these initiatives reveal forms of circularity that are materially grounded, socially embedded, and politically ambivalent. They operate through incomplete and precarious infrastructures, yet generate significant environmental, social, and democratic value. At the same time, they remain constrained by structural inequalities, limited access to space and resources, and dominant governance and valuation regimes that often fail to recognise their contributions.

The findings presented throughout this report suggest that grassroots circularity cannot be understood simply as a technical or managerial response to resource efficiency challenges. Rather, it constitutes a broader socio-material field where questions of care, labour, justice, participation, visibility, and power are continuously negotiated. Grassroots initiatives simultaneously challenge and reproduce systemic contradictions, navigating tensions between autonomy and institutionalisation, inclusion and exclusion, experimentation and durability, subsistence and ideology, and transformation and stabilisation.

The following Circular Grassroots Decalogue summarises the project's main cross-cutting conclusions. Rather than offering universal prescriptions, it highlights recurring dynamics, tensions, and lessons emerging across the studied cases, contributing to a more grounded and politically attentive understanding of circular and postgrowth urban transitions.

1. Circular grassroots initiatives lack space across all studied cities, and are often pushed into marginal, temporary settings.
2. They invest enormous amounts of work, energy, and time in tinkering with spaces, resources, and people.
3. They form a new network and lose social movement, making significant contributions that often go unseen or unrecognized.
4. They are political by doing rather than by contention. This strengthens their impact, but can weaken their voice, making intermediaries crucial.
5. Public–community arrangements (e.g. public-common partnerships) are emerging as an institutional form of providing access to space. However, many initiatives face an institutional void that, at best, ignores and, at worst, penalizes their informal nature.
6. There is a deep mismatch between grassroots valuation and dominant valuation regimes influenced by New Public Management and ecomodernist logics, which prioritize measurable outputs and efficiency over more-than-monetary values.
7. 'Good value creation' in grassroots initiatives is not automatic and inequalities (class, ethnicity, gender, age) persist, but many initiatives actively reflect and counteract this by building alternative infrastructures of care.

8. Some initiatives are necessity-driven (what we call subsistence circularities, not enough recognised in the literature), while others are driven by environmental and social values. In the process, all rationales blend and reinforce each other within and across initiatives.
9. They transform society by reshaping norms and social relations, rather than by growing bigger: normalizing repair, sharing, sufficiency, commoning, and collective responsibility.
10. Grassroots initiatives navigate multiple paradoxes that both constrain and enable their innovativeness: they are essential yet invisible; they risk becoming service providers rather than transformative actors; and they rely on care work that can become exploitative.



The Circular Grassroots project researchers visit the Library of Things in Barcelona

Research project publications

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Demaria, Federico, Vico, Daniele, & Gabard, Lucía Fernández (Eds.). (2025) *Contested Waste: Environmental conflicts and waste picker resistance in the Global South*. Taylor & Francis.

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