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Research article

Understanding urban food sharing landscapes: a role for assemblage thinking?

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Abstract

Urban food systems globally are unsustainable and in urgent need of reconfiguration. Research suggests that food sharing can form part of sustainability transitions at the urban scale. However, there has been limited interrogation by researchers of how individual food sharing initiatives (FSIs) interact and collaborate with others in places. Adopting a conceptual frame inspired by assemblage thinking, this paper identifies FSIs that operate within a district of inner-city Dublin, Ireland. Using mixed methods, we trace material, relational and financial flows between the FSIs active in the district and other actors and organisations. Drawing insights from this process, we conclude that locating and tracing food sharing relations productively identifies points of attachment as well as fractures and fragilities within FSI landscapes. This finding can be used by different stakeholders as a resource within the inherently political process of reshaping urban food systems towards more sustainable outcomes. However, further longitudinal research is required to identify the extent to which these emergent assemblages have the capacity to persist, expand and disrupt dominant patterns of power and influence within and beyond these webs of food sharing.

Keywords: Food system, assemblage, Dublin, Ireland, food sharing, health and well-being.

Introduction

Food systems globally are unsustainable and in urgent need of reconfiguration. As the Food and Agriculture Organisation (FAO) of the United Nations states, 'if we do not redouble and better target our efforts, our goal of ending hunger, food insecurity and malnutrition in all its forms by 2030 will remain out of reach' (FAO et al., 2023, p. vii). Issues of food system unsustainability are even more pronounced at the urban scale, with more than half of the world's population living in cities and urbanisation trends reshaping agrifood systems (HLPE, 2024).

While commercially-focused, techno-scientific responses to unsustainable food systems dominate policy discourses in Europe (Jackson et al., 2021), these marginalise important social, environmental and relational dimensions of food production, consumption and redistribution (Davies, 2020) and tend to discount the innovative capacity of collaborative community-level initiatives (Maye et al., 2022), such as food sharing initiatives (FSIs), the focus of this paper, due to their small size and limited scope. FSIs are collective acts around food beyond mainstream commercial exchanges such as community gardens, seed sharing societies, social dining clubs, community kitchens and surplus food redistribution initiatives (Davies, 2019). However, while many individual FSIs are limited in scale and reach, the extent to which they are interact and connect with other initiatives and organisations in and beyond places has rarely been considered.

In this paper, we explore what examining FSIs as assemblages achieves for establishing pathways to more sustainable urban food systems. Assemblage-based research considers the form and function of relations and centres 'the acts of transformation through which components are gathered, arranged, and dispersed, and relations established, reconfigured, and broken' (Woods et al., 2021, p. 285). Undertaking such an endeavour is not straightforward and requires a clear understanding of FSI landscapes, their actions, impacts and interactions over time and across space. To do this, we use mixed methods focused on food sharing activities within an inner-city district of Dublin, Ireland – referred to as Dublin 8 or D8 - which is seeking to improve the health and wellbeing of citizens through collaboration and innovation via its municipal-led Smart D8 initiative (see: https://smartd8.ie). Results are then analysed using a framework for operationalising assemblage thinking developed by Müller (2015) which foregrounds matters of relationality, productivity, heterogeneity, dynamism, and desire. This process enables identification of attachment points within the D8 territory, as well as fractures and fragilities, providing a knowledge base to engage with the inherently political process of reshaping urban food systems for sustainability. Finally, we outline further work needed to identify whether the emergent FSI assemblage examined has the capacity to disrupt dominant patterns of power and influence, reflecting on the efficacy of assemblage thinking within the context of urban food system transformation. As a result, this paper makes three key contributions to the field of urban food systems scholarship:

1. It provides a replicable methodology for identifying the incidence of FSI landscapes at district scale.
2. It presents a novel system for classifying connections between FSIs and other organisations at the district scale; and finally,
3. It identifies the quality and significance of those relations for the future flourishing of FSIs within the district examined.

Landscapes of food sharing

There is a long history of scholarly attention to food sharing that examines non-monetary, pre-industrial, small-scale subsistence societies where systems of food exchange are seen as crucial for developing social structures and interpersonal relations (Gurven & Jaeggi, 2015; Jones, 2008). Indeed food sharing in this research is described as the bedrock of human civilization, demonstrating a fundamental form of cooperation (Jaeggi & Gurven, 2013). Scholars have expanded this focus to examine contemporary trends around collective food practices that co-exist and intersect with the global commercial, industrial agri-food complex (e.g. Harvey et al., 2020; Hennchen & Pregernig, 2020; Michelini et al., 2018), with particular attention to the impacts of digital transformations

on food sharing practices (e.g. Davies, 2019; Edwards, 2018; Marovelli, 2019; Mazzucchelli et al., 2021; Morrow, 2019; Rut & Davies, 2018; Weymes & Davies, 2019).

A range of intertwined social, economic, and environmental crises and rapid technological developments in western contexts such as Ireland is driving a resurgence of interest in food sharing as a contemporary practice with sustainability potential. However, while the rise of digital platform 'sharing economies' have dominated private and public debates in other sectors such as mobility and housing, with concerns about the negative social, environmental and economic impacts on people and places (Davies et al., 2023; Davies et al., 2017), their impact on urban food systems has been less visible and contentious globally. Research exploring contemporary urban food sharing that leaves a digital trace (in that the FSIs use websites, social media profiles or apps to support their activities) has developed a better understanding of food sharing activities which are active in urban areas internationally, focusing on what they share (e.g. compost, seeds, plants, meals etc.), the modes of sharing adopted (e.g. bartering, gifting, selling etc.) and the organisational structures of the initiatives (e.g. for-profit, social enterprise, charity etc.) (Davies et al., 2017), alongside their sustainability impacts (Mackenzie & Davies, 2019, 2022). However, while such analyses of individual FSIs at the urban scale are informative, both for the initiatives themselves and for those who engage with them, there is a danger that the holistic value created by the FSIs working together with others is being overlooked. Yet, with the exception of Edwards and Davies (2020, p. 476) who articulate interactions between FSIs in Melbourne, Australia as 'food sharing ecosystems' and Rut & Davies (2024) who identify FSI landscapes as prefigurative infrastructures of care, most analyses focus on case studies of individual FSIs. As a result, we need research to delineate the form, function, and impact of urban food sharing landscapes in the round, and in this paper, we explore the efficacy of assemblage thinking to do this.

Mapping urban FSI landscapes

The case for expanded food systems mapping has been made for decades (see Feagan, 2007), with increasing calls made in the light of the Urban Food Agenda initiative of the Food and Agriculture Organistion (FAO) (see Bohn & Tomkins, 2024). This has led to a range of mapping projects which adopt diverse conceptual frames from social practice theoretical positions (Ulug et al, 2021; Davies et al., 2017), including diverse economies perspectives (Dixon, 2011), social network theories (Levkoe & Wakefield, 2014), Actor Network Theory (ANT) (Vitalis et al, 2016; Guo & Mejboom, 2019), and assemblage approaches specifically targeted on urban and local food (see Cifuentes & Sonnino, 2024; Dwiartama & Piatti, 2016). Interrogating this work prompted deeper consideration of the latter two approaches as potentially productive tools for exploring the FSI landscape in D8 because they incorporate non-human nature elements, such as soil, seeds, plants, and animals, as active agents in activities. These two approaches have similarities and differences. ANT offers a more structured methodological approach making it potentially easier to operationalise, but assemblage thinking amplifies the fluidity of relationships and the significance of social context, narratives, and imaginaries.

Importantly, in terms of making our decision around the conceptual framing for the research, there is also a rich stream of assemblage thinking within the urban realm which has foregrounded four key findings. The first relates to the dynamism of urban environments, which are in a constant state of flux (Woods et al., 2021). The second highlights that relationships within an assemblage are not confined to human participants but also include material aspects of spaces and places, non-human actors

and actants (Anderson & McFarlane, 2011). The third centres the vital interplay between internal or local factors and external influences in [re]shaping assemblages (Thompson et al., 2020) and the fourth accommodates drivers for involvement in assemblages with respect to desired outcomes (see Roberts, 2021).

Extensive consideration of urban assemblage thinking within academia already exists (see for example, Dovey et al., 2018; Durose et al., 2022), so here we focus on outlining our utilisation of one assemblage thinking approach as a means for thinking about FSI actions, interactions and connections in Smart D8. In brief, we follow Müller (2015) who delineates assemblages as: a) Relational – linking different entities together, whilst also recognising external relations (exteriority); b) Productive – in that assemblages can produce new actors, practices and organisations; c) Heterogeneous - such that they include human bodies, animals, things and ideas in a way which eschews nature-society binaries; d) Dynamic – where assemblages are inevitably caught up in establishing and reshaping territories; and finally; e) Desired – in that desire, and the interplay of desires, creates forces leading to the creation of assemblages, but also their dissolution and reconfiguration. This approach was selected because it draws from a range of traditions and therefore offers a rounded analytical framework for examining D8's FSI landscape through an assemblage lens. For example, Muller (2015)'s concept of dynamism draws on Deleuzian assemblage theory concepts of deterritorialization and reterritorialization, ensuring consideration of how components enter and exit assemblages (Dewsbury, 2011). The approach also accommodates DeLanda's (2016) neo-materialist assemblage perspective, emphasising material, social and discursive entanglements. Importantly, Muller's approach is readily operationalizable within the urban context, facilitating consideration of power dynamics around FSIs which often fly below policy radars. Overall, we felt that the interdisciplinary engagement that underpins Müller's (2015) framework enriches the analytical potential of assemblage research, permitting more holistic examination of poorly understood and complex social phenomena like FSIs.

In effect, we are using the concept of assemblage as 'a provisional analytical tool' (Müller, 2015, p. 28) to order and navigate processes of mapping FSIs, tracking their interactions with other actors and tracing flows of materials, relations and financial resources that those actions and interactions create. It is a way of ordering heterogeneous entities which typify FSI landscapes, whilst acknowledging that these entities may work together in different ways, and perhaps only for a certain period of time in particular places.

Alongside the important relational dimensions that assemblage thinking emphasises is consideration of material things. In the context of FSIs, this includes people who share, devices which facilitate sharing, and the material goods shared, from meals and plants, to soils and microbes (Davies et al., 2022; Morrow & Davies, 2022). Inspired by Latour's (2005, p. 9) evocative metaphor of adopting the 'ways of the ant' and 'trail-sniffing', we traced associations within the Smart D8 FSI assemblage in order to reveal its nature and contingency; interrogating the agency of its whole and its constituent parts, while recognising that the making and remaking of relations are not constrained to the constructed territory of Smart D8.

While assemblage thinking has been critiqued for its lack of explanatory capability in relation to patterns of power, in that it does not provide causal explanations or predictive insights, the descriptive process of mapping and tracing actions, interactions and connections creates an essential baseline for unpicking the politics of FSI landscapes in places. It provides 'a way of codifying particular institutional and technical practices' (Barry, 2001, p. 201) and helps identify 'the ways in which artefacts, activities or practices become objects of contestation' (Barry, 2001, p. 6). This does not ignore power, rather it can help identify 'puissance' – immanent or potential power and 'pouvoir', actualised power (Deleuze & Guattari, 1987, p. xvii). Similarly, Latour (1987,

2005) has long focused on how power arises from the making of connections across space. So, while limited in explanatory potential, assemblage thinking does have something to say about spatial dimensions of power and politics, particularly in terms of why assemblages emerge in particular ways, how they hold together, precariously, or otherwise, how they transcend across or shape space and how they fall apart (Müller, 2015).

While we employ assemblage thinking to describe connections and interactions between FSIs and other organisations, we also provide reasoned explanations for the nature and importance of those connections through a system which categorises relationships as: supporting, key and essential. This approach recognises that component parts of an assemblage have qualities outside existing associations that also impact and shape it, for example wider changes in national policy. These qualities and capacities are unpredictable and may relate to wider forces beyond the assemblage itself, such as shifting financial models and priorities (Anderson et al., 2012). As a consequence, we not only consider present conditions we also draw attention to history, labour, materiality, and performance.

Identifying the Smart D8 FSI assemblage

Smart Dublin is a collaborative project led by Dublin's four local authorities – Dublin City Council, Fingal County Council, South Dublin County Council and Dun Laoghaire-Rathdown County Council - in partnership with technology providers, researchers, and local citizens. It has been in operation since 2018, with the goal of providing testbeds for innovative technological solutions for the city and its citizens in a range of settings, from university campus' (Smart Dublin City University) to suburban towns (Smart Balbriggan) and commuter zones (Smart Sandyford, subsequently rebranded as Smart Dun Laoghaire) (see Devine-Wright & Davies, 2023). Smart D8, the district we engaged with in our exploration of FSI landscapes, launched in 2021. D8 refers to a particular postal district within the south inner-city of Dublin, although the boundaries of the area have never been tightly defined by Smart D8 (see Figure 1). The Smart D8 project has a focus on health and wellbeing, with St. James' hospital being a keystone institution in the area which also has high levels of socio-economic deprivation and limited green spaces. As food is central to health and wellbeing, and food sharing activities often seek to support vulnerable or marginalised communities, the authors of this paper were commissioned to identify the FSIs operating within the district. A suite of methods was then employed to identify and analyse the food sharing landscape in D8.

Methodological approach

Mapping, observational surveys, and interviews were employed as key research methods to optimise understanding of the FSI landscape in D8. Mapping took place between 2020 and 2021 using a combination of online searching using key terms that characterise FSIs and social media crowdsourcing for FSIs with a digital profile (e.g. website, social media account, or webapp). This method has been validated through international peer review (see Davies et al., 2017). Search terms included: typical food sharing initiative activities such as community growing, community cooking and eating, and surplus food redistribution; common organisational forms of these activities, such as community gardens, social dining, and community food hubs; as well as terms referring to modes of sharing that are often adopted by FSIs such as food swaps, food barter, food gifting, food rescue, food redistribution, foraging, and gleaning.

We then conducted a walking observational survey of the district to identify FSIs in D8 without an online presence. Walking observational methods have been assessed by researchers as a useful approach, particularly in urban environments (Pierce & Lawhon, 2015), enhancing local literacy and adding to the rigor of research. Identified initiatives were then categorised according to three parameters: what is being shared (e.g. seeds, plants, food stuff, information, skills, utensils, devices etc.), how those things are being shared (e.g. mode of sharing such as gifting, bartering etc.) and the organisational structure of the initiatives facilitating sharing (e.g. for-profit, charity, co-operative, social enterprise etc.).

Following this, we conducted ten interviews with key stakeholders including FSI co-ordinators, policy officers, community leaders, and council staff to understand the governance landscape from different perspectives. The perspective of participants in the FSIs were, to some extent, captured through this process, although more fine-grained analysis of specific FSIs would be needed given the diversity of FSIs and target populations. Indeed, much research on FSIs to date has been user-focused in this way, but largely within studies of just one initiative (see Marovelli, 2019; Morrow & Davies, 2022) or one sector in a particular place (see Rut et al., 2021; Weymes & Davies, 2019). What is missing from these analyses is a consideration of the landscape level of FSIs, the focus of this paper.

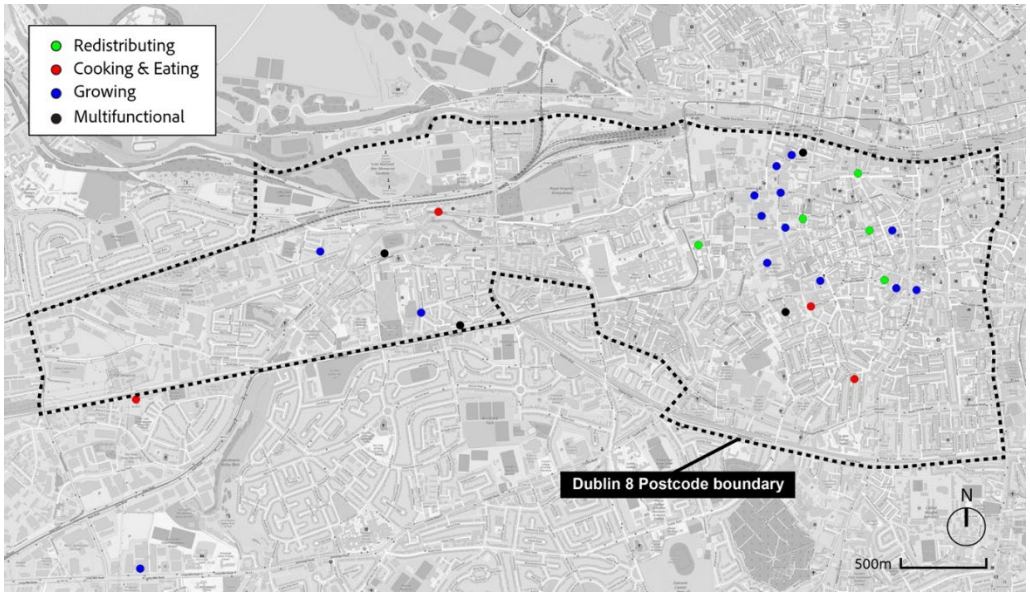
The mapping process identified forty initiatives in total, but not all of them had physical addresses within Dublin 8. Some, for example the soup kitchen that opened during the COVID-19 pandemic, used multiple temporary locations. Additionally, a few initiatives, such as FoodCloud, are not located within Dublin 8 but operate within the area, liaising with a range of retailers and community groups. As a result, we mapped the geolocations of twenty-seven initiatives with a physical presence.

All interviewees were asked about their role in, or engagement with, FSIs in the district. FSIs were invited to explain the form and function of their initiative and to identify any organisations they interacted with through their activities. They were also asked about the nature of the supports they received (for example, through access to space, skills, food stuff or governance support) and from whom they received supports or funding. FSI interviewees were requested to evaluate the significance of these relationships which were then categorised as essential, key, or supportive. Finally, supporting organisations were asked about their interactions with FSIs and the nature and duration of their engagements. The resulting data was then visualised in a series of flow diagrams and these are presented in the results section below where we document the results of this mixed method approach in relation to location, sharing flows, assemblage relations and investments.

Delineating the D8 FSI Assemblage

Figure 1 shows the landscape of FSIs in Smart D8 identified during the mapping phase. Blue points indicate FSIs which grow together, red indicates initiatives which foster cooking or eating together, green indicates initiatives supporting surplus food redistribution. Black points represent multifunctional FSIs that engage in multiple types of food sharing activities. This map is a snapshot of FSIs identified over a six-month period from late 2021 to early 2022. The COVID pandemic affected the form of food sharing in Dublin, as it did for food sharing internationally, during this period (see Rut & Davies, 2024).

Figure 1: Locations of FSIs within the Smart D8 district (shown with dotted outline)



There were 18 FSIs in Dublin 8 that engaged in collaborative food-growing activities. These initiatives were diverse, including eight FSIs established and governed by local residents' associations, two that utilised rooftop spaces for food growing (Robert Emmet Community Development Project and Kevin Street Garda Station), and three that operated within Dublin City Council (DCC) allotments (South West Inner City Network grow groups, Men's Shed, and local schools). Some FSIs were hosted within larger FSIs. For example, the informal women's gardening group (IWGG), the Grow Dome, and Fatima Group's horticulture courses all operated within the Flanagan's Field Community Garden site, which itself was located within DCC allotments.

During the first COVID-19 lockdown community gardens were classified as non-essential services and subsequently closed. Communal cooking and eating initiatives were also suspended, with some pivoting to food redistribution to ensure continued access to food for their participants. At the same time, many new redistribution activities emerged as part of mutual aid programmes and grassroots responses to rising food insecurity.

Seven FSIs in Dublin 8 were involved in distributing food within the community, often redirecting surplus food that would otherwise have gone to landfill, as well as donated food from private restaurants and local residents in response to social needs. The national food surplus redistribution social enterprise FoodCloud was also active in Dublin 8, offering its app to help local groups connect with nearby supermarkets to repurpose surplus food for their social initiatives. St. Patrick's Cathedral frequently used the FoodCloud app and served as an intermediary, bridging the gap between the technical interface of the app and the more face-to-face culture of some D8 community groups.

Food distribution activities in the area expanded significantly during the COVID-19 pandemic. The Small Changes shop and café, for example, launched a successful surplus produce redistribution scheme, allowing growers from local allotments and residents to exchange their homegrown produce for store credit. Following the success of its 2020 pilot, Small Changes continued to scale up its community redistribution scheme, with locally grown produce from individual residents regularly available for sale

during harvest season. Meanwhile, Little Flower Penny Dinners expanded their meals-on-wheels service, distributing 1,500 meals per week to those in need within Dublin 8.

Communal eating activities were suspended during the COVID-19 pandemic. In Dublin 8, this affected three FSIs: one that had provided dinner as part of a homework club; another that had offered cooking and nutrition classes for parents; and the third, Solas, where cooking together had been integrated into youth activities. Additionally, two multifunctional FSIs had also offered shared cooking and eating events as part of a range of other food sharing activities, and these were curtailed during the pandemic. Robert Emmet CDP (Community Development Project) provided cookery classes for men and operated a community kitchen for women asylum seekers, while Flanagan's Field regularly hosted events involving shared meals, such as their annual harvest day.

Food sharing is a collaborative activity and not just in terms of the internal collaboration amongst FSI members, volunteers, or participants but also in terms of how they interact with each other and with other organisations in the area. Once we had located and explored the initiatives form and function, we examined and categorised the initiatives in terms of the specific flows of food sharing elements they created.

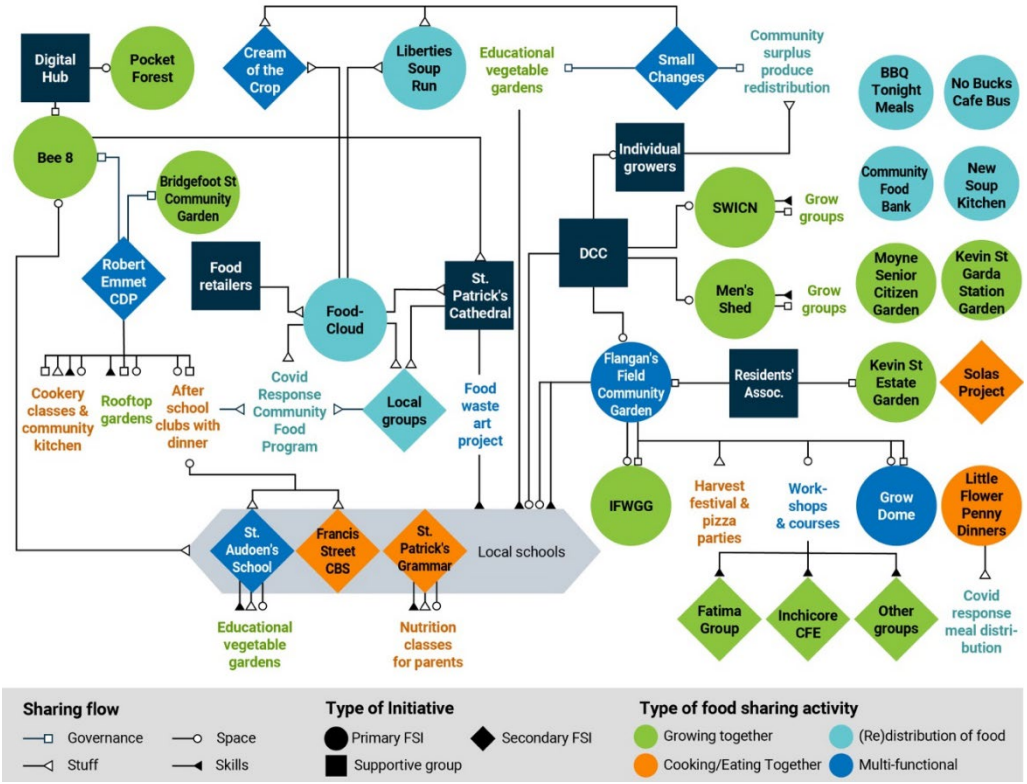
Flows of sharing

We traced the journeys of food related stuff (e.g. seeds, plants, food, meals), space (such as shared gardens or kitchens), skills (including training) and knowledge (through information or practical governance support) among food sharing actors in D8 (see Figure 2). These flows of sharing often emerged in response to specific restrictions and challenges and built on existing connections centred around key spaces and organisations. For instance, the Informal Women's Gardening Group (IWGG) originally operated within a plot at Weaver Square, which was vacant land zoned for development but became available following the 2008 economic crash, under the management of the local charity South West Inner City Network (SWICN). When this plot was reactivated for housing the group lost its site. While this led to a loss of materials and connections to the neighbourhood community, by linking across the assemblage they were able to continue informally by using a plot at Flanagan's Field Community Garden. Such space sharing was a common feature in D8 and was often combined with the sharing of skills and guidance.

Skills sharing was key in D8 during and post COVID-19 when digital aids for surplus food redistribution became a vital tool for communication. While FoodCloud provided supports to upskill initiatives, not all groups could access or utilise these tools and intermediary organisations such as St. Patrick's Cathedral provided a key point of connection between online and offline activities. Such interventions played a significant role in ensuring equitable access to vital resources for the most vulnerable during this period. FSIs also used their learning to support activities beyond D8 with one group driving surplus food identified by FoodCloud to a rural women's shelter as an emergency response. This initial crisis intervention brought additional community groups into the formal national FoodCloud network demonstrating how FSIs might be heavily embedded in a locality whilst also having horizontal networks reaching far beyond it. In another key area for food sharing, health and safety, Robert Emmet CDP staff provided the latest Irish Health Service Executive (HSE) guidance on practical health measures to emergent food redistribution initiatives. They also referred people they engaged with around food to relevant social services supporting vulnerable community members, and offered information about Department of Social Protection entitlements for individuals temporarily out of work due to the pandemic. Seven community groups, NGOs, and businesses that had not previously engaged in food sharing participated with Robert Emmet CDP's facilitation.

Flanagan's Fields Community Garden and Robert Emmet CDP had the highest number and diversity of 'sharing flows' within D8's food sharing assemblage. Their resources, knowledge, and space were key to making them central nodes in these flows.

Figure 2: Flow of food related sharing in D8



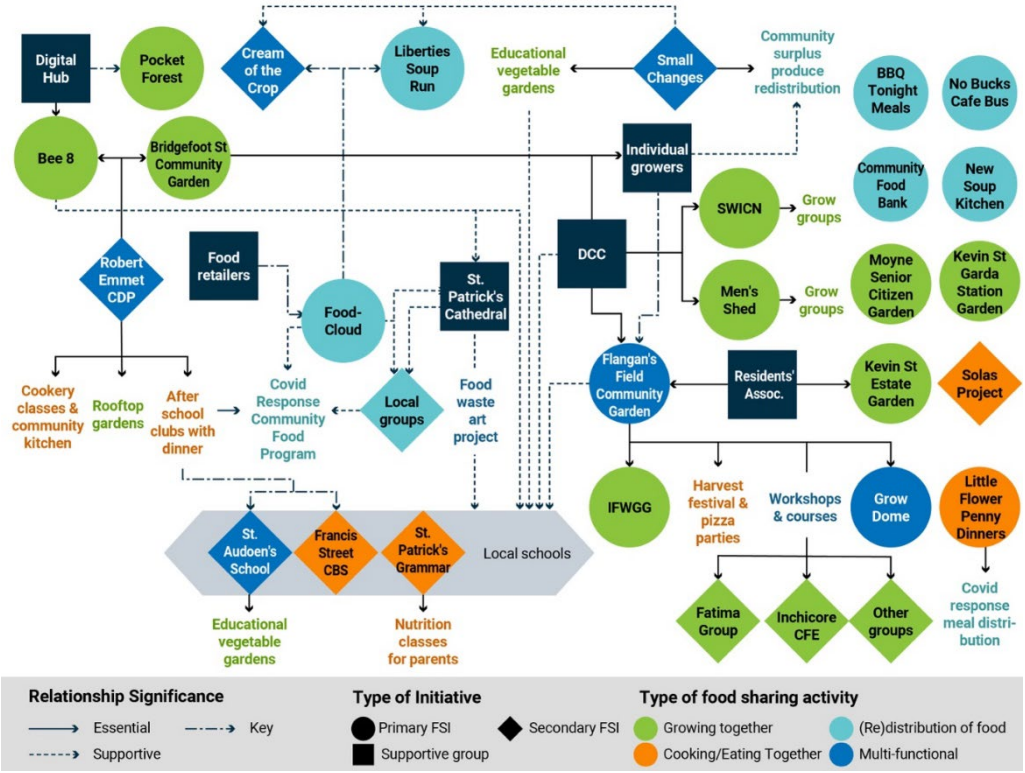
Assemblage relations

Three categories of relationships (supporting, key and essential) were mapped between actors. *Supporting relationships* describe where a stakeholder helps an FSI deliver a food sharing activity, but the relationship is not essential for the operation of the FSI. However, if multiple supporting relationships were lost the food sharing activity may cease. *Key relationships* describe where a stakeholder significantly enables an FSI to deliver a food sharing activity. The loss of this relationship would be a major challenge to the FSI, they might be able to adapt and continue but would need to find a replacement key relationship to maintain their work. Finally, *essential relationships* describe where a relationship between an FSI and a stakeholder is indispensable for the ongoing practice of food sharing by the FSI.

Figure 3 details the nature of relationships which enable food sharing in D8. Three key stakeholders emerge, which if they stood back from supporting FSIs could cause a significant collapse in the food sharing assemblage in D8. These are DCC, Robert Emmet CDP and Flanagan's Fields. Ten FSIs had an *essential* relationship with DCC, and these FSIs could not have continued without DCC's support. The national social enterprise FoodCloud also had high cumulative significance due to its multiple roles in supporting FSIs in D8 and its extensive relationships with charities that used surplus food as part of their activities in the district.

Many relationships existed within the local D8 area; however, relationships with larger public bodies, such as DCC, and relationships with national-scale FSIs (e.g., FoodCloud) were also an important part of creating the food sharing network.

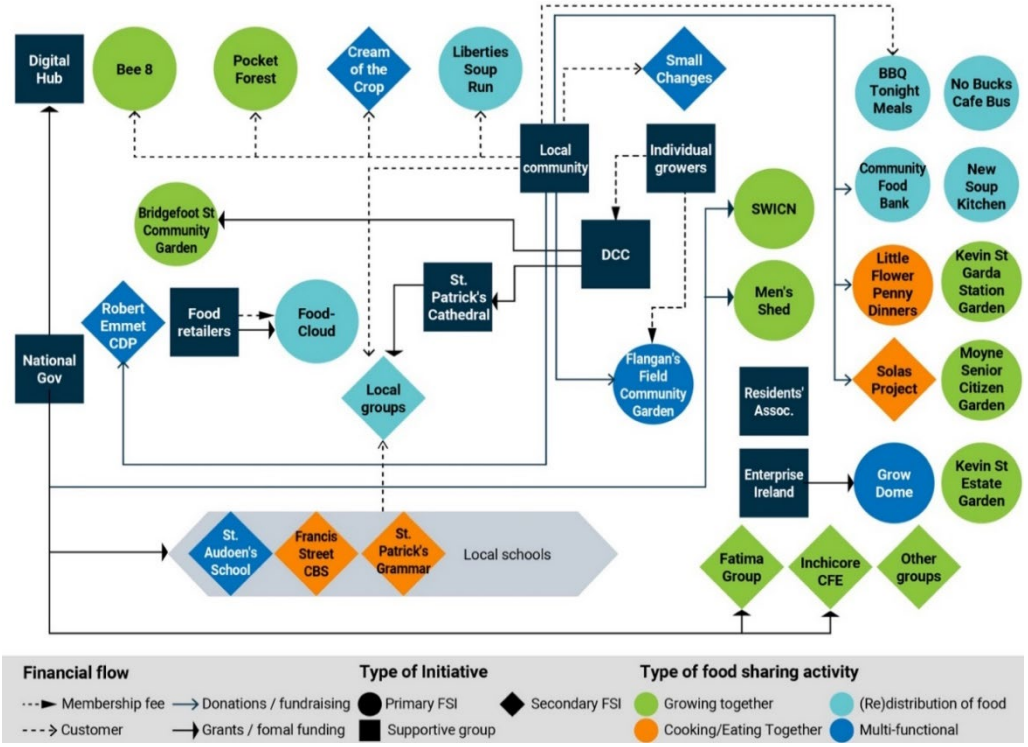
Figure 3: Significance of relationships between FSIs and supportive groups in D8



Flows of investment

One crucial element of the Smart D8 FSI assemblage was the flow of investments to, from and between human and non-human actors in order to create eco-social systems able to produce, prepare and redistribute food. For clarity, Figure 4 highlights just the financial flows into and around the food sharing assemblage in D8. We mapped these flows supporting the FSIs in D8 according to four categories: income from customers; income from membership fees; income from donations and fundraising; and income from grants and formal funding. Notably, many groups relied on voluntary labour and national government funding (eight FSIs). However, the biggest injection of finance to support D8's FSI landscape came from the local community, with 15 FSIs relying on financial contributions from this source. As customers, the community supported many of the local social enterprises that enacted food sharing (e.g., Small Changes, Bee8), and as individuals, they rented plots within Flanagan's Fields Community Garden. Additionally, six FSIs were also dependent on donations from the public to conduct their operations.

Figure 4: Flow of investment relevant to food sharing in D8



Examining the D8 FSI assemblage

Drawing on the D8 FSI landscape mapped and classified above, and using the framework developed by Müller (2015), we interrogated the findings in terms of the five characteristics of assemblages he identifies: relationality, productivity, heterogeneity, dynamism, and desire.

Relationality

Assemblages are fundamentally relational, meaning that they are composed of various entities that come together to form a new, interconnected whole. Importantly, these entities retain a degree of autonomy from the relations that bind them. In the D8 FSI assemblage, the individual initiatives – whether they are food redistribution programmes, community gardens, or social enterprises like Bee8 – are distinct entities that maintain their own objectives and identities. However, through their interactions, they contribute to the formation of a broader network. This network enables resources, ideas, and practices to flow between FSIs, strengthening the overall capacity of the assemblage. A common theme that arose during interviews with well-established FSIs in D8 was the high level of collaboration between diverse stakeholders. The striking inter-dependency of stakeholders in D8 enables and optimises food sharing impacts.

Heterogeneity

A key aspect of assemblage thinking is that it does not presuppose what types of entities can be related; instead, it accommodates a wide range of entities – human, non-

human, immaterial and material. The flow of knowledge and skills, for example, represents the interaction of humans, non-human nature, and technology through the circulation of ideas around growing, cooking and eating and surplus food redistribution. Growing FSIs engaged intimately with soil, seeds, plants, and compost for example, while surplus food initiatives interacted, even if sometimes at arm's length, with digital platforms and apps linking donors to community groups developed by FoodCloud. For example, Bee8 was established from a food sharing group in D8 and involved symbiotic linking of plants, animals, and humans. Even focusing on the organisations alone reveals heterogeneity in the assemblage, with a range of charities, community groups, informal networks, and formal bodies such as FoodCloud (social enterprise) and DCC (state organisation) operating at different scales, some far beyond the territory of D8 itself. The heterogeneity in the assemblage also extends to the materials shared – from honey produced by Bee8 to surplus food redistributed through FoodCloud – and the variety of practices employed, such as food growing, cooking, and surplus redistribution. This diverse makeup is seen as critical to the adaptability and resilience of the D8 food sharing assemblage, which eschews any strict separation between non-human nature and society.

Productivity

By linking knowledge, technologies, resources, and diverse entities, the D8 FSIs demonstrated the productive capacity of assemblages, creating new organisations through its networks and generating new behaviours within existing organisations. For example, Bridgefoot Street Community Garden emerged through the relational and heterogeneous connections between an informal community garden group, the Robert Emmet CDP and DCC. Meanwhile, Bee8, developed through relational links fostered by Robert Emmet CDP. By establishing connections with local schools and businesses to secure spaces for beehives, Bee8 addressed the employment needs of Robert Emmet CDP's participants while simultaneously contributing to environmental goals. The success of Bee8's honey production has led it to become the largest beekeeping group in Ireland, with its products now sold in local food businesses and markets.

The food sharing assemblage in Dublin 8 is not merely replicating pre-existing systems; it is actively shaping new modes of social and environmental interaction in response to local needs. For instance, Small Changes, while primarily a zero-waste grocery store, has incorporated food sharing as a supplementary activity, contributing to both its sustainability and community engagement mission. This adaptation and expansion of food sharing activities, driven by the introduction of new behaviours among entities, became particularly prominent during the COVID-19 pandemic. The assemblage supported the involvement of entities that had not typically engaged in food sharing before. For example, during the pandemic, a local GAA (Gaelic Athletic Association) club, unable to continue training, reallocated their efforts to volunteering in community food sharing activities. For-profit food businesses also became involved, sharing their products as part of food redistribution efforts. Although diverse motivations underpin the FSIs in D8, their collective efforts amplify the productive capacity of the entire assemblage, contributing to food security, sustainability, and community resilience within the D8 district.

Dynamism

According to Müller (2015) assemblages are formed by temporarily holding diverse elements together as a whole (territorialisation) but they are simultaneously subject to centrifugal forces (deterritorialisation), as socio-material processes shift boundaries and produce provisional forms. Assemblages are therefore not fixed or static; they are in

constant flux, continuously [re]creating new behaviours and entities. This was particularly visible in D8 during the COVID-19 pandemic with various FSI activities expanding, contracting, and pivoting as regulatory rules restricted activities and social needs changed. While COVID restrictions have passed there remain other wider forces which continue to [re]shape the spaces available for the FSI assemblage in the area. For example, the ongoing housing crisis in Dublin (and Ireland more broadly) has stimulated rapid developments, particularly in relation to student accommodation, bringing significant changes to the demographic mix of the local population and reducing the number of 'undeveloped' spaces that FSIs have typically been allocated for their activities by the state (Dublin 8 Consortium, 2020). This in turn has led to increasingly precarious forms of tenure for many FSIs, but particularly community gardens. However, it is also clear that actors within the assemblage are actively reforming territories in response to this precarity, with Flanagan's Field community garden opening up their space to the Weaver Street community gardeners displaced by development.

Desire

As Deleuze and Guattari (1987) highlight, desire is a key element in building social systems and networks and thus central to assemblages. Essentially, desire is a productive social force shaping the nature, form and extent of connections and fostering the development of diverse economies and alternative practices. Within the D8 FSI assemblage, desire is evident in the shared motivations of the FSIs to address food insecurity, promote sustainability, and enhance community well-being. These desires led to new vocabularies of change and possibility, and collectively emboldened groups to materially reshape structures in line with emergent imaginaries and post COVID realities. The persistence and omnipresence of these desires within the assemblage fuels ongoing collaboration and innovation, motivating stakeholders to continue to adopt and adapt practices and forge new partnerships. Initiatives like Bee8, and their connections to actors and entities, illustrate how desire for doing things differently for the good of people and the planet can drive not only new connections between people, but also to the creation of new forms of socio-economic practice.

The D8 Assemblage

Reflecting on the D8 food sharing landscape analysis through an assemblage lens reveals a diverse, responsive, and collaborative suite of actors and actants that has led to significant actions around food, with positive social, economic, and environmental impacts on people and place. However, these have often been achieved in the face of persistent challenges such as the insecurity of tenure for FSIs, low and unpredictable levels of funding for food sharing activities, and governance challenges resulting from a lack of attention to food at the sub-national level in Ireland. Tensions over the historic loss of food sharing spaces remain a fresh memory in the relationship between residents, FSIs and governing authorities, leading to a lack of trust and scepticism about political will and long-term support. Given this precarious context for food sharing, it is noteworthy that well-established keystone FSIs, such as Robert Emmet CDP, have stepped into the breach to help emergent or smaller organisations navigate a system not set-up to govern their activities appropriately.

Experienced community development organisations, like the Robert Emmet CDP, are an important source of support for informal and embryonic FSIs who are unable, initially, to navigate the regulatory requirements to actively share food. Ultimately, the food sharing assemblage in D8 creates value and impact beyond the sum of individual FSI activities, providing informal or more formal support structures for collective growth and resilience in the face of wider social, economic, and political challenges. This is because

the FSIs involved see food as a catalyst for making connections, having conversations, and building social cohesion for residents within D8. In sum, the networks and relationships between D8 food sharing actors form a landscape that cannot be fully explained by looking at the individual entities in isolation.

The assemblage lens was helpful in terms of providing a broad framework for identifying components, connections, and characteristics of those involved in food sharing in D8. It provided a flexible architecture able to accommodate diverse qualitative and quantitative data that provided explanatory insights regarding the form, function, and evolution of the FSI landscape in the district. Where the approach has limitations is in terms of its capacity to identify opportunities for building more sustainable and resilient connections or responding to a policy environment which undervalues the contributions that the landscape of FSIs makes to people and place. Nonetheless we presented our findings to, and shared a summary report of the FSI landscape with, policy actors within Dublin City Council, including those who were tasked with drafting a food strategy for the city. This may lead to greater visibility of food sharing activities in the future.

The Smart D8 FSI assemblage is then an inevitably provisional arrangement which creates unpredictable levels of agency for particular actors and technologies. It is also an explicitly geographical endeavour in that it accommodates relationships between the natural and social world across scales, as well as matters of place, which are read as attachment sites where new relations are formed (Haraway & Goodeve, 2018).

Conclusion

This paper has identified, classified and contextualised the FSIs operational in the D8 district of Dublin, detailing material, relational and financial flows between sites of sharing, actors, and organisations. This reveals an interconnected, dynamic and productive environment even in the face of policy fragmentation and precarious access to resources, including land and buildings. As a result, we conclude that mapping and analysing FSIs activities and interactions is foundational for progressing more nuanced debates about urban food justice, enabling the identification of foundational elements for the future flourishing of the assemblage and its wider goal of achieving a just transition to a more secure and sustainable urban food system. Taken as a whole, the food sharing assemblage in D8 is the embodiment of hope that a better future is possible.

In essence, this paper makes three key contributions to the field of urban food systems studies which are methodological, conceptual and empirical in scope.

1. The mapping method outlined provides a replicable approach to expand the awareness of diverse food actors within urban districts; a pre-requisite for understanding urban food systems and for undertaking assemblage analyses of FSIs. It is an approach which can be expanded to the urban scale and applied in other locations (Davies et al, forthcoming). From a just transitions perspective, such mapping is significant as the full incidence of FSIs is rarely known to any one actor which can lead to underserved populations, marginalisation of communities and a lack of recognition of contributions made by FSIs amongst policy and other actors. Mapping also offers valuable information for less connected FSIs, providing an overview of other similar organisations working in the area and creating potential for more interactions to develop, which supports greater resilience in the assemblage.

2. Conceptually, the paper presents a novel system for classifying the nature of connections between FSIs and other actors within the district (and further afield). Drawing on interviews and observations it was possible to move beyond just identifying whether connections existed, to focus on the quality of those connections and their significance for the actors and organisations involved. Inevitably these judgements of significance are temporally fixed at the point of analysis, however developing this classification system alongside Müller's (2015) assemblage framework means that the approach can be replicated to monitor assemblage dynamism over time.
3. Empirically, the paper presents novel data on the form, function, and interaction of FSIs within the D8 district of Dublin, Ireland. This complements the growing body of work on urban FSIs internationally (e.g. Edwards & Davies, 2020; Rut et al, 2021) and adds to scholarly understanding of the phenomena. It also provides a testing ground for examining FSIs not as isolated entities but as initiatives which are intimately intertwined with their local places, communities, and other organisations. Such information is vital for governing authorities and the resulting assemblage analysis was shared by the research team with all participating organisations and with Dublin City Council officers, including Smart D8, in the form of a plain language report and verbal presentations. In this sense, for the period of research, the researchers became part of the FSI assemblage, highlighting to policy and community officers the location and nature of FSIs and their interactions. Importantly, this paper underlines how this interconnectedness means that FSI activities can be affected by policy or funding changes not directly targeted at them, but at organisations that they rely on for support.

By mapping FSIs and classifying connections we were able to visualise and communicate fragilities and strengths within the FSI landscape. In order to reduce the fragilities and build a resilient FSI landscape, three key factors surface: (a) sufficient flows of food related stuff, space, skills, and appropriate governance supports between stakeholders; (b) the existence, or fostering, of mutually supportive relationships with other FSIs and related organisations; and (c) access to reliable and appropriate flows of investment through funding, human resources, skills, and donations. Beyond this we found that adopting assemblage thinking offers a useful way to initiate discussions with policy officers both about the contributions made by FSIs and the operational challenges they face. However, while the resulting reports and presentations were positively received there is still no dedicated officer responsible for food within in D8 or Dublin City Council.

Returning to our original question - what examining FSIs as assemblages achieves for establishing pathways to move sustainable urban food systems - we find that there are clear benefits from adopting the approach, but also limitations. Certainly, assemblage thinking centres connections in ways which replicate the reality of FSIs operations. The approach revealed how grassroots collaborations amongst FSIs and supporting organisations in the area have amplified concerns and issues in ways that a single initiative could not do. The research found interactions between well-established and emergent organisations that facilitated knowledge exchange and resource-sharing; effectively creating an informal community of food sharing practice. What the approach does not do is give an indication of how disruptive these collaborations will be, although new ways of thinking about value and impact created by FSI activities are beginning to emerge in Dublin City Council. In particular, Dublin City Council has recently published a food strategy for Dublin (Gallagher et al., 2024), although this has no statutory power. This follows a vote to embed Doughnut Economic Principles within the Local Economic and Community Plan in 2022, thereby ensuring a wider set of indicators and interests beyond commercial economic activity can be considered. While this is a positive

development, which may foreshadow more radical shifts in food governance practice at the urban scale, as called for by the CFS Urban Agenda (HLPE, 2024), there is still much to be done across tiers and spheres of governance to ensure the just transformation of urban food systems.

More broadly, operationalising one version of assemblage thinking as we do in this paper, brought clear benefits in terms of revealing the details of complex interactions between people, plants and places in relation to food sharing, pointing to both positive bonds and challenging fragilities. As such, we concur with Cifuentes & Sonnino (2024, p. 8) that the key contribution of the approach 'is in its capacity to offer a unifying (yet not totalising) perspective that brings together issues and dynamics that have thus far been investigated in isolation from one another'. The approach did highlight relations and power dynamics and provided a nuanced, flexible, and comprehensive means to both understand and intervene in complex food systems.

Moving forward, tracking the impact of Dublin City Council's new food strategy and Local Economic and Community Plan on the FSI assemblage will be key. As a result, we find that while assemblage thinking alone is insufficient to explain the dynamics of FSIs, it does help identify leverage points to address structural issues, uneven patterns of power and influence and local policy needs; providing a useful lens to think through how FSIs both shape and are shaped by the wider contexts in which they are situated.

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