Prefiguring Post-Growth Food Futures:

A Systematic Map and Framework for Understanding Urban Alternative Food Initiatives

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Receiving food at a community kitchen in Madrid, ES.

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Abstract

Fossil fuel dependence, de-territorialised production and consumption, and paradoxical food insecurity and overabundance characterise urban food systems. Capitalist—growth-oriented and commodifying—imaginaries of food underlie many of these issues; therefore, truly transformative solutions must transcend capitalist values and institutions, such as profit-oriented markets, private property, and an emphasis on technological fixes.

Post-growth scholarship on food directly addresses these challenges, representing a new but rapidly growing field. However, very few systematic studies of this literature exist, and none focus on urban food systems nor on alternative food initiatives (AFIs). AFIs (*e.g.*, food co-ops, urban agriculture, buying groups) are initiatives that operate outside conventional food systems, challenge market-based values to varying degrees, and offer spaces to experiment with post-capitalist logics. However, despite their potential for transformation, systematic evidence on the degrowth outcomes of AFIs remains scarce.

Therefore, this thesis asks the question: How do urban alternative food initiatives prefigure post-growth food futures? To answer this question, I conducted a systematic (*i.e.* transparent, comprehensive and reproducible by creating an *a-priori* protocol) map. Using the post-growth agri-food principles from McGreevy *et al.* (2022)—Commons, Care, Distribution, Regeneration, and Sufficiency—I searched three databases, yielding 154 studies after screening 3,406 articles. I coded these by geographic location, initiative type, and operationalised degrowth principles.

Results reveal significant imbalances: the principles of Distribution (36%), Commons (34%), and Care (32%) dominate the literature, while Regeneration and Sufficiency (both 21%) remain understudied. From the dataset, I identified 25 distinct practices through which AFIs operationalise degrowth principles. To better analyse these practices, I developed a two-dimensional framework plotting them across scale (individual-societal actions) and scope (partial-holistic interventions). This framework reveals a 'researchability bias' favouring measurable, community-level practices, while abstract yet potentially more transformative practices remain understudied.

This study makes three contributions: it provides the first systematic synthesis of literature on degrowth in urban AFIs, identifies 25 concrete practices that prefigure post-growth futures, and offers an analytical framework for assessing transformative potential. The findings suggest that while urban AFIs excel at prefiguring commons, care, and distribution through community-scale practices, they struggle to embody the practices of regeneration and sufficiency essential for systemic change. This uneven prefiguration reveals both the potentials and limits of urban-based degrowth transformations.

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Introduction

Parsnips at a community supported farm in Brussels, BE.

Urban food systems face severe challenges. Fossil fuel dependence across food production and distribution sectors, simultaneous obesity and undernourishment, and fragile supply chains threatened by rising temperatures—these issues demonstrate just some of the problems cities face today.

While vulnerable, cities are also a key driver of the social-ecological crisis. Home to more than 50 per cent of the global population (UNPD 2025), the ecological footprint of cities—which consume 75 per cent of the world's resources and cover just two per cent of its surface (Pacione 2009)—has led to 'planetary urbanism' (Arboleda 2020; Kaika *et al.* 2023), where cities' physical expansion has dramatically transformed the planet's landscape.

While governments and institutions recognise the need to transform our global food systems (FAO 2021), degrowth scholarship argues that solutions proposed these mainstream actors fail to address the logics of the food system—such as commodification, extractivism, fossil fuel dependence—and thus risk replicating the same issues. Instead, to truly change the system, we must address foundational structures rather than surface-level symptoms of social-ecological collapse, such as the need for economic growth, the commodification of land and food, and the objectification of more-than-human beings.

Degrowth[1] scholarship about food is an emerging but quickly expanding field, and research often takes a '*macro*', theoretical approach. McGreevy *et al.* (2022), for example, outline a shift from five growth paradigms (such as *extraction*) to post-growth paradigms (such as regeneration*)* in an influential paper which outlines and calls for radical changes across the food sector.

Other radical researchers take a *micro*-perspective and emphasise the role of local, community-led organisations in creating food systems change. Researchers call these organisations Alternative Food Initiatives (AFIs), loosely defined as community-led initiatives existing outside the hegemonic food system (Allen *et al.* 2003). Researchers often narrate AFIs as 'budding radical imaginaries' (Leitheiser *et al.* 2022, 4) which can signpost the desires and needs of citizens and demonstrate ways to do things differently, providing the 'raw materials to grow an alternative' (Harvey 2000, 193).

Scholars have a name for this process of building alternatives within the present system: 'Prefiguration'—the deliberate creation of social relations, practices, and institutions that embody the desired future society within the constraints of the present (Boggs 1977). Rather than waiting for systemic transformation, prefigurative initiatives enact their political

[1] Degrowth (which I use interchangeably with post-growth) envisions an equitable and democratic transition to a smaller economy (Martinez-Alier et al. 2010) and 'posit[s] a profound cultural, economic, and political transformation of dominant institutions and practices' (Escobar 2015, 454). I will further discuss and define degrowth in the Theoretical Framework.

visions directly through experimental practice, turning AFIs into laboratories where post-growth futures are actively rehearsed (Yates 2015).

However, while research has explored the impacts of community initiatives, few authors have bridged the gap between their local impact and the systemic transformations theorised by authors like McGreevy *et al.* (2022). This criticism is often directed at the degrowth movement as a whole (Savin and Van Den Bergh 2024), as well as at literature which focusses on degrowth and food (Guerrero Lara *et al.* 2023).

Moreover, a lack of literature reviews and evidence syntheses exploring the intersection of degrowth and agri-food systems makes understanding the field difficult. In fact, only three such literature reviews exist, all of which hold significant methodological limitations.[2] My thesis, therefore, tries to address these two gaps: a lack of evidence synthesis, and a lack of research connecting local practices with transformational change.

I address these research gaps first by mapping the state of the art using a rigorous, systematic approach; second, by understanding the ways in which community initiatives prefigure a degrowth food system. I ask:

How do urban alternative food initiatives (AFIs) prefigure post-growth food futures?

To answer this question, I ask the following sub-questions:

RQ1: **What is the nature of the academic knowledge on urban AFIs' impacts on post-growth agri-food principles?**

RQ2: **What practices facilitate the creation of a post-growth food system?**

To answer **RQ1**, I take a rigorous, systematic approach to analysing the literature. My literature map focuses only on papers which study urban alternative food initiatives and degrowth outcomes.

I chose to focus on these variables because cities, while drivers of social-ecological crisis, also have the potential to be sites of transformation. Urban citizens and community initiatives play a key role in creating new food practices, reimagining relationships, and driving social innovation and deep social change (Renting *et al.* 2012; Moragues-Faus 2016). This change comes at an especially important time as an ever-greater percentage of the world's population living in cities—therefore, building resilient food systems is critical to protect against food insecurity in urban centres (McGreevy *et al.* 2022; FAO 2023).

As degrowth scholarship is quite recent, emerging only over the past decade or so (Fitzpatrick, Parrique, and Cosme 2022), to understand 'degrowth outcomes' I used an expanded definition derived from the *post-growth agri-food principles* (commons,

[2] These papers and their limitations we will explore more in the introduction to my methods.

regeneration, sufficiency, care, and distribution) as defined by McGreevy *et al.* (2022). After creating my database, I tested my results at an expert workshop I facilitated in Madrid with seven agri-food researchers, as well as at two conferences where I presented my work.

From my systematic map, I also identified 25 practices, from which I created a theoretical framework which helps explain the impact of different practices enacted by AFIs. Comparing the framework's insights with the results from the literature map, I then answered **RQ2** and provided grounded recommendations and proposed a broad research agenda for the field.

Therefore, this paper proceeds as follows: After briefly positioning myself and my limitations, I map out the contours of our food system, followed by a discussion of the McGreevy *et al.* (2022) *post-growth principles*. Subsequently, I describe my methodology for the systematic map and my expert workshops. I then discuss the results of the systematic map. Then, after describing how I create my framework, I move to the discussion, followed by the conclusion.

Positionality and *Terroir*

This is a thesis about food. So, like any chef with a recipe, I will begin by discussing some of the ingredients and processes I used to prepare this thesis.

In winemaking, cheesemaking, and other territorially-rooted forms of food-making, you may encounter the word *terroir*. This French word (describing *terre*, or land) describes the environmental factors (such as environmental context, farming practices, or a crop's particular habitat) which create the distinctive *character* of a particular food. Soil, exposure to sun and wind, even particular endogenous wild yeasts, will strongly affect the final taste of one's favourite tea, coffee, or single-malt whiskey (Rigobello and David Evans 2024).

Thus, I will start my work by discussing the base of this thesis, its *terroir*, and will outline the context, practices, and personal values which have given this thesis its distinctive character.

I start with context. As I write this section, wildfire smoke is choking western Canada's wine country. The grapes harvested later this year will carry a smoky flavour: The wines' *terroir* is informed by heat and smoke. Like the grapes grown under record temperatures, this thesis also was written in light of ecological crisis, with news of floods, heatwaves, and forest fires punctuating my research and writing. Ecological crisis is coupled with social crisis, which seems to worsen every day. Israel's genocide in Gaza, passively or actively supported by the countries where I am a citizen or reside, the protracted disintegration of Western liberal democracy and the rise of the far-right, the existential risks to the arts, science, and human agency posed by Artificial Intelligence—these cast a long shadow on my research about so-called sustainability transformations. My thesis, grown in the context of what feels like (and many are arguing is) a process of social-ecological collapse (Richardson *et al.* 2023; Legree 2025) cannot be read in a hermetically sealed container, and fundamentally reflects its time and place

Still, I belong to the highest 'caste' of society: white, privileged men. Growing up in Canada, I am a settler-colonialist profiting from the subjugation of others. I am part of a pan-European Master's program studying urban studies, I live as close to an economic 'core' (Davis 2005) as one can find. Thus, while I speak of such crises with urgency and emotion, I do not have the embodied knowledge or authority which many people—racialised, indigenous, or otherwise marginalised—carry.

Nonetheless, faced with an 'ever-deepening civilisatory crisis' and the 'inescapable techno-economic mediation of the world' (Wernli 2022, 97) I wanted the two years I spent with my thesis to reflect my passion for social change. This change, I felt, must overturn the fundamental logics of the system if we do not want to eventually reproduce these same issues.

I entered my writing process with ideas of what sustainability should look like, holding certain values and norms. I value social change. I do not want to advance a mechanistic, technocratic view of the world. I believe that narratives and myths shape how we see the world and how society is structured. I believe in embracing diverse worldviews and methodologies, and I believe humans have the capacity to change. Perhaps unsurprisingly, then, these values align with my results and are reflected in the changes for which I advocate.

I make no claims to impartiality. Instead, echoing feminist, indigenous, and multispecies critiques of knowledge production (Haraway 1988; Williams 2013; Celermajer *et al.* 2021), I have tried to reflect on and criticise my values, letting them guide me, motivate my action, and give this work meaning (Caniglia *et al.* 2023; Care *et al.* 2025), in line with sustainability transformations research, which requires 'normative, political, and contested' knowledge (Horcea-Milcu *et al.* 2024, 2). The researcher's goal is no longer simply to create impartial knowledge, but to explore, create, and contribute towards guiding society closer to a sustainable path (Horcea-Milcu *et al.* 2024).[3]

I entered this thesis wanting a multiple case study approach to explore indigenous ways of knowing; commons, and sustainability transformations theories; participatory research techniques; and other alternative methodologies and epistemologies. In the end, a fairly straightforward literature map emerged. The gap between my initial aspirations and final methodology reflects the necessary constraints of thesis research but also taught me valuable lessons about scope and humility.

In particular, I learned about re-centring uncertainty in my research. For this, I am grateful to Professor Andy Stirling at the *University of Sussex* who reminded me that research about possible futures requires some level of uncertainty, especially when we tell people what they 'should' do (Arora *et al.* 2020; Stirling *et al.* 2023).

Prescribing a future is dangerous. Dictating foods people should eat, the goods they should consume, and the values they should hold echoes colonial rhetoric and logic from the worst, most oppressive times in history. It is easy to recall racist and violent rules which were likely imposed by people who looked and sounded a lot like me. Yet when we are standing at the foot of a crisis which can only be solved through action and sacrifice, what else can we do?

My conversation with Stirling leads me to believe that we can emphasise uncertainty, humility, and reflexivity in our prescriptions, if not in our diagnoses. I believe degrowth provides some ethical solutions, especially as it targets the polluting and profiteering elite.

[3] This change is echoing at higher scales, including at international bodies like the IPBES who advocate for 'unleashing' normativity across sectors, including within transformative research and academia (IPBES et al. 2019; IPBES et al. 2022).

But maintaining humility regarding the capacity of research to offer solutions is necessary to ensure that any transformation is democratic and just (Spiering and Barrera 2021).

To return to my metaphor and conclude, this thesis did not grow in a sealed greenhouse. Its *terroir* reflects its socio-environmental context, and within its pages you will find the values, practices, and background of its gardener. It is not objective, but I would not wish it to pretend to be. Rather, in the face of change and collapse, I wish to remain committed to my values.

Entering the process, I did not know what I wanted a transformation to look like. Today, I am trying to embrace this uncertainty as productive rather than problematic. Nonetheless, this thesis—part science and part personal exploration—is my attempt to question and imagine a better future.

Theoretical Framework

Artichokes at a farmers' market in Vienna, AT

Food systems

Agri-food systems 'encompass the entire range of actors and their interlinked value-adding activities, engaged in the primary production of food and non-food agricultural products, as well as in storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption of all food products including those of non-agricultural origin' (FAO 2021, xii). In the following section we will briefly explore the components of food systems, particularly as they relate to urban spaces.

Food systems have traditionally been seen as a series of actions from 'farm to fork', encompassing all the steps of food production and consumption. Equating the food system to a supply chain, this perspective takes a linear view and sees producers on one end of the system and consumers at the other (Ericksen 2008). However, the food system is not this simple: to take one example, consumer-end waste management and compost can be used as nutrients for production, transforming a linear system into a circular model. More recently, research has begun to see food systems as complex networks comprising several smaller sub-systems and resource loops (Stefanovic, Freytag-Leyer, and Kahl 2020). These perspectives aim to capture the complexity and non-linear nature of food systems.

Additionally, food systems in the industrialised Global North have dramatically changed over the past century, driven by increased globalisation, urbanisation, and technological advancement. High-input, high-yield agriculture advances in the 1970s, alongside market liberalisation and better food transport, has increased the availability and affordability of food, especially refined carbohydrates and oils (WHO 2002; Johns and Sthapit 2004). The new food system has made people more calorically secure, but the shift to a carb-heavy diet has also had deleterious health impacts ("An Overview on the Nutrition Transition and Its Health Implications: The Bellagio Meeting" 2002), has caused severe environmental impacts, and has undermined the self-sufficiency and economic autonomy of local producers (Díaz *et al.* 2019).

The Food 'Supply Chain'

While food systems encompass complex webs of social, ecological, and economic relationships, viewing the food chain as linear can still provide a theoretical foundation to understand how food moves through our society. To understand the food system, we can first discuss the activities of the system—the 'production, processing, distribution, preparation and consumption of food and the outputs of these activities' (HLPE 2017, 11). These supply chains involve diverse actors across public and private sectors, from smallholder farmers to multinational corporations, all of which influence the sustainability of food, its nutritional value, and accessibility at each stage (HLPE 2017).

Contemporary food chains exist along a spectrum from traditional to modern forms. Traditional food value chains, still prevalent in many regions, feature direct relationships between producers and consumers through wet markets, small retailers, and seasonal availability (HLPE 2017). Modern chains, increasingly dominant in urban areas, are articulated through formal contracts, standardised products, and global supply networks that provide year-round availability, often at the cost of local embeddedness (Reardon and Timmer 2007).

Understanding how these supply chains function is crucial for understanding contemporary urban food systems, which contribute significantly to community health and welfare (Pothukuchi and Kaufman 1998). The following sections examine each stage of this chain, exploring how growth-oriented principles currently shape these activities and how post-growth alternatives might transform them.

Production

Production—the cultivation and harvest of food—comprises the first part of a food system. Structures of food production have rapidly and dramatically changed over the past century, with a shift towards large monoculture farms[4] and climate-intensive, fossil fuel-dependent forms of agriculture (Wezel *et al.* 2020). To mitigate some of these impacts, in the past decades several techniques and theories have emerged (or have been 're-discovered') which seek to make production more sustainable, such as organic, regenerative, or agroecological production.[5]

Regenerative food production techniques take a holistic approach, seeking to move past neutral environmental impact (*i.e.*, mainstream sustainability approaches) and toward creating a mutually beneficial symbiosis across the food system—in essence, leaving the soil and the surrounding ecosystem in a better state than it was (Duncan, Wiskerke, and Carolan 2021). Within regenerative food production, there are various sub-movements, such as permaculture, food forests and agroforestry, and biodynamic farming. Especially relevant is agroecology, a social agricultural practice and political movement which takes an integrative approach to the ecology of food systems and encompasses ecological, economic, and social dimensions (Wezel *et al.* 2009).

Within urban food systems, production processes are rarely located inside urban boundaries. Rather, food production has been relegated to the rural hinterland. The

[4] In the EU, for example, while family farms account for 95 percent of all farms, small farms under two hectares (five acres) produce on 2.5 per cent of the total EU land area farmed. Simultaneously, over half the farmland is worked by a very small fraction (2.7 percent) of large farms (over 100 hectares or 247 acres). EU agricultural support has historically been linked to acreage with more intensive production, thus favouring and funding larger farms (Small 2014).

[5] Terms which we will define and explore more in depth in subsequent sections of this thesis

invisibilisation of food production has been argued to have serious social and ecological problems, as consumption and production are dislocated, furthering the 'metabolic rift' (Wachsmuth 2012), disconnecting urbanites from nature, and creating a producer/consumer dichotomy. Critical research on food systems, and in particular degrowth research on food systems has been largely confined to production systems, particularly horticulture, (Guerrero Lara *et al.* 2023), although this has begun to change with academic focus shifting now to a more holistic interpretation of the food system.

Storage & Distribution

If food is not immediately consumed by producers, it must be distributed or stored for later consumption. The storage and distribution of food significantly impact both the nutritional quality of the food[6] as well as its environmental impact.[7]

Where food is grown, where it is stored, and how it gets from place to place are important levers in creating a sustainable distribution system. Traditional agri-food systems were often local, regional, or nationally bounded. The current system is global. Food travels internationally and regions specialise. For example, the Canadian province of Saskatchewan produces 34 per cent of the world's lentils, exporting 98per cent of production internationally (Joel-Hansen 2025). Shifting to a global system has benefits, such as growing business and allowing regions to build structures which ensure a competitive advantage. However, such justifications and benefits increase economic efficiency at the cost of economic sufficiency. Various global trade developments[8] have led to a concentration of power and wealth in the largest transnational food distributors. These transnational corporations today dominate not only food storage and distribution, but the whole supply chain (Sanz-Cañada and Muchnik 2016).

In response to such changes, the local food movement has attempted to shorten distribution and storage chains. The model seeks to develop alternative distribution channels for farmers and re-territorialise the economy as an alternative model to the globalised markets of agriculture commodities. However, how to organise these food distribution chains (especially from an agroecological perspective) has not been fully theorised (Mier Y Terán Giménez Cacho *et al.* 2018; González De Molina and Lopez-Garcia 2021). A particularly relevant challenge is making small-scale farmers economically viable. One proposed solution to this issue are food hubs, a type of organisational and distributive intermediary

[6] Perishable foods, such as fruits, vegetables, and animal products, are highly nutrient dense but require cold chain storage and transport (HLPE 2017)
[7] However, food distribution produces significantly less carbon emissions than production (Mundler and Rumpus 2012).
[8] Such as liberalised international capital flows and shrinking customs barriers, alongside technological advancements in transportation and information technologies

between small producers and local consumption points, which may be a pathway to enhance smallholder farmers' economic viability (Yacamán Ochoa *et al.* 2020).

Re-localising food distribution is particularly relevant for urban food systems. As subsequent sections will illustrate, the shortening of supply chains (so-called Short Food Supply Chains (SFSC)) is a central concern of urban food activists and scholars. Urban food distribution thus sits at the intersection of multiple challenges: Ensuring food security for diverse urban populations, reducing the environmental impact of long-distance transport, maintaining food quality and safety through complex supply chains, and creating economic opportunities for both rural producers and urban distributors. Shortened supply chains through urban and peri-urban agriculture, farmers' markets, food hubs, and other alternative distribution models offer potential solutions; however, they must contend with the imperative of economic efficiency and the established infrastructure of the globalised food system.

Processing & Packaging

While ultra-processed food is often criticised for being unhealthy, the act of food processing—and packaging it—is not inherently 'bad'. Food processing prevents waste and spoilage, extends shelf life, makes it more nutritious (increasing the bioavailability of nutrients), improves the sensory characteristics of food, and destroys microbes and toxins (Augustin *et al.* 2016).

Of course, the extent to which food is processed varies. Minimally processed food differs dramatically from highly processed food, with the latter often containing high amounts of saturated fats, sugar, and sodium, thus reducing its nutritional value (HLPE 2017). Similarly, while some food is packaged to extend shelf life, food packaging, when excessive or made of non-reusable and non-recyclable materials, can contribute to plastic waste, pollution, and environmental degradation through resource extraction and disposal challenges (Geyer, Jambeck, and Law 2017).

The processing and packaging stage also represents a critical point where value is extracted from the food chain, often at the expense of primary producers. Large food processing corporations capture the majority of value-added profits, while farmers receive diminishing shares of the final retail price—in many cases less than 10% (HLPE 2017). This concentration of power in the processing sector enables these corporations to dictate terms to both producers and retailers, further entrenching the commodification of food.

Moreover, by promoting food's tradeable features, such as its external appearance, taste, and shelf life, some forms of processing and packaging diminish its non-economic attributes, such as fuel for our bodies, a product of nature, or an important part of culture. The emphasis on cheap, aesthetic calories which are safe and consistent presents a partial

view of food divorced from food production. Washed vegetables, peeled and sliced fruit, plastic-wrapped fish and meat stripped of any indication of its animal origin all seek to promote food as a commodity first and foremost (Dowler *et al.* 2009). Some urban alternative food initiatives often seek to bypass or reimagine this stage entirely—through minimal processing in community kitchens, direct sales of whole foods, or innovative reusable packaging systems—thus challenging the assumption that food must be transformed into standardised, packaged commodities to reach urban consumers. These alternatives point toward possibilities for processing and packaging that enhance rather than obscure food's multiple values and meanings.

Retail & Markets

Once food has been processed and packaged, it moves to formal and informal retail outlets, including restaurants and markets. These spaces are the junctures where food production and consumption occur and shape how consumers make purchasing decisions. In Europe, traditional urban markets have been in decline over the past several decades, following neoliberal urban restructuring and the general diffusion of supermarkets (Gonzalez and Waley 2013). The rapid spread of supermarkets and fast-food chains in the 20th century dramatically changed consumer habits, giving consumers a much wider range of products at a lower price than traditional retailers, soon monopolising much of the market.[9] The rise of supermarkets has also restructured the whole food supply chain, pushing small farmers out due to centralised procurement systems (Reardon *et al.* 2003).

In urban areas, the geographic distribution of food markets and prepared food retailers (restaurants, fast food chains) plays a key role in determining what food is available, as few people in the city produce their own food. This creates two particularly problematic phenomena: first, *food deserts* are geographic areas that have limited access to healthy food. These are particularly common in economically or socially disadvantaged communities in the United States. Second, *Food swamps* refer to an area with adequate access to healthy food retail, but with an overabundance of unhealthy food and beverages (Chen and Gregg 2017). Food insecurity, therefore, is not just a lack of retail options, but is particularly relevant when retail options are insufficient.

Because the food retail industry, like any large business under capitalism, is driven primarily by profit and stakeholder satisfaction, mainstream retail necessarily views food as a product to profit on (Rundgren 2016). Food waste, for example, is a major problem, as retailers would rather overstock food to give the appearance of plenty, rather than sell out (Schanes and Stagl 2019).

[9] In Canada, for example, most consumers purchase their groceries from one of five major retailers (Competition Bureau Canada 2023)

In response, many practitioners and scientists call for cooperative strategies and supermarkets which distribute power and wealth (Centner 1985; Sanz-Cañada, Yacamán Ochoa, and Pérez-Campaña 2024) or re-connect consumers and producers and create direct agricultural relationships. The concentration of power in food retail thus represents both a critical challenge and opportunity for urban food system transformation: while conventional retail reinforces the commodification and disconnection of food from its origins, alternative retail formats—from cooperatives to farmers' markets to community-supported agriculture—demonstrate how the point of food purchase can become a site for rebuilding relationships, redistributing wealth, and re-imagining food beyond merely a commodity.

Consumption & Disposal

The final stage on a traditional 'farm to fork' linear food chain is consumption. Ironically, we live in a time when obesity and malnutrition coexist. In many cities, diverse populations with vastly different purchasing power make this problem particularly acute. Urban food consumption is where all the previous stages culminate—where buyers' 'purchasing power' theoretically shapes the system, and where individual choices meet systemic constraints.

As Willett *et al.* (2019) note, human diets form one of the most direct links between human health and planetary sustainability. These authors make the distinction between 'lose-lose' diets (*i.e.*, unhealthy and environmentally unsustainable—high in calories, added sugars, highly processed foods, red meats) which promote unsustainable practices along the food chain, and 'win-win' diet alternatives (such as the *EAT-Lancet Diet for Planetary Health*). The quality of diets is particularly relevant in urban contexts, where consumption patterns are often disconnected from production realities.

Consumption decisions are embedded in everyday life, shaped by cost, quality and convenience considerations, geographic location, as well as relational constructs (how consumers 'view' food) (Blake, Mellor, and Crane 2010). Consumer choices play a large role in directing the food industry; thus, addressing food unsustainability needs to transcend technical fixes and take a more integrative role incorporating and analysing consumption patterns.

Various streams of literature are attempting to theorise a shift away from consumers which see food as mere sustenance towards seeing it as a political and ethical choice (Zerbe 2010). These frameworks see these food consumers as 'food citizens', moving away from passive consumption towards active engagement in food systems (Wilkins 2005).

After food is used or consumed, it is disposed of. Food waste represents one of the most visible failures of our current food system, with approximately one-third of all food produced globally being lost or wasted (Gustafson *et al.* 2016). In urban contexts, this

waste occurs primarily at the retail and consumption stages, where aesthetic standards, confusion over date labels, and overconsumption lead to perfectly edible food being discarded (Schanes and Stagl 2019).

The concentration of consumption and waste in cities thus presents both a critical challenge and an opportunity: while urban areas epitomise the disconnect between food production and consumption, they also serve as laboratories for reshaping these relationships: transforming consumers into co-producers, waste into resources, and linear chains into circular systems. As subsequent sections will explore, many urban AFIs attempt to intervene at this crucial juncture, demonstrating how conscious consumption practices, collective provisioning, and creative approaches to food 'waste' can begin to prefigure more sustainable, equitable food futures.

The Urban Food System Context

Cities face unique and difficult challenges, not just in addressing issues such as undernourishment, producer insolvency, and environmental effects, but also in solving the challenges of tomorrow—guiding our agri-food system into a renewable, post-growth paradigm. The issues we face today will become only more pronounced as cities continue to grow in the foreseeable future: not only in population, but in their footprint, ecological impact, and political-economic influence.[10]

Yet cities also hold unique opportunities. As dense centres with capacity for change, cities comprise a potentially effective 'leverage point' to address some of the more potent food sustainability issues today: as nodes where complex, globalised food supply chains converge, cities hold outsized power to effectively drive change (Abson *et al.* 2017; Harms *et al.* 2024). As centres of innovation, they provide opportunities for technological advancements in food production, storage, and transportation. Finally, as densely populated human settlements, cities are places where individual, community, and societal scales converge—urban food governance and food movements create opportunities for social innovations and community initiatives to drive change. These movements are what we will turn to next.

Systems Transformation and Scaling through AFIs

Food systems are complex systems which require holistic transformation to achieve sustainability.[11] Yet the sheer scope of the food system makes its transformation towards

[10] The following section will discuss the issues cities face in greater detail.

[11] There is no consensus on the definition of sustainability. The concept initially emerged in the 1970s to address environmental concerns (Meadows et al. 2017) but now encompasses economic and social dimensions, seen in initiatives like the UN Sustainable Development Goals. Today, scholarly debate surrounds the concept, due around the historical association between the terms 'sustainable development'

sustainability and regeneration difficult. The focussed, partial interventions of many AFIs do not address the need for holistic food system transformation, which must be 'inclusive, … target objectives beyond production, … and must promote sustainable practices' (Moscatelli *et al.* 2016, 107). Perhaps unsurprisingly, AFIs and local initiatives are sometimes criticised by scholars who see them as shifting the focus on societal transformation to small-scale, pragmatic actions whereas systemic and radical change is necessary (Cook and Swyngedouw 2012). Therefore, this section reviews theories that address the following question: can scattered, localised initiatives create systemic change? If so, how?

Despite the criticism by some authors, AFIs are widely seen as a potential pathway to systemic change, and the concept of *scaling* is one key theory which authors have used to understand how they may create holistic food system transformation. In contrast to organisational growth, scaling is defined as allowing organisations to fulfil the needs they seek to address, while also creating their vision of system change (Gabriel 2014). This distinction between scaling and growth becomes particularly relevant in a post-growth context, where authors view scaling as offering multiple pathways beyond an ambiguous ideal of growth (Gibson-Graham 1996; Pansera and Fressoli 2021; Colombo, Bailey, and Gomes 2023).

However, this multiplicity comes at a cost, and the literature on scaling often appears fragmented and disjointed, as scholars use a wide range of prepositions (*e.g.*, scaling 'up', 'out', 'deep', 'wide', 'across') (Colombo, Bailey, and Gomes 2023). One of the more prominent theorisations comes from Moore, Riddell, and Vocisano (2015), who distinguish between 'scaling out' (geographical replication and dissemination), 'scaling up' (influencing laws and policies), and 'scaling deep' (impacting cultural roots and paradigms). Deep scaling emerges as the most powerful of the three types of scaling, and Colombo, Bailey, and Gomes (2023) find that impacting societal culture is eventually necessary for all types of scaling—an observation which we will return to shortly.

A second area of interest for authors exploring systemic transformation looks at alternative agri-food networking as another arena of food systems transformation. Physically and economically, alternative food networks are powerful tools of transformation. They multiply the impact and expand the reach of individual initiatives, while also mitigating some weaknesses. They explicitly and directly connect producers and consumers, facilitating rural development and 're-localising' (Hinrichs 2003) and 're-socialising' the food system (Sage 2014). Less concretely but as importantly, networks serve as crucial tools for the robust co-creation and sharing of knowledge, allowing initiatives to better respond

and 'economic growth' (Even et al. 2024); from here stems the degrowth argument that infinite economic growth is impossible on a finite planet (Georgescu-Roegen 1975).

to novel global pressures while building communities of practice and solidarity (Vicente-Vicente *et al.* 2023).[12]

These networking effects become even more significant when viewed through a systems transformation lens: networking can also address the structural 'lock-in' which inhibits a transition to an agroecological and degrowth food system, through the current consolidation and control of the means of production, such as 'seeds, technologies, information outlets and even research agendas in public national and international research systems' (Nicholls and Altieri 2018, 2) in what has been called the *corporate food regime* (Holt-Giménez 2017). Networking also allows local, community, and societal scales of food systems to interact. By re-establishing connections between growers and eaters (Vicente-Vicente *et al.* 2023), they connect the (*meso*) agroecosystem and (*macro*) food system scales and can connect local initiatives to territorial systems by fostering urban-rural linkages toward a sustainable city-region food system while still maintaining local specificity (Blay-Palmer *et al.* 2018).

A third theory of transformation connects to the leverage points framework (Abson *et al.* 2017). AFIs operate at different system levels, impacting not just the parameters and feedbacks of a system (individual practices), but the design (organisational structures) and intent (paradigms and mindsets) of the food system. This framework closely connects with the theory of 'scaling deep', wherein normative changes have societal impacts.

Finally, the Agroecology Criteria Tool (ACT) framework provides another lens for understanding how AFIs create transformation at different system levels (Freed *et al.* 2024). The framework contains 62 indicators reflecting activities that support agroecological change, organised around the FAO's ten elements of agroecology (FAO 2020) and assessed across five levels of food system change which map onto different depths of transformation.[13] The framework argues that deeper interventions target the design and intent of the system rather than merely its parameters (Abson *et al.* 2017), suggesting that AFIs operating at these higher levels have greater potential for catalysing the paradigmatic shifts necessary for degrowth transformation.

[12] One example of this is the ECOVIDA network in Southern Brazil, a commercial network integrating NGOs, consumer cooperatives, and peasant agroecology farmer associations comprising 2400 families and 270 groups in total. ECOVIDA has given farmers more autonomy, stimulated the diversification of their production, increased food self-sufficiency in communities, and reconstructed solidarity relations where farmers sell their surplus to consumers at fair prices (Nicholls and Altieri 2018).

[13] Levels 1-2 are incremental, describing adaptations within existing farm management systems, while levels 3-5 are transformational. Level 3 represents a complete redesign of the agroecosystem under a landscape/habitat vision, while levels 4 and 5 operate at the food system scale—reestablishing connections between growers and eaters through alternative food networks and rebuilding the global food system sustainably and equitably, respectively (Vicente-Vicente et al. 2023).

Degrowth: An Introduction

Is unlimited economic growth possible, or even desirable?

An early sceptic of economic growth within modern economic thought, Nicolas Georgescu-Roegen (1975) argued that the biophysical limits of a finite earth preclude our economy and society from growing indefinitely and exponentially. This argument reached the global scale in 1972 with the *Limits to Growth* report, published by Meadows, Randers, and Meadows (2017) which argued that not only are there limits on material resource extraction, but limits on the sink capacities of ecosystems—like the ocean, the atmosphere, or layer of topsoil—whose ability to absorb the emissions and outputs of human activity might soon decline (Meadows, Randers, and Meadows 2017).

This prompted a second argument against unlimited economic growth: that economic growth might push us past the planetary boundaries, or the 'safe operating space' of our earth. While much attention is paid to climate change, it is just one of many biophysical boundaries we are transgressing, along with biosphere integrity, land system change, novel entities, freshwater change, and biogeochemical flows (Richardson *et al.* 2023).

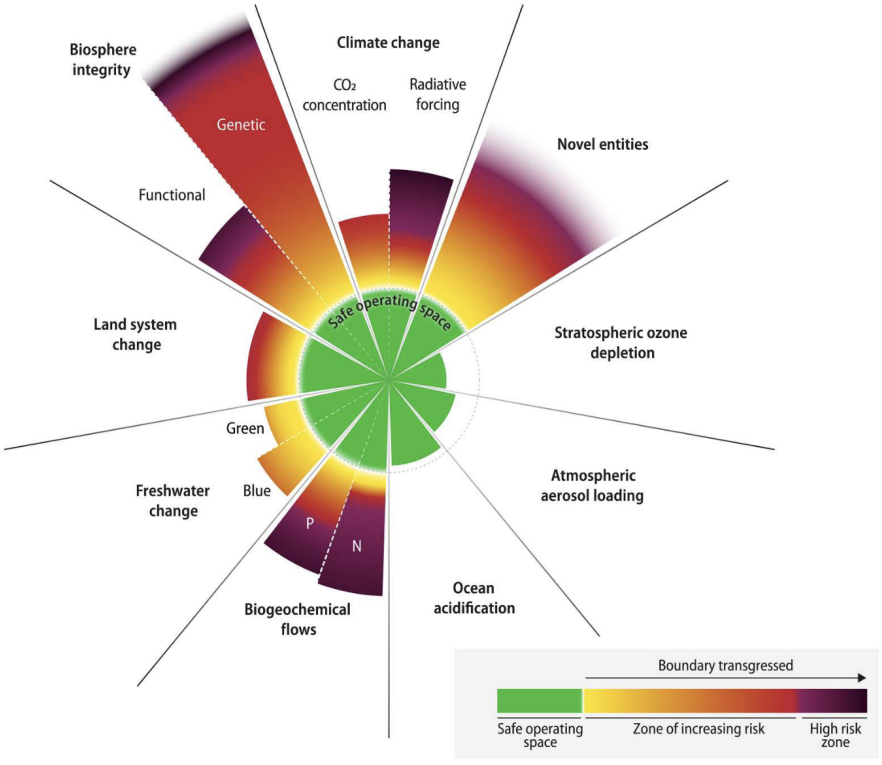

***Figure 1: Current Status of Control Variables for all Nine Planetary Boundaries**. Image taken from Richardson et al. 2023. The green zone is the safe operating space; yellow to red represents the zone of increasing risk; purple indicates the high-risk zones.*

Whether or not we manage to limit global warming to 2º is irrelevant: the *Holocene*, the period of climatic stability we have enjoyed over the past 10,000 years, is over. Humans have completely changed the shape of the planet. We find ourselves in a new epoch: the *Anthropocene*, where one species—*homo sapiens*—has reshaped the world (Kaika 2018). Our global economy drives this change: our food, energy, and housing, the goods we consume, and our transportation. With scientific consensus that remaining within the planetary boundaries is key to our continued well-being and survival, we need to urgently rethink the economy.

Another criticism of economic growth argues against the social impacts of growth. While historically, economic growth caused an increase in many people's wealth and quality of life, in contemporary industrialised wealthy countries, the wealth and benefits generated from growth are not distributed equally—rather, the benefits of growth go to the wealthy (Wilkinson and Pickett 2009).[14]

Economic inequality is bad for human health, correlated with low levels of social trust, lower levels of democracy, lower lifespans and increased all-cause mortality (Wilkinson and Pickett 2009). Furthermore, beyond a certain point, economic growth has no impact on human well-being or happiness (Matusiewicz 2025).

Given the failure of economic growth on these three points—its biophysical, environmental, and social limitations—and given the urgency we face today to address the social-environmental crisis, researchers and civil society leaders are increasingly questioning if we need economic growth at all—leading to the emergence of the *degrowth* movement.

Green Growth

Degrowth is not the mainstream position today, though. Rather, a perspective of green growth dominates, which argues that growth is necessary for improved health, happiness, and overall well-being. Policies of degrowth, green growth advocates argue, will lead to unemployment and a decline in material living.[15]

The green growth perspective argues that by (for example) investing in renewable energies, transitioning to a more circular economy, and promoting organically produced food and green building techniques, we can decouple economic growth from environmental impact.

[14] Social and income inequality grows every year: in the United States, 1% of the population holds 30% of all household wealth (Wilkinson and Pickett 2009). Taken worldwide, this number appears even more extreme, with the top 1% holding 45% of wealth worldwide (Oxfam 2023).
[15] I want to also note another criticism of degrowth which is different from the green growth movement, instead coming from subaltern and Global South voices, who criticise degrowth perspectives as a form of neo-colonialism which seeks to forbid developing countries from using the same materials and techniques which were available to Western countries as they developed (Stirling et al. 2023).

The green growth perspective is the dominant perspective in mainstream sustainability discourses today.[16]

Degrowth: A Definition

The degrowth movement rejects these arguments. It is difficult to define or capture the essence of degrowth in a nutshell. It is a transdisciplinary and multi-layered discourse,[17] combining critiques from ecological economics (Georgescu-Roegen 1975), political ecology (Martínez-Alier *et al.* 2010), feminist (Dengler and Lang 2022), and indigenous (Artaraz and Calestani 2015) movements, among others. Parrique (2019) identifies three separate dimensions in his definition of degrowth: 1) as a strategy for reducing environmental impact, 2) as a movement toward liberation from undesirable extractivist and consumerist paradigms, and 3) as an aspirational vision of society founded on principles like autonomy, sufficiency, and care.

To briefly address the green growth perspective, a key element of degrowth is that it is a planned and democratic transition. Economic recession, conversely, is an unplanned, yet necessary, part of economic growth. The planned restructuring of the economy would not just impact the economy differently from a recession (*e.g.*, retraining workers, reducing total working hours) but would be decided democratically.[18]

Second, while green growth strategies promise to *absolutely* decouple economic growth from environmental impact, so far this has never been accomplished (Haberl *et al.* 2020). Despite this, technological optimism, and a reliance on technology as a *panacea* characterises contemporary sustainability discourses. Degrowth scholars, instead, question technical fixes, instead agreeing with Castoriadis (1981) that technology is not morally neutral and must be accompanied by social change to be effective and transformative (Tzekou and Gritzas 2023).

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[16] It can be found in the policies of the UN SDGs (UN DESA 2024), the EU European Green Deal (*COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: A New Circular Economy Action Plan For a Cleaner and More Competitive Europe* 2020; European Commission 2020), or in the net zero policies of any number of Western countries and corporations (Haberl et al. 2020).

[17] As Tzekou and Gritzas (2023) note, degrowth is not a cohesive theory, but a discourse, which Foucault defines as 'systems of thoughts composed of ideas, attitudes, courses of action, beliefs, and practices that systematically construct the subjects and the worlds of which they speak' (Lessa 2005, 285).

[18] Some policies proposed by degrowth scholars include re-localising economies, imposing caps on resource extraction and carbon emissions, disinvesting in wasteful and ecologically harmful activities and products, introducing social service guarantees, universal basic income and income caps, introducing new forms of money, and prioritising cooperative property (Fitzpatrick, Parrique, and Cosme 2022; Kallis, Kerschner, and Martinez-Alier 2012; Koch, Buch-Hansen, and Fritz 2017)

Finally, GDP is a poor measure of the well-being of a society. Initially created as a metric to track post-WWII recovery (Koch *et al.* 2017), it is poorly suited to measuring health and well-being and ignores non-commodified aspects of the economy like care work (Dengler and Lang 2022).

In response, degrowth argues that we need a structural transformation to avoid total collapse in the global economy as well as the collective imagination. This transformation must primarily happen in the Global North, whose consumption of resources has far outstripped the planet's carrying capacity. Degrowth is not a panacea or indiscriminate policy designed for the whole world. It is a collection of policies, driven by citizens, researchers, and social movements, with the goal of bringing our ecological footprint in line with the carrying capacity of our planet while not infringing on absolute human needs. In the global south, this means that economic development must continue to a point where human health, well-being, and satisfaction are reached; in the north, it means our material economies must shrink.

Finally, degrowth is fundamentally hopeful. Degrowth authors argue that in our society liberated from economism, we can work less, live more, and engage in joyful, convivial work with our communities, families, and planet. In the following section, we will explore this utopian vision, the paradigms that are harming our planet, and what a hopeful future would look like within our food systems.

Principles for a Degrowth Agri-Food System

In *Sustainable agrifood systems for a post-growth world*, McGreevy *et al.* (2022) propose five principles which they argue should inform our food values, practices, and lifestyles. The principles outlined are rooted in feminist, indigenous, and decolonial epistemologies and centre food democracy, food justice, and food equity. These reflections are wholly or partially absent from mainstream sustainability discourses, like the UN SDGs or the EU's farm-to-fork strategy, demonstrating the unwillingness of the hegemonic food system to question the structures which allow it to maintain power.

The five principles are organised along thematic categories and include economic, socio-ecological, allocative, ownership, and relational categories. The following section will explore each of these categories and the associated principles in turn.

Sufficiency over efficiency

First, I will address the economic system, where the degrowth principle of *sufficiency* replaces the growth principle of *efficiency*. Our current system prioritises markets and the optimisation of capital and labour over human well-being and assumes that workers' quality of life will improve as a byproduct of increased economic growth (Bodirsky *et al.*

2022). However, the narrative of efficiency is insufficient today: by prioritising growth, yields, and profits, and ignoring and externalising social-ecological costs such as ecological degradation, social unrest, and adverse health impacts, future generations are forced to pay the cost of an 'efficient' market (Foster 2012; Chan *et al.* 2020).

The false presumption of efficiency also affects our food system. The price of food we buy in stores is kept artificially cheap through subsidies and the externalisation of many of the costs of food production and consumption, such as climate change, loss of biodiversity, or eutrophication (Rundgren 2016, 105) While pollution costs are sometimes reflected in product pricing, calculations often underestimate real costs.[19]

The economic principle of sufficiency represents an alternative to the dictate of efficiency and suggests that we should produce enough food for those who need it. It articulates the idea of having 'enough'—neither too little, nor too much (Aagaard and Christensen 2024), which is possible if we build our food system around ecological and nutritional needs, rather than profit considerations. In this way, a growing human population can live within planetary and societal boundaries while still enjoying environmental and public health, and a good life for all (Kronenberg *et al.* 2024).

Sufficiency can be defined in two ways. The first definition aligns with the idea of producing and consuming 'enough'. Some (Fuchs *et al.* 2021; Raworth 2017) propose theories like 'consumption corridors'[20] to define what 'enough' is. Part of defining enough relates to limits: *e.g.*, what, how much, and when we can eat.

Under a growth paradigm, limits are often perceived as oppressive. However, others see it as emancipatory: Karl Polanyi (2010, 265) claimed that collective self-limitation is the condition required to achieve 'freedom not only for the few, but for all'. This alternative understanding of freedom is rooted in taking responsibility for the social and environmental impacts of our actions (Brand *et al.* 2021) and may have transformative results: research by the IPBES (2022) suggests that adopting values of sufficiency and egalitarianism helps people adopt attitudes of ecological stewardship and reconnect with nature.

Adopting these values and behavioural changes can transform and restructure our entire agri-food system (Feola 2019). Adopting diets that are in line with planetary boundaries will help realise this restructuring,[21] as will a switch from fossil fuels to renewable energy and from animal to crop products. Investments in new, 'convivial' technologies will also be

[19] The environmental damage from fertilisers, for instance, is estimated around 20-150 billion USD per year, while 350,000 people are killed annually by pesticides (Rundgren 2016).
[20] Consumption corridors are defined as the space between minimum consumption standards that are necessary to live a good life, and upper biophysical limits above which activity exceeds the earth's regenerative capacity (Fuchs et al. 2021)
[21] Such as the EAT Lancet Diet for Planetary Health (Willett et al. 2019)

necessary (O'Neill *et al.* 2018, 92)—those technologies which satisfy human needs through individual skills, learning and creativity (Illich 1973; Ralph 2021).

Another definition of sufficiency relates to autonomy and independence. With the rise of global food and commodity chains, urban and rural regions depend on importing food from faraway places. Reconsidering land use, reducing imports and exports, and relying more on local, seasonal, and culturally appropriate food can mitigate the instabilities of global food chains. Within urban food systems, this is particularly relevant, as 'planetary urbanism' continues to violently subjugate large areas of the planet, extending urban hinterlands and enrolling them into complex networks of production, supply, and consumption (Krähmer *et al.* 2024).

Calls for (bio-)regional sovereignty seek to build community, facilitate knowledge sharing, and improve people's health through spatial proximity and renewed connection to nature (Aagaard and Christensen 2024). The principle of sufficiency also recognises the historical oppression of indigenous peoples around the world. It foregrounds indigenous ways of knowing and seeks to learn from diverse forms of indigenous land stewardship to preserve biodiversity and nature (Díaz *et al.* 2019).

Regeneration over extraction

The second principle relates to the social-ecological systems[22] which shape the metabolic and material flows of food and food-related activities. While our current growth paradigm operates according to a principle of *extraction*, post-growth scholars instead call for a turn towards *regeneration*.

What does extraction mean? Under contemporary capitalism—and centuries of colonialism and 'green' neo-colonialism (Feola *et al.* 2021)— 'nature' is seen as a pool of resources to be extracted for human use, instead of systems and beings of intrinsic worth independent of their use-value to humans (Anderson 2021). This mechanistic, reductionist worldview sees humans and the rest of life as separate (Ramcilovic-Suominen *et al.* 2025) and ignores systems' interconnectedness. This perspective underpins conventional sustainability approaches, which, rather than seeking to transform the system, attempt to make it more efficient through new technologies, green building, and economic incentives (Gibbons 2020; Bärnthaler *et al.* 2024).

In cities, extractivist perspectives underpin contemporary urbanity. Lefebvre's (2011) theory of 'planetary urbanism' situates processes of urbanisation within core-periphery

[22] Ostrom (2009) defines social-ecological systems (SESs) as complex, multi-level systems composed of interconnected social and ecological components—including resource systems, resource units, users, and governance structures—that interact across multiple spatial and temporal scales to produce outcomes that feed back to affect the constituent subsystems.

relations, arguing it reproduces power relations between spaces. Waldenberger and Savini (2025, 7) note that 'urban economic and material success is built at the socio-ecological expense of extractive zones.' Theories of urban political ecology examine how the exploitation of rural hinterlands characterizes their relationship to the city (Swyngedouw 1996; Kaika *et al.* 2023). What appears to be a contained urban process actually conceals a global network of unequal power relations between centres of wealth and zones of exploitation, where these peripheral spaces experience a 'process of urbanisation that simultaneously becomes submission to the city' (Biagi 2020, 224).

Within the hegemonic food systems, extractive perspectives dominate, dating back centuries and particularly prevalent in the colonised world.[23] The unjust exploitation of soil and labour undermines not only nature, but the basis of human life itself by 'robbing the elements of reproduction on which future generations depend' (Pungas 2019, 77). Here, degrowth thought borrows from the theories of Karl Marx (1865), who argued that 'the entire spirit of capitalist production, which is oriented towards the most immediate monetary profit – stands in contradiction to agriculture, which must concern itself with the whole gamut of permanent conditions of life required by the chain of successive generations' (754).

Replacing extraction, the degrowth principle of regeneration tells a different story about social-ecological relations. Regeneration asks us to produce food in a way that works with the recuperative processes of ecosystems and people (McGreevy *et al.* 2022), shifting the focus beyond sustainability, asking us to fundamentally rethink and redesign our food practices to rebuild soil health, community wealth, and healthy and sustainable diets (Duncan, Wiskerke, and Carolan 2021).

As in many indigenous cosmologies, a regenerative mindset can also challenge how we see our relationship to nature: not as one of exploitation, but rather one built around stewardship and symbiotic coexistence (Kimmerer 2013; Gibbons 2020). This can be seen in food consumption and diets: indigenous systems and ways of knowing often see food, medicine, and health as interrelated (Johns and Sthapit 2004; Tynan 2021) and food has strong symbolic, religious, and intellectual value in traditional societies around the world.

Regenerative principles can be found in practices like agroecology, a form of farming which prioritises biodiverse and culturally appropriate food systems built around farming and landscape practices which protect wild species, ensure a high quality of life for farm animals, and emphasise soil fertility, the circular recycling of materials, and local inputs and outputs (González De Molina and Lopez-Garcia 2021). Socially, agroecology foregrounds community well-being and resilience by building on local, traditional, and

[23] In the transformation of entire landscapes into sugar plantations built on slavery in Latin America, for instance, one finds many instances of green colonialism and extractive capitalism (Rundgren 2016)

ecological knowledge, and emphasising solidarity and responsible governance (FAO 2020; Altieri *et al.* 2022).

Regenerative perspectives also highlight the role of human labour and aim to alleviate the burden of exhausted bodies who have absorbed both the pollutants that have accumulated in our soils and foods and the emotional burdens of being overworked and isolated (O'Hara and Stuiver 2022). A regenerative food future instead has justice at its core, and therefore recognises asymmetric power relations, dynamics of enclosure, and similar land tenure violations which have reduced marginalised communities' capacity for social reproduction (McGreevy *et al.* 2022).

Distribution over accumulation

Third, in a post-growth food future, *distribution* replaces *accumulation* as the allocative principle. Accumulation currently shapes the global distribution of wealth, knowledge, resources, and food. Regarding wealth, Nievas and Piketty's (2025) study drew on data from 1800-2025 and showed how colonial extraction fuelled the rise of the industrialised Global North. In this period, Europe ran persistent trade deficits but still accumulated over 30% of GDP in foreign wealth, using tribute payments, tax transfers, and income from colonial holdings. This colonial economic model remains in place: contemporary growth in the Global North relies on appropriation from the South, as rich countries and corporations use their financial power to cheapen the price of labour and inputs in the Global South (Hickel *et al.* 2022).

The same structure that is found in global commodity exchanges can also be found in local and national economies. Processes of enclosure are a key way that wealth and land is transferred to the hands of a few, leaving those dispossessed separated from the means of self-reproduction and forced to sell their labour power on the market (Chatterton and Pusey 2020). Meanwhile, the outdated neoliberal doctrine of 'trickle-down economics' justifies these accumulative policies (Harvey 2005).

Similar patterns of inequality and accumulation pervade the city. Marxist scholars have described the city as the 'pivotal arena for class struggle, as well as the terrain over which it was and continues to be fought' (Swyngedouw 2019, 16). The logics of accumulation can be found in cities' 'food deserts' and 'food swamps' in cities (Chen and Gregg 2017), in the dispossession of rural areas, and in the flows of global capital towards the urban centres of the Global North. On all these different scales—the local, city-regional, and global—an ethic of accumulation shapes the movement and allocation of wealth, goods, and food.

Conversely, distribution seeks to re-shape these flows towards justice, equity, and sovereignty, beginning with the distribution of knowledge. While modern agri-food corporations hide scientific knowledge on plants and foods behind patents and

commercialisation, a distributive approach recognises that genetic resources result from millennia of evolution and belong to humanity (Via Campesina 1996). Around the world and throughout time, agricultural innovations and techniques have been distributed for the common good, with knowledge itself becoming a shared, distributed resource—the 'knowledge commons' (Hess and Ostrom 2006; Feola 2019).

Degrowth authors also urge us to redistribute wealth. Through progressive taxes on wealth and income, the extension of public services, and reforms to the international monetary system, degrowth authors call for more just processes and outcomes in the allocation of wealth (Cosme, Santos, and O'Neill 2017). These authors highlight the potential of food cooperatives, based on values of democracy, equality, and solidarity as an alternative form of management and as a pathway to generating change through collective action (Sanz-Cañada, Yacamán Ochoa, and Pérez-Campaña 2024; Chatterton and Pusey 2020).

The same goes for food: as a basic human right, social movements, academics, and activists aligned with post-growth discourses suggest that the human right of access to safe, nutritious, and culturally appropriate food must be honoured and upheld (Vivero-Pol 2019). Similarly, just agrarian reforms should give ownership and control of land to those who work it (especially women and landless minorities) and return territory to Indigenous peoples (Via Campesina 1996).

Finally, an ethics of distribution encourages the relocalisation of food production systems. Rather than subjecting rural communities to debt burdens that force export-oriented agriculture, a distributive approach prioritises food sovereignty through localised economies rooted in respect for land and community (Via Campesina 1996). This transformation occurs through direct producer-consumer linkages found in short food supply chains and worker-consumer cooperatives, which position all participants as co-producers rather than mere market actors (Mundler and Laughrea 2016; Sanz-Cañada, Yacamán Ochoa, and Pérez-Campaña 2024). Such networks transform food consumers into food citizens, and foster the solidarity and political will necessary to resolve food insecurity through alternatives to industrial concentration.

Commons over private ownership

Commons replaces *Private Ownership* with a shift from growth to degrowth ownership values. Hardin (1968) famously criticised common ownership regimes in *The Tragedy of the Commons*, yet the decades of scholarship on the commons that have followed have challenged this view. Scholarship by Ostrom (1990), Fairlie *et al.* (1994), and Cox, Arnold, and Villamayor Tomás (2010), among others, have shown that what Hardin described was an open access regime—in fact, tragedies of the commons are more often tragedies of enclosure, and local control of resources are a prerequisite for environmental protection, while under state protection the environment will often be exploited (Fairlie *et al.* 1994).

The neoliberal agenda of a globalised food industry seeking to feed the world cheaply and profitably (Bornemann and Weiland 2019) has created the hegemonic discourse of 'food as a commodity' (Vivero-Pol *et al.* 2019). This process has gone hand-in-hand with a concentration of power and wealth in the food system. Today, 70 per cent of the total agrochemical industry is controlled by three mega-corporations (Vivero-Pol *et al.* 2019); in the EU, ten supermarkets supply half the food (Oxfam 2018).

The commodification of food and the resulting concentration of wealth has serious repercussions. Under capitalism, food's use value (that of feeding people) is wholly disconnected from its exchange value (its price in the market), giving dominance to the latter over the former (Vivero-Pol 2017). Scholars also argue that the commodification of the land on which food is grown encourages us to abuse this land because we regard it as a product which we own: once we see land as a community to which we belong may we begin to engage with it with love and respect (Hiroyuki 2018; Rundgren 2016).

The alternative discourse is the paradigm of the commons. Humans have organised their existence with practices of 'commoning' for millennia (Caffentzis and Federici 2014)—as Linebaugh (2008) reminds us, it is difficult to find a society that does not have commons at its heart. Even in communities today, food is often distributed outside the market (through gifts, taxes, rents, and sharing) (Rundgren 2016) and many communities continue to practice commoning and resist the enclosure of their common land by larger corporations and governments (Federici 2019).

This process of commoning—reversing 'accumulation by dispossession' (Harvey 2005) can create the space necessary for post-growth agri-food systems (Chatterton 2016). To best explain this new paradigm, we can use two related conceptualisations of the commons.

The first approach rejects the mono-dimensional view of food as a commodity in favour of a perspective which sees food as not just a product and tradeable good, but as a human right, a renewable resource, a cultural determinant, a public good, and essential for human life (Vivero-Pol *et al.* 2019). This perspective, unlike the 'food as commodity' view does not obscure the fact that food, as an absolute human need for subsistence, is neither substitutable nor negotiable, and thus cannot be sacrificed to the desires or lesser needs (*e.g.*, economic success or profit) of any other person or group of people (Vivero-Pol *et al.* 2019). The same goes for access to and ownership of lands and waters, whose enclosure over centuries has weakened farmers' ability for self-sufficiency, instead promoting economically efficient farming (Dalla Costa 2007).

The second approach relates to processes of commons-based governance, which represents a third way of governance beyond the private sector and the state. While profit-oriented markets are unfit for creating desirable and just food outcomes, states are also unable to meet this goal. Attempts to apply uniform solutions on a complex and diverse world by

development and governmental agencies—what Evans (2004, 32) called 'institutional monocropping'[24] has largely produced disappointing, if not disastrous results (Ostrom and Cox 2010). While states are important and help ensure markets function well, their centralised knowledge cannot substitute the dispersed, local knowledge of actors in the food system whose flexibility and relationship to context makes the system more resilient (Ostrom 2010).

So, food cannot be treated as a commodity, nor should it be centralised by state bureaucracy. Food's inputs: land, water, seeds, and knowledge can also be strengthened using a commons-based approach (Rundgren 2016). A grassroots-led, polycentric commons, with multiple bottom-up initiatives operating at different spaces and scales (Nogueira, Wigger, and Jolly 2021) are at the core of governing and maintaining the commons. Rather than trying to 'legislate the commons into existence (Fairlie *et al.* 1994, 130), commons-based food governance can be created, providing a third means of regulation beyond market rules and public regulations (Vivero-Pol *et al.* 2018). These practices are reflected in governance practices like 'food democracies', which call for people to regain control over the food system by increasing participation, citizen democracy over food choices, and improving access to adequate, nutritious, and sustainable food (Bornemann and Weiland 2019).

Care over control

Finally, the degrowth principle of *care* replaces the principle of *control* regarding how we relate to food, the natural world, and one another. Modernist, growth-oriented thought prioritises control, through standardising production, disciplining labour, and objectifying nature. These perspectives are inherently anthropocentric, which simplifies complex, interdependent and entangled ecosystems and species to a monolithic 'other' (Rupprecht *et al.* 2020). Feminist and eco-feminist scholars have criticised the man/nature hierarchical dualism, with the perceived dominance of the former over the latter lying at the root of the ecological crisis: the so-called 'master model' of Western modernity (Barca 2020, 3). This is reflected in eco-modernist beliefs which assume that the climate can be stabilised, and ecologies healed using technological means, likening nature to a complex, yet manageable machine (Kallis and Swyngedouw 2018).

The perspective of control articulates a colonial approach to sustainable pathways, dictating the 'correct' path and telling communities how they should intervene in their specific ecologies and contexts. The principle of control is 'disinterested', an objective and distant observer in an experimental lab (Puig De La Bellacasa 2012, 211). Sometimes the lab becomes quite literal—the perspective of control can be found in food technologies like

[24] A perspective which echoes concerns made by the Austrian school of economics in the mid-20th century about the inability of the state to respond to a complex and uncertain world (Chang 2014)

GMOs which create sterile seeds, allowing corporations to control the basic forms of production, or in hermetically sealed greenhouses which control the gaseous makeup of the atmosphere and attempt to closely manage the more-than-human microbiomes of plant production and growth (Arora *et al.* 2020).

Alternatively, we can *care* for our world. We can admit uncertainty in possible futures and can create an ethics of care in the production, distribution, and consumption of food. In the seminal definition of Fisher and Tronto (1993, 103), care comprises 'everything that we do to maintain, continue and repair "our world" so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life sustaining web.' This definition heavily implicates food in questions of care. It is not only an act of self-care—how we maintain and repair our bodies—but the act of food production and preparation is itself an act of (often unpaid) care.

As the way that we relate to the world, the principle of care extends beyond the household. Rather than reproducing a master-subject narrative between humans and nature (Barca 2020), a caring perspective lies at the heart of a post-growth metabolism. It enables and guides our inter- and intra-species relations, producing 'stronger, more-than-human coalitions' (Iovino and Oppermann 2014, 19).

Caring can be found on the microscopic scale, in regenerative agricultural processes. Making, processing, and applying compost is a concrete example of creating caring relations with the more-than-human world, by recognising and connecting with the soil as a living organism (Aare, Umantseva, and Sørensen 2024). On the meso-scale—in the day-to-day collective practices of care—care-based approaches to sustainability suggest that we avoid rapid sustainability transitions, but rather tinker with, adapt, and repair ongoing processes and products (Arora *et al.* 2020). It also asks us to recognise the entanglement of human needs and the natural world, and the limitations of human management in the face of diverse, and interdependent multi-species interactions. t

On the macro-scale, an ethics of care recognises the central role of women, children and migrants in our food system and emphasises the interconnectedness of our local and global food systems, foregrounding local and traditional knowledge (Via Campesina 1996). By bringing attention to multi-species perspectives, a caring approach rejects the division between nature and society, and foregrounds spiritual perspectives which see people as belonging to an interconnected web of living beings (Kimmerer 2013; Engle, Agyeman, and Chung-Tiam-Fook 2022)—Tsing (2012) encourages us to recognise that 'human nature is an interspecies relationship' (144). Thus, under this worldview, food becomes a central medium of exchange, as a gift and act of care from the natural world (Wall Kimmerer 2024) and a way that we can care for the entities which comprise our world and food system (Puig De La Bellacasa 2012).

Box A: Madboks Introduction and Case Study Background

While living in Copenhagen from September 2024 – January 2025, I volunteered with a food waste nonprofit called *Madboks*, founded in 2020 to address food insecurity among families who cannot afford the cost of groceries in Denmark. Today, it operates in three locations in underprivileged Copenhagen neighbourhoods—two locations in Amagerbro (one of which is in Urbanplanen, one of the lowest income neighbourhoods in Copenhagen) and one location in Nørrebro.[i]

Madboks is an all-volunteer organisation with ~1,100 registered volunteers. Each week, volunteers collect food waste from ~30 supermarkets and bakeries, sort the edible from inedible food, and repack it into boxes before distributing it, where the boxes reach over 200 households weekly across the three locations (Participant A).

Madboks operates on a donation-based model (with a 25 DKK/€3.35 suggested donation) where people can book their boxes ahead of time. Organisationally, *Madboks* operates with a flat hierarchy with decentralised location management. Interested volunteers can become more involved in the organisation, becoming 'shift leaders' or helping behind the scenes (Participant A).

Around 90 per cent of the volunteers at *Madboks* have a mixed, international background; many are student, immigrants, or new arrivals (Participant A). The organisation thus serves as social infrastructure for many internationals seeking community in Denmark, and *Madboks* provides opportunities for intergenerational mixing, as volunteers are equally students, workers, and pensioners (Participant B).

Madboks exemplifies how urban AFIs can prefigure post-growth food futures through practices of commoning, care, and redistribution. So, I wanted to include these sections to contextualise some of the topics I will be discussing throughout the remainder of this thesis. In the boxes that follow, I will discuss the research methods I used for this case study, as well as the ways *Madboks* prefigures and practices post-growth food principles. Finally, I will connect some insights from my research to the topics I will discuss in my conclusion.

[i] Denmark is an interesting case for this study: the country produces the second highest amount of food waste annually in the EU (254 kg/capita; EU average is 132 kg/capita) (DellAnna 2024). Moreover, Denmark has some of the highest food costs in the EU, and is the most expensive country for bread and cereals (Pereira Yilmaz 2025)

Methodology

Allotment gardens in Ljubljana, SI

Introduction

To construct this research and understand my results, I use a critical realist approach. Critical realism emphasises the existence of an objective reality, independent of human perception which is knowable, yet acknowledges that our knowledge of it is always mediated and potentially fallible (Collier 1998). Critical realism has become supported within ecological economics research circles and is particularly relevant here due to its understanding of how physical and social systems interact (Spash 2012).

Critical realism argues for an ordered hierarchy of sciences—*e.g.*, molecular sciences, biological sciences, social sciences (Collier 1998). Understanding the relationships between these different strata helps explain the distinctions between different sciences. Spash (2012, 43) explains:

> '*… everything is governed by the laws of physics, all biological entities are physical but not vice versa, so biological sciences are embedded within the physical and likewise the social within the biological and the economic within the social. This type of embeddedness is one of the key messages ecological economists have been at pains to communicate, i.e., the economy is embedded in the Natural environment and subject to the Laws of Thermodynamics.*'

Therefore, by taking a critical realist approach, we can acknowledge the biophysical limitations of the earth, while understanding how economics, social movements, and holistic knowledge systems can transform human impact within the planet.

To answer my research question, I employed a systematic (*i.e.*, transparent, comprehensive and reproducible) literature map.[25] First originating in the medical sciences, systematic literature maps have become encouraged and accepted across the natural sciences and social sciences as useful tools to understand emerging fields of study (James, Randall, and Haddaway 2016). They rely on evidence-based methods to maximise rigour and minimise bias by trying to be more comprehensive, transparent and procedural during the review process (Haddaway *et al.* 2020).

Within the field of *degrowth*, several literature maps exist, which have all taken various approaches to their research. Fitzpatrick, Parrique, and Cosme (2022), for example, have mapped degrowth policy proposals, Savin and Van Den Bergh (2024) use computational linguistics to identify topics and criticise degrowth methodologies and results, and the map

[25] Systematic maps differ from systematic reviews by asking broader questions, cataloguing evidence (*i.e.*, not asking about effectiveness or impacts), and creating a database of studies. These methodologies often involve iterative interventions and outcomes, and while they may involve some basic critical appraisal, avoid a full synthesis and estimate of effect sizes (James, Randall, and Haddaway 2016).

developed by Engler *et al.* (2024) concludes that degrowth scholarship needs a stronger emphasis on concrete policy proposals regarding the distributional policies of degrowth.

However, at the intersection of food and degrowth, few evidence syntheses exist. At the time of writing, I could only find three: first, Gerber (2020) analyses degrowth from the perspective of critical agrarian studies, and argues for a cross-pollination from the two disciplines.[26] Second, in the final chapter of their book *Food for Degrowth*, Nelson and Edwards (2020) identify a research agenda which draws upon the previous chapters.[27] Finally, Guerrero Lara *et al.* (2023) take stock of the degrowth agri-food literature more broadly.[28]

However, each of these papers holds significant limitations. First and foremost, none apply a systematic approach— Gerber (2020) takes a non-methodological argumentative stance; Nelson and Edwards (2020) use only the chapters in their book as the basis of their research agenda, and while Guerrero Lara *et al.* (2023) attempt to take stock of the broader literature, their methodology falls short in several key aspects—namely, in their search strategy, screening strategy, and data extraction methods, all of which are poorly described and are therefore are not reproducible.

Therefore, this literature map surveys the current academic knowledge regarding the studied outcomes of urban AFIs. It uses the RepOrting standards for Systematic Evidence Syntheses (ROSES) methodology (Haddaway 2020) to analyse the nature of the academic knowledge on this subject.[29] All steps were taken in accordance with an *a priori* protocol (Appendix A).

Despite identifying a clear research gap regarding food and degrowth, I still chose to add some complicating variables in the systematic map. As I outlined in my theoretical framework, urban areas are particularly problematic within degrowth food systems research; so, I chose to focus my research there. Within cities, I chose to focus on AFIs due to their ability to practice and prefigure post-growth food systems, and to create concrete, local change.

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[26] Approaching the review from the field of political economy, Gerber (2020) emphasises that the degrowth movement should not fall into the 'agrarian myth' nor should critical agrarian studies embrace a 'myth of growth.'

[27] The book combines insights from several disciplines, and therefore the research agenda highlights topics from circular waste systems to political obstacles to degrowth.

[28] Their paper proposes four research avenues for future degrowth agri-food scholarship: '(i) degrowth conceptualisations; (ii) theorisation of transformations towards sustainability; (iii) the political economy of degrowth agri-food systems; and (iv) rurality and degrowth' (Guerrero Lara et al. 2023, 1579)

[29] While this framework was originally designed for the fields of conservation and environmental studies, it has become widely used due to its flexibility for use in interdisciplinary contexts (Fitzpatrick, Parrique, and Cosme 2022). To the best of my ability and when possible, I used it in accordance with Collaboration for Environmental Evidence (CEE) guidelines for systematic maps and reviews (Collaboration for Environmental Evidence 2022).

The research gap, and my chosen focus led me to ask my first sub-research question: **What is the nature of the academic knowledge on urban AFls' impacts on post- growth agri-food principles?**[30]

This map focusses on papers which study urban alternative food initiatives and degrowth outcomes. As degrowth scholarship is still quite recent,[31] I use an expanded definition of 'degrowth outcomes'. Rather than simply searching for 'degrowth' or 'post-growth', I use terms derived from the *post growth agri-food principles* from McGreevy *et al.* (2022). This allows for my search to include results from a wider variety of scholars not explicitly associated with degrowth, but associated with related social movements like agroecology, or feminist and anarchist movements, as well as researchers who have studied urban AFIs and have identified post-growth results while not using that terminology.[32]

In the time that I worked on my research, I further identified another research gap: the lack of understanding on the connection between broad degrowth principles and local practices. I sought to understand how researchers focussing on prefigurative initiatives understood this gap; so, I introduced the second sub-question: **What practices facilitate the creation of a post-growth food system?** This question's answer begins to emerge from the results of the literature map; however, I will only be able to fully answer it in the subsequent section, where I develop my own conceptual framework.

Literature Map Methods

Searching

First, I searched three database collections (*The Lens*[33], *Scopus*, and *Web of Science Core Collections*) using a search string which looked for AFIs in cities alongside keywords related to degrowth agrifood principles. I did not search Google Scholar or other grey literature databases as the focus of this map is to understand the nature of mainstream academic knowledge on this subject.

```
(("food co-operative" OR "food co-operatives" OR "food cooperative" OR
"food cooperatives" OR "urban agriculture" OR "allotment garden" OR
"allotment gardens" OR "allotment gardening")  AND (degrowth OR "de-
growth" OR "post-growth" OR "post-capitalist" OR postcapitalist OR
```

[30] I use the PCC (Population, Concept, Context) framework to construct this research question, where *Population* is urban food systems, *Concept* is AFIs, and *Context* is degrowth outcomes.
[31] Fitzpatrick, Parrique, and Cosme (2022) show that degrowth as a field has only truly expanded over the past decade or two
[32] I will explain further choices and reasons for inclusion/exclusion further in the methodology.
[33] I searched all types of publications, excluding those categorised as 'datasets', 'conference proceedings', and 'news'.

```
anticapitalist OR "anti-capitalist" OR commons OR commoning OR common OR communal OR decommodif* OR de-commodif* OR care OR regenerat* OR sufficiency))  OR ((("food network" OR "food networks" OR "food initiative" OR "food initiatives" OR "food movement" OR "food movements" OR (food AND (grassroot* OR grass-root* OR bottom-up)) OR "food sovereignty" OR "food rescue" OR "agro-ecology" OR "agro-ecological" OR agroecology OR agroecological OR "community supported agriculture" OR "food hub" OR "food hubs" OR "food system")  AND (urban OR metropol* OR city OR cities)) AND (degrowth OR "de-growth" OR "post-growth" OR "post-capitalist" OR postcapitalist OR anticapitalist OR "anti-capitalist" OR commons OR commoning OR common OR communal OR decommodif* OR de-commodif* OR care OR regenerat* OR sufficiency)))
```

All databases were searched on 27/11/2024. 2096 articles from *The Lens*, 1117 articles from *Scopus*, and 50 articles from *Web of Science Core Collections* were identified, resulting in a total of 3164 articles.

Screening and retrieving

After removing duplicates, I screened articles in three steps. First, the abstract, keywords, and title were screened using the guiding question: *Does this article address how urban alternative food initiatives shape degrowth outcomes?* This excluded articles which discussed best practices for governing and scaling AFIs, and those which focussed on AFIs outside of cities. I also excluded any articles which discussed these themes in the Global South and were not written in English.[34,35] Texts without abstracts were retrieved and scanned to see if they discussed alternative food initiatives in cities; if so, they were included. The systematic review platform *Rayyan* was used for duplicate removal and these first screening phases.

To retrieve full text versions for the second round of screening, I used institutional subscriptions from the University of Vienna and the University of Copenhagen. The second round of screening examined full texts and used the same guiding question, again ensuring that the focus of the article was on the outcomes (not, *e.g.*, the means of scaling or governance) of AFIs. This round of screening was done in the citation management software *Zotero*, which I used to read PDFs and record the reasons I excluded specific papers.

[34] While global food chains of commodification and exploitation certainly implicate the Global South in any discussions of creating a more sustainable food system, I chose to focus on the Global North to see how AFIs shape outcomes in a 'developed' and 'Westernised' setting.

[35] I chose to exclusively focus on English texts as I was interested in 'mainstream' academic thought which is often limited to English sources (Zeng, Ponce, and Li 2023), and as including and translating these texts would have translated to additional work outside the scope of this review.

A full table of inclusion and exclusion criteria:

Table 1: Inclusion/Exclusion Criteria

Population	Concept (Alternative Food Networks)	Context (Food as commodity / DG Food Principles)	Other/formal constraints
Urban Food Systems	Alternative Food Networks, Grassroots initiatives	Promotes post-capitalist, de-growth principles	
Global North geographical focus; case must be situated in urban or peri-urban context;	Engages with alternative agri-food systems, specifically moving beyond only farming methods; study must engage with agri-food practices (*i.e.*, not just a study of diets)	Mentions impact on commoning; de-commodifying; post-growth/de-growth outcomes; promoting networks of care; outcomes related to regeneration, sufficiency	Studies must be in English; must be an empirical study, review, or conceptual paper

Coding

I used a few main types of codes for my analysis. First, I coded studies geographically, divided by the region where the study took place,[36] and recording the country and coordinates where they were conducted (where applicable). For papers which used a comparative small-*n* case study approach (*i.e.*, five studies or fewer), I recorded the region/country/coordinates where each study took place. For those with a large-*n* case study approach (six or more studies), I recorded the centre of the geographic region or country where they focussed. Some papers included tens or hundreds of case studies across several countries and continents. For these, I recorded the centre of each country included in the analysis.

Second, I coded studies based on the type of AFI studied. First, I coded *in vivo*, resulting in some categories with several entries and some with only one or two. In a second pass of coding, I consolidated these diverse initiatives into six categories, based on shared

[36] These regions were North America, Northern Europe, Eastern Europe, Southern Europe, Western Europe, Asia, and Oceania, as defined by the UNSD (2025).

characteristics.[37] These codes were recorded in a spreadsheet, the results of which can be found in the attached database (Appendix B).

Third, I coded studies based on the degrowth outcome studied, using a three-pass technique in the coding software *MAXQDA24*. In the first pass, I identified which principle was being studied in each paper, based on the methodology, results, and discussion sections of each paper. I drew on the efforts of post-growth scholars who had previously studied pathways to a post-growth food system, adapting McGreevy *et al.*'s (2022) framework as a coding guide. As discussed in my *Theoretical Framework*, these five key principles are: *Commons*, *Regeneration*, *Sufficiency*, *Care*, and *Distribution*. In this pass, I also identified which papers discussed degrowth or criticised capitalism explicitly; where a post-capitalist theory was explicitly mentioned, I recorded this too.

In the second pass, I highlighted specific passages which related to each principle. To assist me in this process, I employed the *MAXDictio* feature in *MAXQDA*.[38] I created custom dictionaries for each principle, using synonyms and related practices to help me easily identify potentially relevant passages. I then read through and coded each text individually searching for relevant passages for each principle. I coded the methodology, results, and discussion for each study.

In my third pass, I examined the coded segments and identified themes and practices. These themes emerged *in vivo*, often emerging around a certain practice by an AFI.[39] This resulted in 78 unique codes. Subsequently, I used the *Code Maps* functionality in MAXQDA, a visual tool which illustrates the relationships between proximate codes to identify the co-occurrence and proximity of these themes and practices (Kuckartz & Rädiker, 2019). Based on this data, I further thematically categorised these codes into five practices for each principle.

[37] For example, allotment gardens, community gardens, and urban agroecology were combined into a single 'Urban Agriculture' category. These categories were critiqued, iterated, and refined during my expert workshop with agri-food systems researchers—refer to *Expert Workshop Methods* for more information.
[38] This feature allowed me to create custom dictionaries of keywords with which I could search for and auto-code the texts
[39] For example, under the principle of *regeneration* I used the code 'healthy soil'

Figure 2: All* in vivo *codes sorted into principles and practices.

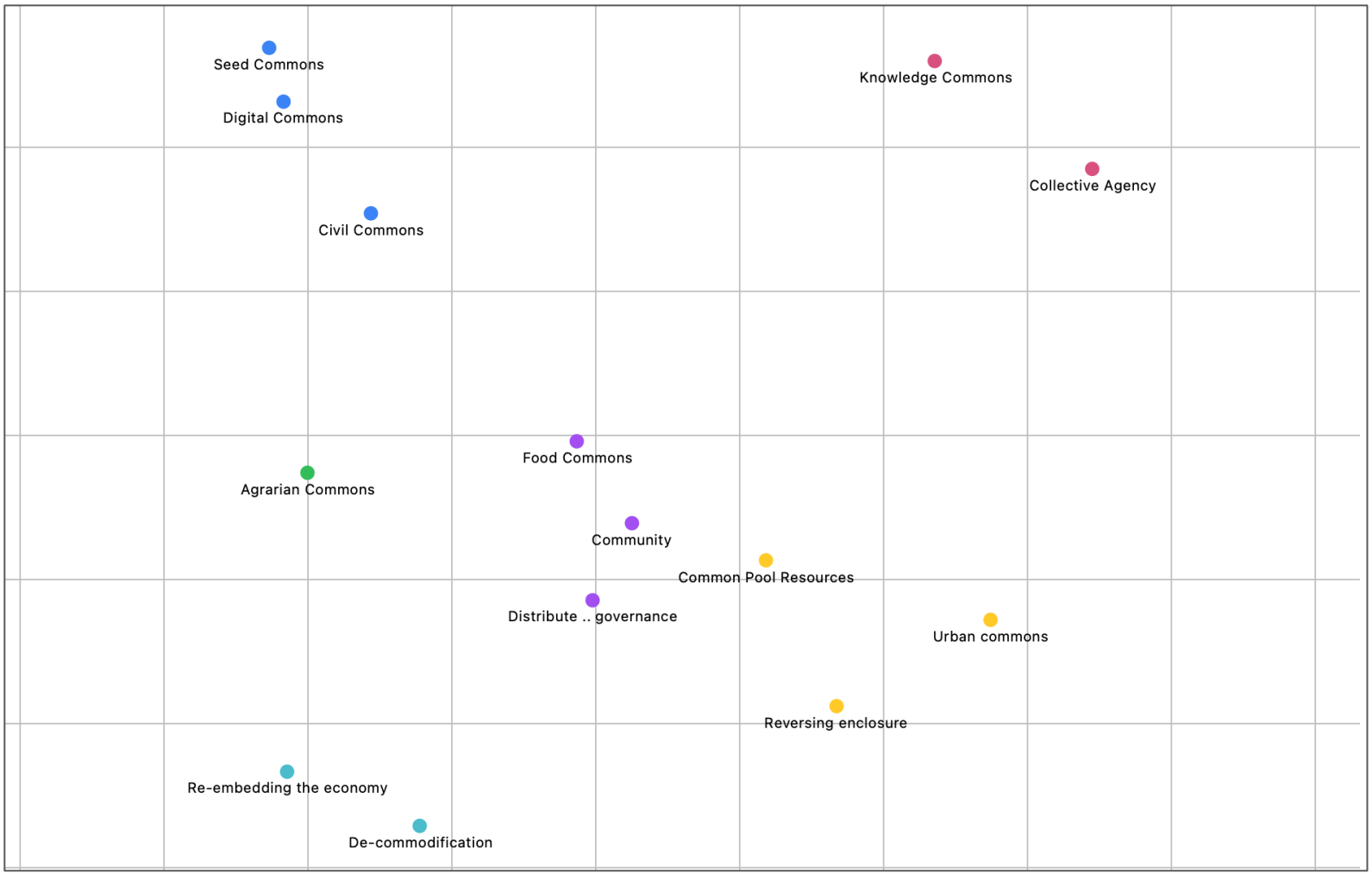

Figure 3: A MAXQDA Code Map*. This shows the distribution of the principle of* Commons*, based on the proximity of codes in the same document. This distribution formed the basis for the categorisation of* in vivo *codes into the eventual practices.*

Finally, I recorded other relevant metadata. This included, but was not limited to, the resource type (journal, book, etc.), the type of experiment (single case study, literature review, etc.), publishing journal (if relevant), year published, authors, and other information—all data recorded can be found in the attached database.

Expert Workshop Methodology

I validated the results of my systematic map and tested them through expert feedback in three forums: 1) a workshop I organised with seven agri-food researchers; 2) a conference focussing on sustainability transitions; 3) a conference focussing on degrowth and ecological economics.

These expert workshops served three crucial complementary functions. First, they helped to bridge the knowledge gap between documented research and practitioners' experiences and validated my findings with scholars who have a deep contextual knowledge about post-growth theories and agri-food transitions.

Second, they facilitated the iterative development of my framework. While developing a conceptual framework to understand post-growth urban food practices, expert feedback proved essential to ensure its relevance and applicability. Following Chan *et al.* (2020), I used an iterative expert deliberation process, bringing together experts from diverse fields and backgrounds. This structure allowed me to test my emerging theories against the expertise of scholars, and successive rounds of expert feedback allowed me to refine and strengthen my analytical lens.

Third, these workshops helped me address an 'implementation gap'—this research sits at the intersection of theory and practice, and while my literature map revealed what has been studied, these workshops helped me understand what *should* be studied and how to translate my findings into actionable insights for researchers and practitioners in these fields.

In the following sub-section, I will explore each of the three expert forums, discussing their structure, the participants involved, and explaining why I made these choices.

Workshop: Madrid

On May 26, I facilitated a workshop in Madrid, Spain, hosted at the National Spanish Research Council. The seven participants came from diverse disciplinary backgrounds, but all worked on agri-food systems and transformations. I chose to run this workshop to validate the results of my literature map. I came into this workshop with the following questions: *1) Do my results align with what you have seen throughout your research*? *2) Where should future research in this field be focussed?* and *3) How can I improve my*

conceptual framework? In answering these questions, this workshop helped me bridge RQ1 with RQ2.

I selected seven participants, all researchers in food systems, using a purposive method that sought to represent not only several institutions but also disciplines. This ensured that my research and framework could speak across disciplinary boundaries and aligns with the diverse nature of research on both degrowth and AFIs. The seven[40] participants were the following:

- Carolina Yacamán Ochoa, Professor at UAM. Background in Geography.
- Jose Luis Vicente Vicente, Spanish National Research Council. Background in Environmental Sciences.
- Javier Sanz-Cañada, coordinator of a research group at the Spanish National Research Council. Background in Agricultural Economics.
- Clara Medina-Garcia, Substitute Professor at UCM. Background in Urbanism and Political Science.
- Marian Simón Rojo, Associate Professor at UPM. Background in Architecture.
- Ramón del Buey Cañas, Post-doctoral researcher at UAM. Background in Philosophy.
- Gadea Claver-Barrios, PhD researcher at UAM. Background in Anthropology.

The workshop lasted two hours and was structured as follows:

- **Introduction**: Goal setting, check-ins, and self-introductions (20 min)
- **Presentation**: Overview of research findings and framework (20 min)
- **Participatory Exercise**: Small group discussions on framework validity, research gaps, and potential solutions (40 min)
- **Conclusion**: Return to the large group, discuss and align on the most important pathways forward. (40 min)

I shared the following workshop goals with participants beforehand: review and discuss the results of the map; share feedback on the conceptual framework I have developed; share insights from participants' research, identifying new research gaps and potential research avenues (*e.g.*, new methodologies, living labs, framings). To try and maximise the participatory nature of the workshop, I invited participants to suggest other topics before and during the workshop.

My participatory exercise was inspired by the 1-2-4-All exercise from Lipmanowicz and McCandless (2013), where answers to questions are first considered individually, then in pairs, then small groups, then large groups. Due to the small size of the workshop, I had

[40] Eduardo Castillo-Vilanuez, an architect, artist, and director of the Foodscapes initiatives from UPM was planned to participate but was ultimately unable to due to scheduling issues.

participants reflect individually, then in small groups on sticky notes, then come together to share reflections and conclude.[41]

I recorded feedback and notes from the group sessions and used it to validate and refine my results, as well improve the first iteration of my conceptual framework.

NEST Conference: Brighton

On May 29-30, 2025, I presented the methodology and results of the systematic map at *The Network of early career researchers in Sustainability Transitions (NEST)*, whose annual conference took place in Brighton, UK, organised by and for early career researchers in sustainability transitions.

For this conference, I sought to present results, receive feedback and become aware of potential limitations. I chose to present at the NEST conference as I also wanted to explore my research from another lens of sustainability transitions, whose focus on frameworks like the *Multi-Level Perspective*, *Transitions Management* theory, or *Systems Thinking* focussed on the means of transformation as opposed to the result.

I presented in a session titled: *Governance, Policy, Markets and Institutional Change in Sustainability Transitions* and received feedback from the audience and Andy Stirling, Professor of Science and Technology Policy at the Science Policy Research Unit at the University of Sussex whose research focuses on issues of power, uncertainty and diversity in science and technology.

Discussing my results from the lens of sustainability transitions and receiving feedback from early career sustainability transitions researchers and Andy Stirling helped to position my work within broader sustainability transitions scholarship and allowed me to share some key points with other members in the field. I also received feedback on the second iteration of my conceptual framework and better understanding the practices which grassroots actors have used to prefigure post-growth food futures.

Degrowth/ISEE Conference: Oslo

Finally, I presented my research for a third time at the *International Society for Ecological Economics (ISEE)/Degrowth Conference* in Oslo, Norway, from June 25-27, 2025. I

[41] I considered using the Delphi structured communication technique (Rowe and Wright 2001; Hirsch, Heuschkel, and Terlau 2018) in this workshop to anonymise input and achieve a convergence of opinion. This methodology would have helped systematise consensus-building around my framework, reduce potential bias, and provide quantitative validation of my workshop insights. However, I ultimately chose to pursue a more unstructured format which allowed for real-time discussion, and collaborative knowledge construction.

participated in the special session: *Understanding the Future of Food: Connecting Consumer Choices to Global Food Systems*.[42]

The purpose of this presentation was to present to degrowth and ecological economics researchers about the degrowth practices which are studied in AFIs, as well as discuss trends of degrowth food research which I identified. Finally, I sought continued iterative feedback on the third iteration of the conceptual framework I developed.

This presentation directly targeted the degrowth and ecological economics community which allowed me to validate my interpretation of degrowth principles with scholars who specialise in this field. Given the relative newness of degrowth scholarship, this expert validation was crucial to ensure my framework accurately represents degrowth concepts.

Box B: Methodologies at *Madboks*

I used a few different methodologies to undertake my research at *Madboks*.

I volunteered on a regular basis over four months and regularly took notes after my shifts. During this time, I participated in sorting food and distributing food. In January, I trained to be a 'shift leader,' which involved helping organise the shifts and leading introductions to begin each shift. While this methodology does not form the main basis of my analysis, it gave me a strong foundation from which to conduct my interviews.

The interviews were completed in January 2025. I used a purposive sampling method to identify volunteers and organisers at Madboks that had participated in the initiative for six months or more. I completed 8 interviews which ranged from 45 to 90 minutes. I used a semi-structured format, following an interview guide which explored participants' hands-on experiences, shifts in perspective, and the social dimensions of volunteering (see Appendix B).

Finally, I facilitated a 3-hour participatory workshop with five Madboks volunteers using Participatory Narrative Inquiry approaches, a key methodology for exploring complex social systems through storytelling, designed specifically to help participants make sense of values, beliefs, and lived experiences within complex situations (Colla & Kurtz 2024). Participants brought food items representing their view of the current food system, discussed three future scenarios ('business as usual', 'conventional sustainability', and 'radical sustainability'), and collectively created visual representations of contrasting food futures (see Appendix B).

To code my data, I took my written observations, interviews, and the final art pieces we made at the workshop and coded them according to the same codes used in my systematic map to identify the relevant practices. While a full discussion of my results goes outside the boundaries of these boxes, I will explore how Madboks prefigures post-growth food futures in the upcoming boxes and what this means.

Results

A winter dinner at an urban ‘garden of decay’ in Copenhagen, DK

This section will present the main findings of the literature map before a subsequent discussion of the results and their impact on my research.

Review Process

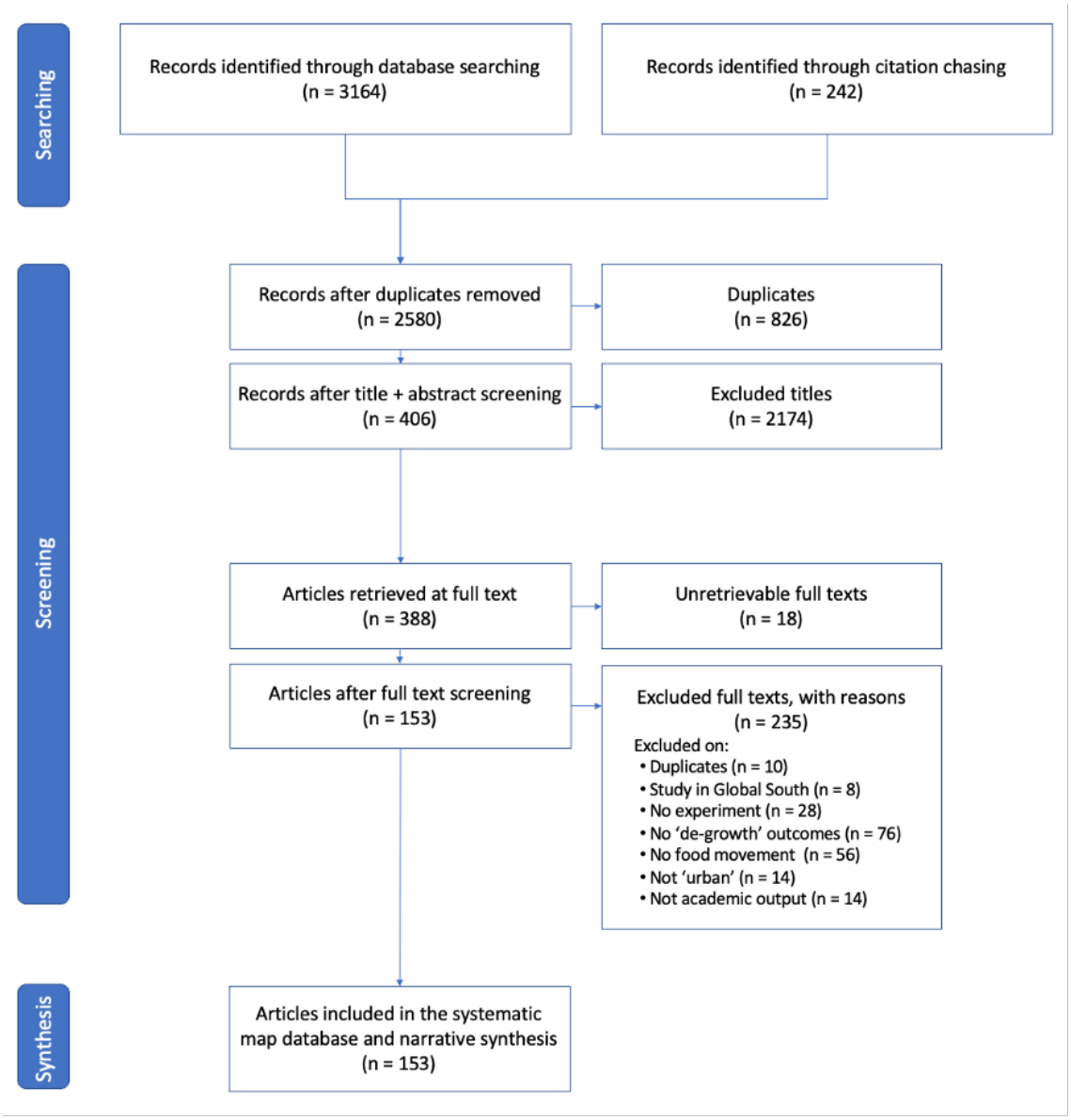

Figure 4: ROSES Flow Diagram for systematic map *(template from Haddaway et al. 2020).*

A total of 3164 results were identified after searching the three databases. After identifying an additional 242 references from the citations of the benchmark[43] articles (resulting in a

[43] 'Benchmark articles' refer to a curated set of foundational studies that served as the reference standard for this evidence map. These articles were selected based on their methodological quality, influence in the field,

total of 3406 articles) and removing 826 duplicates, 2580 articles remained for screening. Of these, 2174 articles (84%) were excluded after screening titles and abstracts.[44]

From the remaining 406 articles, 18 texts were unretrievable (4% of the sample), leaving 388 texts for a second round of screening. This round narrowed the inclusion list to 153, excluding a further 235 entries.[45] The full lists of the articles excluded, along with exclusion criteria, can be found in Appendix C.

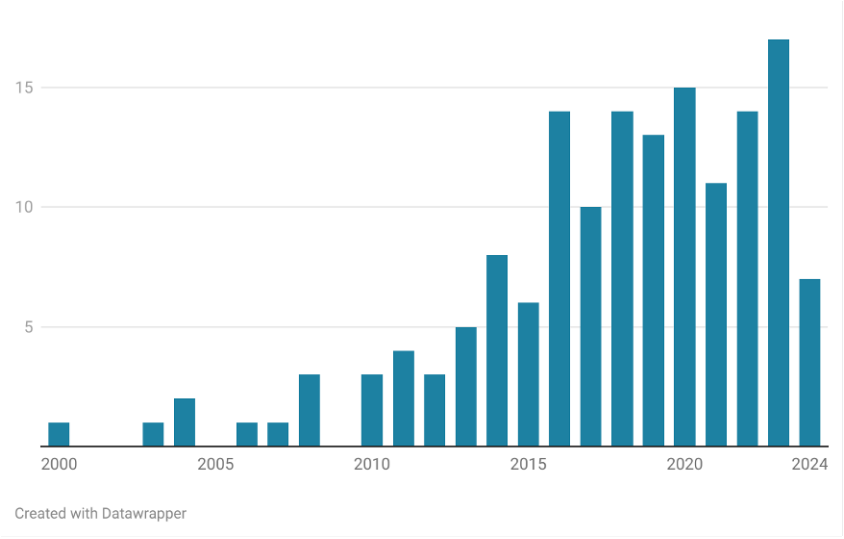

Figure 5: Date of Publication for Systematic Map Articles

Metadata

153 studies thus remained for analysis and coding. The first of these articles was published in 2000, with the vast majority published after 2010, which correlates with an increased interest in alternative food systems post-2008 financial crisis (Vivero-Pol 2017), a moment which also precipitated a growing interest in degrowth literature (Fitzpatrick, Parrique, and Cosme 2022). The number of studies peaked in 2023, with 17 studies published that year (Figure 5).

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or citation frequency, and were used to validate search strategies and assess review comprehensiveness. They can be found in Appendix A.

[44] This number was so high in part due to the wide net cast by the search terms and the relatively narrow set of conditions which qualified articles to be further assessed. In particular, removing articles focussing on Global South contexts eliminated a large percentage of potential articles.

[45] due to articles not studying AFIs (14% of the sample), not studying the outcomes of AFIs (20% of the sample), not being an experiment (*i.e.*, being an opinion piece or introduction to a special issue—7% of the sample), being a study in the Global South (2% of the sample), studying an AFI in a rural context (4% of the sample), or not being an 'academic' paper (*e.g.*, excluding conference proceedings, Masters' theses, internal reports from companies) (4% of the sample)

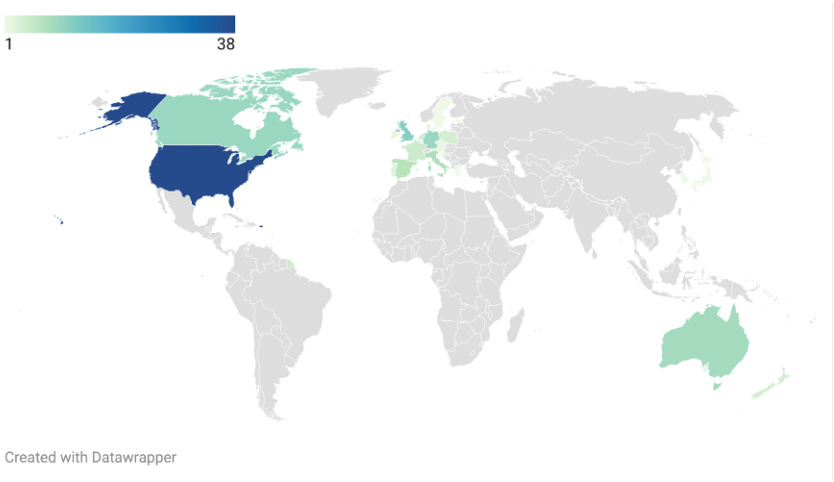

Figure 6: Study Choropleth *(Worldwide)*

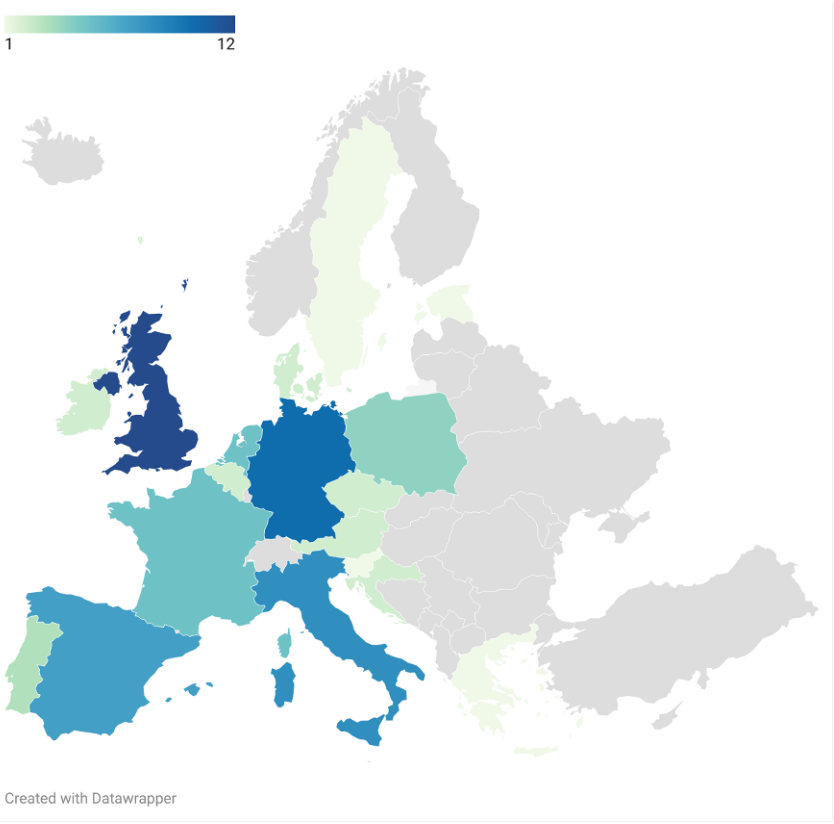

Figure 7: Study Choropleth *(Europe)*

Table 2: Case studies by region *(excludes some conceptual papers and literature reviews)*

Region	Count	% by region
Asia/Oceania	15	11.28%
Eastern Europe	6	4.51%
North America	48	36.09%
Northern Europe	18	13.53%
Southern Europe	22	16.54%
Western Europe	24	18.05%
Grand Total	**133**	**100.00%**

Table 3: Most common journals of publication

Rank	Publication Title	Count
#1	Local Environment	9
#2	Sustainability	8
#3	Antipode	7
#4	Journal of Rural Studies	6
#5	Agriculture and Human Values	5
#6	Sociologia Ruralis	4
#7	Agroecology and Sustainable Food Systems	3
#8	Geoforum	3
#9	Sustainability (Switzerland)	3
#10	Area	2

Of the articles whose case study is local or regional, 53% of the articles originate from Europe (14% Northern Europe, 17% Southern Europe, 5% Eastern Europe, 18% Western Europe), 36% from North America, and 11% from Asia/Oceania (1.5% Asia, 10% Oceania) (Table 2). The top five countries studied are the United States (38 studies), United Kingdom (12), Germany (10), Canada (10), and Australia (9).[46] The 129 journal articles included originate from 77 different journals, with the top five being Local Environment (9 articles), Sustainability (8), Antipode (7), Journal of Rural Studies (6), and Agriculture and Human Values (5) (Table 3).

[46] I will explore limitations in greater depth later; however, this geographical distribution is likely largely due to the language limitations of my search, which only explored English-language publications.

Table 4: Type of resource

Item Type	Count	% of Total
Journal Article	129	83.8%
Book Section	16	10.4%
Thesis	5	3.2%
Conference Paper	2	1.3%
Book	1	0.6%
Report	1	0.6%
Grand Total	**154**	**100.0%**

Table 5: Geographic focus *(urban vs. peri-urban)*

Geographical Focus	Count	% of Total
Urban	148	96.1%
Peri Urban	6	3.9%
Grand Total	**154**	**100.0%**

Table 6: Method of Study

Method of Resource	Count	% of Total
Multiple Case Study	71	46.1%
Single Case Study	61	39.6%
Conceptual Paper	12	7.8%
Literature Review	10	6.5%
Grand Total	**154**	**100.0%**

Most of the resources retrieved were peer-reviewed studies (Table 4), comprising 84% of the sample, with book chapters (10%), conference papers (1.3%), one book, and one report making up the remainder. The vast majority of studies focussed on urban initiatives, with

only 3.9% of the sample exploring peri-urban initiatives (Table 5).[47] 46% of the studies explored multiple case studies, while 40% explored single case studies (Table 6). A minority were so-called conceptual papers (primarily advancing and exploring a theory) (7.8%), and ten papers (6.5%) were broad literature reviews.

Initiative Categories

Articles were coded by the type of initiative studied. This was done in two passes: first, a categorisation *in vivo* of what the study claimed to be researching. In a second round of coding, these different initiatives were organised into seven categories.[48]

Urban Agriculture

Urban Agriculture was the highest studied type of initiative identified, with 77 of the articles (50%) studying it. Studies on urban agriculture could be found in each of the regions studied. The studies varied widely and included diverse initiatives such as community gardens, urban agroecology projects, and allotment gardens.

Community gardens comprised most of the urban agricultural initiatives studied. These initiatives provide spaces for city dwellers to engage with soil and food production and often serve as social hubs offering educational workshops (Scheromm and Javelle 2022), promoting social causes like food security (Bowness *et al.* 2022), or otherwise engaging with their communities (Dombroski *et al.* 2023).

Authors discussed how community gardens emerged as temporary uses of vacant land and resisted neoliberal urban development (Corcoran, Kettle, and O'Callaghan 2017; Follman and Viehoff 2014). Authors also linked community gardens to building social networks (Purcell and Tyman 2018; Thornton 2017; Rogge and Theesfeld 2018) and saw them as sites of food production and harvest (Morrow and Martin 2019). However, community gardens also had issues, often being criticised as largely white, middle-class spaces (Slocum 2007; Henson 2013).

[47] This statistic might seem misleading or incorrect, especially as many of the alternative food networks describe connect rural producers with urban consumers. However, this research largely focussed on urban CSA groups and the effects on farmers were not discussed as much; therefore, I chose to categorise these as 'urban' cases.

[48] Previous scholarship has attempted to categorise AFIs using various metrics: Renting, Marsden, and Banks (2003) organise alternative food networks into 'face-to-face SFSCs', 'proximate SFSCs' and 'extended SFSCs', and Watts, Ilbery, and Maye (2005) categorises AFNs as 'weaker' or 'stronger' depending on the extent to which they challenge principles of hegemonic food systems. Where possible, however, this section in contrast tries to avoid normative categorisations, rather focussing on widely accepted definitions pertaining to broad characteristics of different AFIs. The following section will discuss and define each of these categories in turn.

Urban agroecology[49] differs from the community gardens discussed above as the initiatives studied here took a political and normative stance to how food should be grown and distributed. Tornaghi and Halder (2021) discussed this with their term of 'urban political agroecology praxis', which refers to (urban and peri-urban) agroecological practices which are informed by an active reflection about their underlying principles, values, and theories.

Ten articles discussed urban agroecology movements, studying cases from agroecological 'lighthouses' (de Wit 2014) to agroecology-oriented food redistribution initiatives (Facchini *et al.* 2023). Some, like Serrano (2023), explored the role of agrarian social movements, such as La Via Campesina, in reconfiguring urbanisation through their claim for food sovereignty. Others explored how agroecological design principles can transform production and consumption in vulnerable neighbourhoods (Simon-Rojo 2019), or how peri-urban agroecological parks can comprise part of a strategy to improve rural-urban land-use dynamics (Yacamán Ochoa 2024).

Allotment Gardens were also explored, defined as a plot of land made available for individual, non-commercial food production, and emerge from a history of food self-provision in cities (Archdeacon 2015). While historically common in Europe,[50] recently they have been viewed as hindrances to city development (Bigell 2015). Research emphasised the role of allotment gardens in allowing a diverse social fabric to self-provision and create space for community building (Bigell 2015; Sovová 2015b; Archdeacon 2015).

Alternative Food Networks

Alternative Food Networks (AFNs) emerged as the second category, containing 28 studies (18% of the sample). The term AFN exists within the literature as an umbrella term denoting initiatives which are rooted in particular places, attempt to shorten the distance between food production and consumption and aim to be economically viable for farmers and consumers (Michel-Villarreal *et al.* 2019).

Jarosz (2008) notes that AFNs are commonly defined by their attributes, such as the spatial proximity between farmers and consumers, particular retail venues, or a commitment to sustainability in production. However, in her study, she also argues that AFNs should

[49] Urban agroecology is defined as a 'politically, socially and ecologically positioned segment of urban agriculture' (Tornaghi 2024, 287). It is part of the agroecology movement, an emerging concept which is simultaneously a science and practice and draws from diverse sources and builds on indigenous and peasant knowledge to design local and territorial agricultural systems around ecological principles of conservation and regeneration (Vaarst et al. 2017). Urban agroecology aims to break the often-isolated character of urban agriculture by connecting it to deeper socio-ecological changes and explores human and non-human dependence and co-existence (Tornaghi 2016).

[50] Such as the 'Victory Gardens' which supplied food for the UK and other countries during the Second World War, or in Central and Eastern European countries during Soviet rule (Sovová 2015)

instead be defined by processes like urbanisation which emphasises AFNs' fragility and how tightly they are linked to urban development. Forssell (2016) also questions the sustainability claims of AFNs and identifies a need for clearer understanding of real-world impacts.

The AFNs studied could largely be split into two categories: those focussing on community support agriculture and buying groups, and those studying other types of AFNs.

Community Supported Agriculture (CSA)[51] are sometimes argued to have a wide range of purported benefits, with proponents claiming increased social embeddedness, ecological health, the re-localisation of food, and better livelihoods for farmers. The studies in the sample interrogate these benefits: Hassanein (2008) explores the concept of 'food democracy' in an American CSA scheme, Hinrichs (2000) looks at 'social embeddedness', comparing CSA initiatives with farmers markets, and Medici, Canavari, and Castellini (2021) examine the economic benefits of CSA for producers. Other studies look at the interplay between motivations for joining/starting CSA schemes and the outcomes, linking them to efforts to promote feminist care work (Jarosz 2011), create 'identity projects' (Ravenscroft *et al.* 2013), and prefiguring explicitly anti-capitalist and 'proto-regenerative imaginaries (Leitheiser *et al.* 2022). However, not all studies find positive results: Guthman (2008) researches how CSAs can support colour-blind and universalising discourses, which may dissuade people of colour from participating.

Buying groups (also called solidarity buying groups or consumer groups), are self-organised collectives of consumers who pool their purchasing power to buy food directly from producers, typically emphasizing local, organic, and ethically produced goods at wholesale prices (Fonte 2013). These groups emerged as alternatives to conventional retail, operating through shared spaces where members collectively receive and distribute orders. Members typically share organisational responsibilities, from coordinating with farmers to managing delivery logistics, creating what some scholars describe as 'commons-based' food provisioning that challenges market-dominated food systems (Slavuj Borčić 2020).

The studies in the sample explore diverse aspects of buying groups across different contexts. Little *et al.* (2010) examine thirty buying groups across Europe, North America, and Japan, analysing their formation, motivations, and growth trajectories, finding that consumer-led initiatives use volunteer labour and community spaces to address issues of food access and affordability. Moragues-Faus (2016) explores how buying groups construct 'politics of collectivity' and contributes to emancipatory food democracy. Slavuj Borčić (2020) analyses Croatian buying groups through an urban commons lens, examining how members

[51] CSA denotes a form of agriculture where people work with farmers, volunteering and pre-purchasing a share of their harvest in advance, which gives farmers more financial stability (Medici, Canavari, and Castellini 2021). Today, CSA schemes like this, where consumers support farmers by sharing products, skills, labour, and responsibility, have spread across the globe.

transform private spaces into shared commons while negotiating access, use, benefit, care, and responsibility for their collective food provisioning system.

Some authors also studied **farmers' markets** as a type of AFN, narrating them as direct-selling venues where local producers sell their goods (typically fresh produce) directly to consumers. By re-spatializing food through local production and re-socializing it through direct producer-consumer contact, farmers' markets aim to create 'alterity' within the food system while offering consumers opportunities to reconnect with food origins and production methods. Studies found that farmers markets, while operating on commodity relations, also facilitate trust-building and personal connections (Kirwan 2004); others looked at how these venues might move beyond anthropocentric 'care' paradigms to foster more reciprocal human-nature relationships.

Finally, a few studies explored **food hubs**, physical spaces that connect producers and consumers. Food hubs encompass various initiatives including producer cooperatives and non-profit organizations, unified by their role as physical spaces enabling the organisation for various components of a system (Van Dooren, Leseman, and Van Der Meulen 2021).

The studies focused on food hubs in underserved areas, examining alternative economic models and tensions between transforming and working within existing systems. Traill *et al.* (2024) explored a community food hub in a UK urban food desert, analysing how alternative infrastructures of care are built in practice. Purcell and Tyman (2018) studied food commoning initiatives in the US, examining food hubs as distribution points, while O'Hara and Stuiver (2022) proposed a 'restorative economics' model using food hubs as a case study, focusing on integrated components like production, preparation, distribution, and waste management.

Surplus Food Redistribution

Many of the food initiatives studied operate outside market-based logics of buying and selling. Some, instead, used the act of *sharing* as their primary form of exchange. Phelan *et al.* (2023) define food sharing initiatives as those which grow, cook, eat and redistribute food with others; or use, occupy or enjoy food and food related knowledge, skills, devices and spaces jointly with others. I categorised diverse initiatives operating under this principle into a category of **Surplus Food Redistribution** (16 studies, 11% of the sample), primarily composed of community kitchens, food waste initiatives, and other food sharing initiatives.

Community Kitchens have roots in diverse social and solidarity movements, and have historically provided affordable food access—however, today, many initiatives have evolved into multi-functional spaces that challenge conventional market-based food relations through practices of commoning and collective provisioning.

Researchers explored cooking and eating practices within community kitchens and how people self-organise (Hennchen and Pregernig 2020), discussed anarchist practices in Swedish *folkkök* (Lundström 2023) and the role of these spaces in responding to crisis and instability during COVID-19 (Rae 2023). Finally, others explored food insecurity and researched how local food initiatives can provide both short-term impact and long-term structural change (Regnier-Davies, Edge, and Austin 2023).

Other research examined **food waste** and **food sharing initiatives** more broadly. Sharing economies and gift economies have long been an important part of human exchange (Wall Kimmerer 2024); by sourcing food from diverse sources—including waste bins and dumpsters—these initiatives often try to contest the neoliberal regime and values of food as a commodity.

Many of the projects and initiatives studied in this category are explicitly anti-capitalist. One of these is the anarchist social group 'Food Not Bombs' (FNB) which tries to redefine discussions on urban hunger in the United States. Two studies looked at how FNB provides a radical, alternative grassroots response to the neoliberal food system (Heynen 2010; Edwards and Mercer 2012). 'Foodsharing.de', an online platform in urban centres in Germany which facilitates food sharing, was also notable for its decentralised nature which was seen to democratise the logistics of food rescue through gifting and communal community fridges (Ganglbauer *et al.* 2014; Morrow 2019a).

Authors also studied local food sharing initiatives, researching their role during the COVID-19 pandemic, and concluded that these initiatives became essential services, providing infrastructures of accessibility and care (Dombroski *et al.* 2023; Rut and Davies 2024).

Urban Food Governance and Policy

Urban Food Governance and Policy emerged as another category (13 studies, 8% of the sample); these studies examined how cities and regions develop policies and governance structures to transform their food systems as well as local efforts to reimagine urban food governance.

A central tension in the literature concerns the meaning of 'local' food systems. While local food systems have become increasingly visible as structures of resistance to conventional globalised food systems, authors note that 'local' is a socially constructed concept tied to specific social, cultural, and ecological particularities (Feagan 2007). Critics argue that emphasising locality can shift focus away from deeper concerns of equity, citizenship, and sustainability (DeLind 2011).

Several governance frameworks emerged to address these complexities. City Region Food Systems (CRFS) attempt to overcome administrative boundaries in shaping urban food

governance. Research on CRFS implementation revealed key tensions, including challenges in defining regional boundaries and balancing short and long supply chains—suggesting that while localising food systems is important, long supply chains should not be ignored but rather integrated into local food policies (Krähmer *et al.* 2024). The foodshed concept offers an alternative approach, moving beyond simple circular radii around cities to consider specific climatic, geographical, and socioeconomic conditions. This methodology introduces the 'foodshed archipelago'—a more nuanced understanding of regional food systems' spatial configuration (Vicente Vicente *et al.* 2020; Vicente Vicente *et al.* 2021).

The literature also examined how food governance intersects with broader urban development goals. Studies explored how short supply chains can contribute to socio-spatial regeneration in public housing neighbourhoods (Basso, Biagi, and Crupi 2022), while others emphasised that solutions focused solely on food access can undermine more systemic approaches—highlighting instead the importance of endemic food culture and community expertise in building resilient local food systems (Cachelin *et al.* 2019).

Finally, research documented grassroots efforts to promote more inclusive urban food policies. These included incorporating gender relations and equity through an agroecological lens (Di Masso *et al.* 2022) and using multilevel governance approaches to bridge grassroots and institutional efforts in food system transformation (Edwards, Pedro, and Rocha 2020). Such studies suggest that effective urban food governance requires both top-down policy frameworks and bottom-up community initiatives working in concert.

Food Cooperatives

Food Cooperatives[52] emerged as another category of AFIs in the database (9 studies; 6% of the sample—specifically, consumer-side cooperatives (as opposed to production-side cooperatives composed of farmers). The cooperatives studied in the following studies were often smaller food cooperatives which often prioritise solidarity and social and environmental principles over profit (Berge 2017). These initiatives often rely on members committing to regularly volunteering at the cooperative, such as working the till, picking up food, preparing orders, or other activities (Revilla and Essbai 2022).

Some studies, taking a multiple case study approach, explored macro trends across several food coops, for example looking at how cooperatives can manage a common pool resource such as food through participatory practices (Berge 2017) or how collective action and reciprocity in cooperatives leads participants to negotiate their relationships (Lange, Smolla, and Waring 2022). Little, Maye, and Ilbery (2010) narrate various food co-ops in North

[52] Cooperatives are defined as associations of people united to meet various needs through a jointly owned enterprise (ICA 2025)

America, Europe, and Japan using the theory of 'diverse economies' foregrounded by Gibson-Graham (2008).

Elsewhere, researchers explored social behaviours in individual food cooperatives, noting how some food cooperatives construct a 'common good' (Skrzypczak 2020) by providing not just healthy food but social capital (Revilla and Essbai 2022) and economic and educational benefits. Rooney and Vallianatos (2022) use food coops as an example of a model of degrowth operating within capitalism, exploring opportunities and challenges for degrowth such as altering local food supplies, reducing food waste, and decreasing consumption. Others look at the potential of co-ops to support peasant modes of farming and to politicise food purchase (Jaklin, Kummer, and Milestad 2015), whereas others look at the possibilities for food commoning in co-ops (Mestres 2017). Finally, some scholars noted that food co-ops, like other AFIs, struggle with issues around exclusion (Zitcer 2014).

Social Innovations

Finally, a few papers (9 studies; 6% of the sample) studied food-related urban **social innovations.** These studies explored how cities become laboratories for new approaches to food systems transformation through educational initiatives, knowledge sharing, and alternative conceptual frameworks. I categorised these papers together as they all re-imagined ways to engage with food, often taking a more theoretical approach: many explored food as pedagogy, care, or reconceptualised food as a multi-dimensional commons.

Educational and pedagogical initiatives emerged as key sites of innovation. Research documented structured learning environments that build social infrastructure for systemic change, such as communities of practice bringing together institutional food buyers, distributors, retailers, producers, and government representatives to increase local food procurement (Beckie, Hedberg, and Radies 2019). Other studies examined how food becomes a pedagogical tool for teaching care—for diversity, neighbourhoods, and environment—through social innovation programs (Corubolo and Meroni 2023).

Knowledge sharing and alternative paradigms represented another dimension of social innovation. Davies, Rut, and Feeney 2022 examined seed sharing initiatives across 100 urban centres, documenting the rules, tools, and understandings that shape these practices globally. Sage (2014) studied the transition town movement for its role in promoting local food sovereignty and opposing corporate agri-food agendas.

Notably, several papers proposed fundamental reconceptualisations of food itself as social innovation. Research explored how considering food as commons rather than commodity could provide an alternative paradigm for sustainable transitions, offering a discourse that embraces both contemporary urban innovations and customary indigenous practices

(Vivero-Pol 2017a; Vivero-Pol 2019). These studies suggest that social innovations in urban food systems operate not just through new practices and institutions, but through fundamentally reimagining food's role in society.

Degrowth Principles

Overall Themes

While the search explicitly included several search terms related to degrowth, post-growth, and post- or anti-capitalist theories, the papers which explicitly mentioned these theories ultimately comprised a small portion of the results. 29 (19%) papers explicitly criticised capitalism and offered alternative perspectives.[53] Seven papers[54] used Gibson-Graham's (2008) theories of *diverse economies*,[55] investigating how economically diverse practices, like cooperatives, community sharing, and unpaid household and community care work can expand how we look at food away from just a commodity to a way of sustaining life and building community. Three papers[56] took an anarchist perspective, while others drew from diverse theories, often criticising capitalism's tendency to commodify food, and the limits of green growth paradigms in recognising and enshrining the rights and contributions of more-than-human actors.

Of this set of 29 papers, only 7 (4.5% of the total sample) mention degrowth,[57] despite 'degrowth', 'post-growth', and synonyms being a key search term. Of these papers, some engaged with it more explicitly— Rooney and Vallianatos (2022) explore degrowth values in Northern Canada, while others used degrowth as a tool to criticise and discuss criticisms of growth. Instead, most papers engaged with degrowth indirectly, instead focussing on principles associated with a degrowth agri-food system.

[53] Braga Bizarria (2023); Carolan and Hale (2016); Corcoran, Kettle, and O'Callaghan (2017); Davies, Rut, and Feeney (2022); Dombroski et al. (2023); Edwards, Pedro, and Rocha (2020); Facchini et al. (2023); Gladkova (2024); Heynen (2010); Jarosz (2011); Leitheiser et al. (2022); Little, Maye, and Ilbery (2010); Lloro-Bidart (2018); Lundström (2023); Mestres (2017); Revilla and Essbai (2022); Rooney and Vallianatos (2022); Rutt (2020); Sage (2014); Sato, Calvet-Mir, and Villamayor-Tomas (2024); Slavuj Borčić (2022); Stock, Carolan, and Rosin (2015); Thornton (2017); Tornaghi and Van Dyck (2015); Tzekou and Gritzas (2023); Ulug and Trell (2020); Vivero-Pol (2017); Vivero-Pol (2019); Wilson (2012)
[54] Braga Bizarria (2023); Carolan and Hale (2016); Dombroski et al. (2020); Dombroski et al. (2023); Jarosz (2011); Little, Maye, and Ilbery (2010); Slavuj Borčić (2022)
[55] Which discusses the potential of diverse, small-scale, post-capitalist initiatives, projects, and economies.
[56] Heynen (2010); Lundström (2023); Ulug and Trell (2020)
[57] Corcoran, Kettle, and O'Callaghan (2017); Edwards, Pedro, and Rocha (2020); Revilla and Essbai (2022); Rooney and Vallianatos (2022); Rutt (2020); Sage (2014); Tzekou and Gritzas (2023)

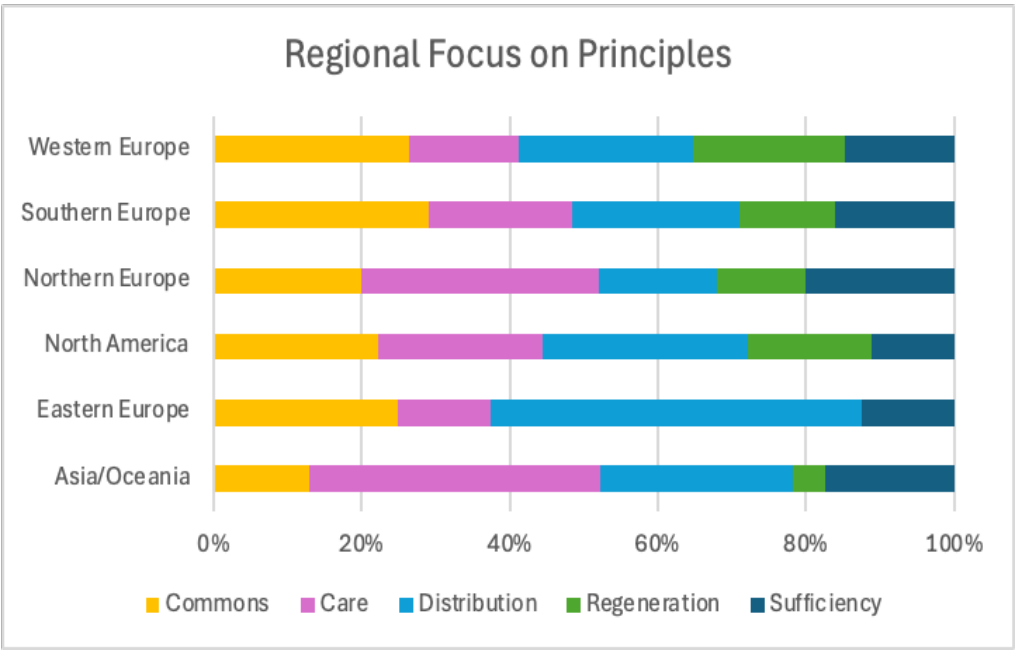

Figure 8: Share of principle mentions by region

Table 7: Heatmap of principles (compared with category of AFI)

Row Labels	Commons	Care	Distribution	Regeneration	Sufficiency	Category Total
Urban Agriculture	20	26	29	23	19	79
Alternative Food Networks	11	9	14	3	3	28
Surplus Food Redistribution	7	5	6	1	3	16
Food Cooperatives	5	1	3	2	1	9
Urban Food Governance and Policy	4	7	1	2	4	13
Social Innovations	5	2	2	1	2	9
Principle Total	52	50	55	32	32	154

The principles of distribution, commons, and care were the most discussed principles in the literature, with 55 (36% of the sample), 52 (34%), and 50 papers (32%) discussing these principles respectively.[58] Regeneration and Sufficiency were both discussed in 32 papers (21%).

A heatmap (Table 7) reveals some patterns in how different AFI categories engage with degrowth principles. Urban Agriculture shows relatively balanced engagement across all five principles, with the highest frequencies in Distribution (29 papers) and Care (26), followed by Regeneration (23), Commons (20), and Sufficiency (19).

Alternative Food Networks, conversely, demonstrates concentrated engagement with Distribution (14) and Commons (11) while showing minimal presence in Regeneration and Sufficiency. Surplus Food Redistribution initiatives (16) engage most frequently with Distribution (6 instances) and Commons (7), with limited representation across other principles. Food Cooperatives (9) show strongest alignment with Commons (5) and Distribution (3), while Urban Food Governance and Policy initiatives (13) demonstrate more dispersed engagement, with Care showing the highest frequency (7).

The geographic analysis (Figure 8) reveals significant regional variations in degrowth principle research. North America shows the highest overall engagement, particularly in Commons (18 papers) and Care (17), while Northern Europe demonstrates strong focus on Distribution (16) alongside balanced attention to Commons and Care (13). Southern Europe exhibits relatively even distribution across principles, with Distribution (10) and Sufficiency (8) leading. Eastern Europe concentrates primarily on Distribution (5) and Commons (4), while Oceania shows distinctive emphasis on Care (9) despite its smaller sample size. Asia demonstrates minimal representation with only isolated instances.

Distribution emerges as the most globally studied principle, appearing prominently across four regions, while regional specializations are evident—notably North America's emphasis on Commons and Care, and Oceania's focus on Care-related practices.

Degrowth Food Practices

As previously mentioned, the final part of my coding identified themes and practices. After analysing the principles discussed in each paper, I examined how the principles were operationalised. This led me to identify five practices for each principle,[59] resulting in 25 distinct practices through which urban alternative food initiatives operationalize degrowth principles. These practices, derived from coding 154 studies, reveal how AFIs translate

[58]In this analysis, I examine only if each paper does or does not explore a particular principle. I do not look at the concentration of mentions, or *how much* each paper looks at each principle.
[59] Please see the theoretical framework for a description of each principle

abstract post-growth concepts into concrete actions. Table 8 presents these practices organized by their corresponding degrowth principle, along with descriptions and supporting literature.

Table 8: Practices: *Includes description of identified practices, associated principle, and the articles where they are discussed.*

PRINCIPLE	PRACTICE	DESCRIPTION	ARTICLES
Commons	Commoning Food & Resources	Conceptualises food and other resources as *collectively* rather than *privately* owned and ensures universal access to, equitable distribution of, and sustainable management of the inputs and outputs of the food system	Davies, Rut, and Feeney (2022); Heitlinger, Bryan-Kinns, and Comber (2019); McClintock (2010); Mestres (2017); Moreira and Fuster Morell (2020); Morrow (2019); Purcell and Born (2017); Sumner (2011); Ulug and Trell (2020); Vivero-Pol (2017); Vivero-Pol (2019)
	Managing Common Resources	Includes practices like rule-setting, maintaining, and making decisions collectively to govern and sustain common resources. Highlights the importance of bottom-up governance structures.	Berge (2017); Morrow (2019); Ponstingel (2022); Rogge, Theesfeld, and Strassner (2018); Sato, Calvet-Mir, and Villamayor-Tomas (2023); Skrzypczak (2020); Slavuj Borčić (2020); Thorsøe and Kjeldsen (2016)
	De-commodification	Challenges the dominant market logic by removing food, land, and labour from commodity relations and treating them as common goods rather than tradable commodities, establishing direct producer-consumer relationships, solidarity payment systems, and collective ownership models that re-embed food exchanges within social relations.	Hinrichs (2000); Leitheiser *et al.* (2022); McClintock (2010); McClintock (2013); Pungas (2019); Sato, Calvet-Mir, and Villamayor-Tomas (2023); Serrano (2023); Ulug and Trell (2020); Valle (2021); Wilson (2012)
	Commoning Spaces	Discusses the collective management of spaces as 'urban commons', challenging the dominant duopoly of private property or state control. Asserts communities' 'right to the city'.	Bigell (2015); Corcoran, Kettle, and O'Callaghan (2017); Dombroski *et al.* (2023); Ferrari *et al.* (2023); Ginn and Ascensão (2018); Purcell and Tyman (2018); Rogge and Theesfeld (2018); Rutt (2020); Slavuj Borčić (2020); Tornaghi (2016); Valle (2021)
	Sharing Knowledge & Agency	Highlights practices of knowledge sharing, learning, and co-production of knowledge. Participants can develop new understandings which challenge dominant representations of food systems, encourages political participation and collective agency.	Corcoran, Kettle, and O'Callaghan (2017); de Wit (2014); Dombroski *et al.* (2023); Eizenberg (2011); Follman and Viehoff (2014); Fonte (2013); Hassanein (2008); McIvor and Hale (2016); Moragues-Faus (2016); Moreira and Fuster Morell

			(2020); Rae (2023); Rogge and Theesfeld (2018); White (2018)
Care	Enacting Feminist Care	Challenges gendered divisions of labour in AFIs while re-emphasising the importance of reproductive care work. Challenges individualism and discusses vital role of mutual aid in collectivising care-oriented food work.	Braga Bizarria (2023); Di Masso *et al.* (2022); Facchini *et al.* (2023); Giraud (2021); Heynen (2010); Jarosz (2011); Lloro and González (2022); Williams and Sharp (2022)
	Self-care	Challenges capitalist 'homo economicus' perspective, seeing humans as a profit-maximising machine by recognising the need to rest and care for oneself. Encourages people to adopt a compassionate and introspective form of communication with themselves.	Dombroski *et al.* (2020); Jarosz (2011); Lloro and González (2022); Pungas (2019)
	Caring for & Relating to the Earth	Emphasises creating a sense of care, connection, and interdependence with local land, food, and community. Discusses the importance of physical, embodied engagement with food production to counter alienation and reconnect with the natural environment.	Bowness and Wittman (2021); Corcoran, Kettle, and O'Callaghan (2017); Corubolo and Meroni (2023); Dombroski *et al.* (2023); Fonte (2013); Hassink *et al.* (2020); Heitlinger, Bryan-Kinns, and Comber (2019); Hsu (2019); Jarosz (2011); Kirwan (2004); Mincyte and Dobernig (2016); Morrow (2019); Pungas (2019); Rutt (2020); Sage (2014); Tornaghi (2024); Traill *et al.* (2024); Turner and Hope (2014); Uhlmann, Lin, and Ross (2018); Valle (2021); White (2018); Williams (2016); Zutter and Stoltz (2023)
	Caring for Community	Positions care as a pathway to social renewal and emphasising the significance of mutual aid, solidarity, and community care in maintaining and sustaining communities, thus addressing issues like food insecurity.	Corubolo and Meroni (2023); Crossan *et al.* (2015); Facchini *et al.* (2023); Gripper (2023); Guthman (2008); Hassink *et al.* (2020); Heynen (2010); Lloro and González (2022); Lundström (2023); Moreira and Fuster Morell (2020); Rae (2023); Rut and Davies (2024); Traill *et al.* (2024); Turner and Tam (2022)
	Caring for More-than-Humans	Adopts a perspective which recognises the agency, needs, and contributions of non-human entities in food systems and urban spaces. De-centres humans, incorporates traditional ecological knowledge, and fosters an	Betz (2020); Dombroski *et al.* (2023); Gladkova (2024); Gripper (2023); Hassink *et al.* (2020); Heitlinger, Bryan-Kinns, and Comber (2019); Heitlinger and Houston (2021); Lloro-Bidart (2018);

		inclusive ethics of care often achieved through embodied relationships with food and soil.	Scheromm and Javelle (2022); Turner and Hope (2014); Williams and Sharp (2022)
Distribution	Re-localising Economies	Localises economies and embeds food production and consumption within communities and 'foodsheds'. Emphasises importance of producer autonomy.	Allen, Goodman, and Warner (2003); Allen and Guthman (2006); Beckie, Hedberg, and Radies (2019); Berge (2017); Bilewicz (2020); Edwards, Pedro, and Rocha (2020); Facchini *et al.* (2023); Feagan (2007); Fonte (2013); Forssell and Lankoski (2014); Ganglbauer *et al.* (2014); Giraud (2021); Jaklin, Kummer, and Milestad (2015); Jehlička *et al.* (2021); Paul (2018); Psarikidou and Szerszynski (2012); Sage (2014); Simon-Rojo (2019); Sovová (2015b); Sylla, Olszewska, and Świąder (2017); Vaarst *et al.* (2017); White (2018); Yacamán Ochoa (2024)
	Distributing Power	Decentralises power by employing democratic, participatory, and collective decision-making processes; empowering small-scale food producers and distributors, and marginalised groups and communities; and creating solidarity and trust. Seeks to produce a 'food democracy.'	Berge (2017); Edwards, Pedro, and Rocha (2020); Facchini *et al.* (2023); Ganglbauer *et al.* (2014); Hennchen and Pregernig (2020); Hermesse *et al.* (2023); Heynen (2010); Medina-García *et al.* (2022); Moragues-Faus (2016); Regnier-Davies, Edge, and Austin (2023); Rut and Davies (2024); Simon-Rojo (2019); Sturiale *et al.* (2019); Thorsøe and Kjeldsen (2016); Tzekou and Gritzas (2023)
	Distributing Food & Wealth	Creates more equitable food distribution pathways and emphasises solidarity, cooperation, and value redistribution beyond conventional economic measures.	Berge (2017); Ganglbauer *et al.* (2014); Krähmer *et al.* (2024); Lundström (2023); Sylla, Olszewska, and Świąder (2017); Ulug and Trell (2020); White (2018)
	Shortening Food Chains	Seeks to both lower the distance travelled from farm to plate and reduce the number of linkages in a food chain by facilitating producer-consumer connections and networks.	Forssell and Lankoski (2014); Hinrichs (2000); Jaklin, Kummer, and Milestad (2015); Kirwan (2004); Medici, Canavari, and Castellini (2021); Moragues-Faus (2016); Sato, Calvet-Mir, and Villamayor-Tomas (2023); Tornaghi and Halder (2021); Turner and Hope (2014)
	Connecting Urban & Rural Areas	Emphasises bridging the divide between urbanity and rural areas, 're-embedding' food exchange in local social	Bowness and Wittman (2021); Canal Vieira, Serrao-Neumann, and Howes (2020); Feagan (2007);

		relationship and enabling urbanites to meaningfully connect with rural environments and food production processes. Connected to the concept of 'food citizenship'.	Krähmer *et al.* (2024); McClintock (2010); Ravenscroft *et al.* (2013); Sage (2014); Turner and Hope (2014); Yacamán Ochoa (2024)
Regeneration	Regenerative Agricultural Practices	Promotes methods that minimise external inputs, foster biodiversity, and close nutrient and resource loops. Places an emphasis on soil health. Seeks to change behaviour for the land towards viewing it as a living, interconnected system.	Betz (2020); de Wit (2014); Gladkova (2024); Hassink *et al.* (2020); Leitheiser *et al.* (2022); Medici, Canavari, and Castellini (2021); O'Hara and Stuiver (2022); Rozanski and Gavin (2023); Scheromm and Javelle (2022); Vaarst *et al.* (2017); Canal Vieira, Serrao-Neumann, and Howes (2020); Winkler, Maier, and Lewandowski (2019)
	Bioregional Identities	Proposes organising human lives and economies within *bioregions* rather than arbitrary political boundaries and enacting aspects of bioregional agro-ecological planning to help urban areas escape city-centralism and instead develop territorially rooted strategies.	Ponstingel (2022); Sage (2014); Yacamán Ochoa (2024)
	Facilitating Biodiversity	Encourages agroecological farming techniques, less intensive practices, and increasing the multifunctionality of agricultural landscapes to enhance biodiversity and thus support ecosystems.	Gladkova (2024); Heitlinger, Bryan-Kinns, and Comber (2019); Cabral *et al.* (2017); Langemeyer *et al.* (2018); O'Hara and Stuiver (2022); Ponstingel (2022); Royer, Yengue, and Bech (2023); Russo and Cirella (2020); Sovová (2015a); Winkler, Maier, and Lewandowski (2019); Yacamán Ochoa (2024)
	Healing the Metabolic Rift	By re-integrating agriculture into daily (urban) life and re-embedding it in local metabolic cycles, this practice heals the ecological and social disconnection between the city and the country, thus countering the exploitative and alienating nature of industrial agriculture.	Bohm (2017); Bowness and Wittman (2021); Bródy and de Wilde (2020); Corubolo and Meroni (2023); Di Masso *et al.* (2022); Hassink *et al.* (2020); Pungas (2019)
	Weaving TEK and Holistic Approaches	Emphasises the need for a more holistic, interdependent, and symbiotic relationship between humans and nature. Highlights the importance of acknowledging and respecting local, traditional and indigenous knowledge, cultures, and land stewardship. Seeks to challenge	DeLind (2011); de Wit (2014); Forssell and Lankoski (2014); Langemeyer *et al.* (2018); Leitheiser *et al.* (2022); Rozanski and Gavin (2023); Vaarst *et al.* (2017); Winkler, Maier, and Lewandowski (2019)

		techno-modernist food systems and instead create alternative narratives and imaginaries.	
Sufficiency	Self-Sufficiency	Seeks increased food self-sufficiency and resilience, thus lowering dependence on an external food supply, shortening food miles and potentially increasing food security for marginalised communities.	Baker (2004); Facchini *et al.* (2023); Pungas (2019); Sage (2014)
	City-Region Sufficiency	Uses concepts like bioregional territorial planning and foodsheds to make city-regions more self-sufficient. Emphasises urban and peri-urban farming and connections to local landscapes. Highlights importance of governance and policy support.	Baker (2004); Facchini *et al.* (2023); Fonte (2013); Krähmer *et al.* (2024); Rooney and Vallianatos (2022); Vaarst *et al.* (2017); Vicente-Vicente *et al.* (2020); Vicente-Vicente *et al.* (2021)
	Enough for All	Takes a radical approach to food provisioning, ignoring what is most economically efficient or profitable and instead pursuing actions which provide enough food for everyone, such as redistribution of surplus food, changing diets to be more ecologically efficient, and embracing degrowth and alternative economic models.	Edwards and Mercer (2012); Facchini *et al.* (2023); Ganglbauer *et al.* (2014); Rooney and Vallianatos (2022); Turner and Tam (2022)
	Ensuring Healthy food for All	Highlights importance of food sovereignty and ensuring access to healthy food for marginalised communities. Emphasises role of urban food policy as well as community-based food networks to reclaim control over food systems and rebuild food commons.	Bilewicz (2020); Bowness and Wittman (2021); Cachelin *et al.* (2019); Edwards, Pedro, and Rocha (2020); Giraud (2021); McIvor and Hale (2016); Moragues-Faus (2016); Pungas (2019); Serrano (2023); Tornaghi and Van Dyck (2015)
	Transcending Sustainable Consumption	Moves beyond conventional narratives of individual, market-led sustainable consumption, instead emphasising collective action and renegotiating social norms and practices. Builds place-based models of consumption, reconnects consumers to seasonality and origins of food, and uses food to build community, relationships and alternative economic arrangements.	Fonte (2013); Forssell and Lankoski (2014); Jaklin, Kummer, and Milestad (2015); Krähmer *et al.* (2024); Moragues-Faus (2016); Ravenscroft *et al.* (2013); Rooney and Vallianatos (2022); Sage (2014); Turner and Hope (2014); Tzekou and Gritzas (2023); Vicente-Vicente *et al.* (2020); Vicente-Vicente *et al.* (2021); Winkler, Maier, and Lewandowski (2019)

Commons

Under the principle of Commons, five practices emerged: Commoning Food and Resources, Managing Common Resources, Sharing Knowledge and Collective Agency, Commoning Spaces, and De-commodification. These practices collectively challenged the commodification of food systems by reconceptualising food, land, and knowledge as collectively owned and managed resources rather than private property or market commodities. Studies documented how AFIs create alternative ownership structures, develop community governance mechanisms, and foster collective learning processes that resist neoliberal enclosure.

Care

The principle of Care generated five practices: Relating to the Earth, Caring for Community, Caring for More-than-Humans, Enacting Feminist Care, and Cultivating Place-Based Stewardship. These practices emphasised rebuilding relationships severed by industrial food systems—between humans and nature, among community members, and with non-human entities. Research revealed how AFIs create spaces for embodied engagement with food production, mutual aid networks, and recognition of more-than-human agency in urban spaces, often drawing on feminist and indigenous frameworks of interdependence.

Distribution

Five practices emerged under Distribution: Re-localising Economies, Distributing Power, Distributing Food and Wealth, Shortening Food Chains, and Connecting Urban and Rural Areas. These practices addressed the concentration of wealth and power in food systems by creating more equitable allocation mechanisms. Studies showed AFIs developing democratic governance structures, facilitating direct producer-consumer relationships, and building solidarity networks that redistribute resources beyond conventional market mechanisms while bridging the urban-rural divide.

Regeneration

The principle of Regeneration produced five practices: Regenerative Agricultural Practices, Forming Bioregional Identities, Facilitating Biodiversity, Healing the Metabolic Rift, and Weaving Traditional Ecological Knowledge with Holistic Approaches. These practices moved beyond sustainability toward actively restoring ecological and social systems. Research documented how AFIs implement agroecological methods, enhance urban biodiversity, reconnect nutrient cycles between cities and countryside, and integrate indigenous and traditional knowledge systems into urban food production.

Sufficiency

Under Sufficiency, five practices were identified: Self-Sufficiency, City-Region Sufficiency, Enough for All, Ensuring Healthy Food for All, and Transcending Sustainable Consumption. These practices challenged growth-oriented efficiency by focusing on producing and consuming 'enough' within planetary boundaries. Studies revealed how AFIs increase food self-provisioning at individual and regional scales, redistribute surplus to address food insecurity, ensure equitable access to nutritious food, and promote collective rather than individualistic approaches to sustainable consumption.

These 25 practices demonstrate how urban AFIs translate degrowth principles into tangible interventions. While practices varied in scale and scope—from individual self-provisioning to city-regional food planning—they collectively represent attempts to prefigure post-growth food systems within existing urban contexts. For detailed analysis of how these practices manifest in the literature, including specific examples, challenges encountered, and interconnections between practices, see Appendix D.

Box C: Results

I coded my eight interviews according to the degrowth principles and practices codes I use in the systematic map. I identified several principles and practices in place at Madboks; however, I have chosen to elaborate on the following three as they stand out as illustrative examples of how AFIs prefigure a degrowth food system.

Sharing Knowledge & Agency

Volunteers in the organisation transform from passive recipients into active agents of food system change. In workshops run by Madboks, volunteers learn practical skills about food assessment, storage techniques, and creative cooking methods while simultaneously developing critical consciousness about systemic food waste (Participant C). This practical knowledge also happens organically through peer-to-peer interaction during shifts, where experienced volunteers guide newcomers through collaborative work (Participant D).

Elsewhere, volunteers develop agency beyond skill acquisition, as they become advocates who actively challenge dominant food system narratives within their social networks. Several interviewees told me how they have developed new understandings of the food system, which has empowered them to see themselves as part of a broader movement challenging industrial food logic (Participant B; E). They also told me about sharing this knowledge with friends and family, helping to reshape others' perspectives (Participant E).

Box 3: Results (*cont.*)

Distributing Food & Wealth

Madboks' donation-based model explicitly rejects market logic, and the suggested donation functions not as a price but as a contribution to collective infrastructure. This approach redistributes both material resources and power—volunteers gain agency over distribution decisions while recipients maintain dignity through voluntary contribution rather than charity.

The physical distribution system also embodies egalitarian principles. Unlike traditional food banks where first comers receive the best selection, Madboks intentionally pre-packs boxes to ensure equitable distribution regardless of arrival time (Participant A). The organisation strategically works in underprivileged neighbourhoods, further demonstrating intentional wealth redistribution and targeting areas with high concentrations of social housing, single-parent households, and international students.

Transcending Sustainable Consumption

Madboks participants move beyond individualised sustainable consumption narratives toward collective provisioning practices that challenge the commodity form itself. Rather than making 'better' consumer choices within market logic, I found that volunteers engage with food as a common good to be shared. One volunteer describes this shift, noting that since being involved at Madboks she has noticed a mental shift away from trying to 'cook this specific recipe' towards 'thinking about how to cook from the things that I have' (Participant C).

The initiative explicitly embraces the 'trash' label that others reject, with one organiser noting that calling rescued food waste is 'the radical aspect of it… we are eating this trash because it actually isn't trash' (Participant A), confronting the arbitrary beauty standards and market logics that transform edible food into waste. Another volunteer observed how volunteering reduces the 'anxiety that some people get about best before dates… people don't trust their own senses' (Participant F), indicating how Madboks helps participants reconnect with intuition about food quality rather than relying on abstract market indicators.

Framework Development

Sorting food at *Madboks* in Copenhagen, DK

Following consultation with advisors and field experts, I developed a two-dimensional scatter plot framework to visualise the identified degrowth practices and how they interact. The Y axis illustrates the scale of a practice, from individual to societal, whereas the X axis explores the scope of a practice, from partial to holistic. These axes were chosen in consultation with advisors and experts. In the section which follows, I will explore how these axes were chosen, developed, defined, and measured.

To answer RQ2: **What practices facilitate the creation of a post-growth food system?** I considered several options,[60] and eventually chose the two dimensions of 'scale' and 'scope' for a few reasons.

The scale of individual-societal actions was chosen as degrowth scholarship de-emphasises individual consumer choices in creating change and instead argues for collective and societal action and transformation. Conversely, the scale of partial-holistic practices was chosen as degrowth literature argues for a *holistic* transformation of the food system (Bloemmen *et al.* 2015); this scale assesses whether a practice fulfils this requirement or not. In essence, degrowth (and agroecological) scholarship argues that transforming one part of the food system is not adequate, as the food system is composed of interconnected and overlapping sub-systems and features (Wezel *et al.* 2020; Vincent and Feola 2020).

Using these two scales, I was able to build a framework which extends beyond previous AFI frameworks, who often try to categorise AFIs based on the degree to which they challenge conventional food systems (Watts, Ilbery, and Maye 2005). This framework, in contrast, assesses the practices performed by AFIs and to what degree they might facilitate a radical, post-growth food system.

Before discussing this framework, it is important to note that complex social practices can only be quantified incompletely and imperfectly. The practices identified are often context-specific and in different situations may shift positions and be implemented in different ways. Moreover, the Western and European bias in my expert validation group (all but one of whom come from a European context) as well as my own perspective limits the types of knowledge I value and how I rate it. Therefore, I encourage people to approach this framework with curiosity and scepticism and interpret the values as one possible truth rather than a singular reality.

[60] Several other dimensions were considered, and rejected: for example, a geographical scope was rejected as it was too similar to the individual-societal scale. I considered incorporating other frameworks like the ACT (Agency and behaviour Change framework for Transforming agri-food systems) framework (Freed et al. 2024); this was eventually rejected as the data I collected and coded was not sufficient to quantify the sub-systems that the ACT framework discusses.

Y axis: Individual-Societal

The Y-axis measures the 'scale' of a practice—illustrating its primary focus: individual, collective, or societal behaviours and effects. This scale formed a key part of the framework from its early iterations and was developed in response to a noted need for research exploring the propagation of change across different (*micro*, *meso*, *macro*) scales within post-growth food systems (Guerrero Lara *et al.* 2023) and for research which bridges individual and societal level understandings of change (Freed *et al.* 2024).

To develop this scale (scored 1-10), I scored each practice based on the following criteria:

Table 9: Definitions to classify practices from individual to societal

Individual (1)	Community (5)	Societal (10)
Denotes practices and initiatives that primarily take place on the individual level. Practices and initiatives here may see people as individualistic, competitive, and seeking to maximise utility. Or, they may consider the individual to be the key agent of a practice, and the key recipient of any benefits.	Denotes practices and initiatives that primarily take place on the collective level. These practices and initiatives are concerned with the meso-level between individual and society and consider the community and the collective as the key unit of analysis. On the lower end, this level may discuss small collectives; on the larger end, it may entail larger urban communities.	Denotes practices and initiatives that primarily take place on the societal level. These initiatives and practices rarely discuss individuals or communities; rather, they work with bioregions and human societies. Practices in this category may focus less on individual actions, and more on transformative narratives; initiatives similarly focus more on policies and innovations rather than local initiatives.
e.g. 'Self-sufficiency,' 'Self care'	*e.g.*, Caring for community, Shortening food chains, Regenerative agriculture practices	*e.g.*, Forming bioregional identities, Enough for all, Repairing the metabolic rift

Individual practices relate to neoliberal perspectives of sustainability which view it as a transition driven by personal practices and consumption choices (Feola 2020). *Community* practices connect to Ostrom's commons governance (Ostrom 1990, 2010) and extensive findings in this thesis (Tornaghi 2012; Nicol 2020) about the role of the commons and community in challenging neoliberal growthist food systems. Finally, *Societal* practices link to systems transformation literature (Abson *et al.* 2017) and theories of 'scaling deep' (Moore, Riddell, and Vocisano 2015); *i.e.*, changing the values and norms which underpin a system.

I presented this framework with these provisional scores in my Madrid Expert Workshop, and at the Brighton and Oslo conferences. After validating the framework's format at these conferences, I distributed a survey to the Madrid workshop participants, providing scoring criteria and asking them to evaluate each practice.[61] I received 3 responses from 7 experts (a 43% response rate)—the final scores (Table 10) show the average score (including myself and all recipients), rounded to the nearest whole decimal.[62]

The expert scores revealed substantial divergence, and some practices received very different scores across respondents.[63] With only four data points per practice (including my own assessment), these scores represent preliminary rather than definitive measurements, and the divergence in expert opinions reflects the challenges of quantifying complex social practices[64]

Despite these limitations, several interesting patterns emerged. The framework identified practices clustering in what I call the 'moderate middle' (scores 3-7 on both axes), revealed systematic gaps in research attention to highly transformative practices, and provided a structured way to analyse the scope and scale of degrowth. The divergent expert scores themselves proved also proved illuminating, highlighting genuine conceptual tensions in how we understand the transformative potential of different practices. I will explore these themes in greater detail in the discussion which follows.

Thus, I present these scores as heuristic tools rather than precise measurements. The framework's value lies not in its numerical precision but in its capacity to reveal patterns, gaps, and relationships within the literature that might otherwise remain invisible.

[61] In the survey, I included a short definition for each practice and asked recipients to score them to the best of their ability—if they did not understand a practice, I invited them to leave it blank. All names and data associated with this section were anonymous.
[62] I chose to use whole decimals for clarity and to reflect the whole decimals of the x-axis. More granularity was deemed unnecessary as quantifying social practices is imprecise.
[63] The practice of 'Caring for More-than-Humans, for example, received scores of '7', '10', and '1'. I had scored it a '5', leading to a final average score of 6.
[64] In the future, I hope to facilitate another workshop (or series of workshops) with experts, potentially using the *Delphi* structured communication method (Hirsch, Heuschkel, and Terlau 2018) to achieve a convergence of opinion and build consensus around these values. I believe the short definitions for each practice and lack of subsequent discussion led to the stratification of values and resulted in highly different scores. The *Delphi* method would help address these concerns.

Table 10: Final Scores for Framework

Principle	Practice	Partial-Holistic Score	Individual-Societal (1-10)
Commons	De-commodification	10	9
Commons	Sharing Knowledge & Agency	8	7
Commons	Commoning Food & Resources	7	6
Commons	Managing Common Resources	4	5
Commons	Commoning Spaces	2	7
Care	Caring for & Relating to the Earth	7	5
Care	Caring for Community	5	5
Care	Caring for More-than-Humans	5	6
Care	Enacting Feminist Care	4	7
Care	Self-care	2	1
Distribution	Re-localising Economies	8	6
Distribution	Distributing Power	5	6
Distribution	Connecting Rural & Urban Areas	5	7
Distribution	Distributing Food & Wealth	4	7
Distribution	Shortening Food Chains	4	6
Regeneration	Weaving TEK and Holistic Approaches	10	10
Regeneration	Healing the Metabolic Rift	8	9
Regeneration	Forming Bioregional Identities	8	8
Regeneration	Facilitating Biodiversity	4	5
Regeneration	Regenerative Agricultural Practices	3	6
Sufficiency	Enough for All	9	8
Sufficiency	Ensuring Healthy food for All	8	8
Sufficiency	City-Region Sufficiency	7	7
Sufficiency	Sustainable Consumption	7	6
Sufficiency	Self-Sufficiency	5	4

X Axis: Partial-Holistic

While the Y-axis was part of this framework from its initial stages, the X-axis emerged later, during an ongoing process of iteration and consultation.[65] Various literature has explored the value of targeted interventions in the food system as opposed to attempting to create holistic food systems change; representing the *scope* of a certain practice, this scale

[65] Thank you especially to José Luis Vicente-Vicente for his assistance and advice in developing this part of the framework.

represents the degree to which it impacts one, a few, or several parts of the food system. In essence, it connects to the discussions of the positive effects of AFIs networking which I discussed in the theoretical framework.[66]

This axis connects to another part of the theoretical framework, where I discussed a conceptualisation of the food system comprising 10 different stages: Cultivation, Harvest, Storage, Distribution, Processing, Packaging, Trading, Retail, Consumption, and Waste. I based these ten stages on established literature within this field, particularly the HLPE (2017) report and the principles of agroecology described by Wezel *et al.* (2009).

Table 11: Food Chain Definitions

Stage	Definition
Cultivation	The growing and tending of crops or livestock, including soil preparation, planting, fertilizing, and farm management practices
Harvest	The collection of mature crops or animal products, including timing decisions, labour organization, and initial quality sorting
Storage	The preservation and warehousing of food products to maintain quality and prevent spoilage between harvest and distribution
Distribution	The transportation and logistics of moving food from producers to processors, retailers, or consumers
Processing	The transformation of raw agricultural products into food items, from minimal washing to complex manufacturing
Packaging	The containment, protection, and labelling of food products for transport, retail display, and consumer information
Trading	The financial exchange, speculation, and investment in food commodities, including futures markets and price setting
Retail	The sale of food products to consumers through various outlets including supermarkets, farmers' markets, and cooperatives
Consumption	The purchase, preparation, eating, and cultural practices around food by individuals and households
Waste	The disposal, composting, or recovery of food waste and byproducts, including efforts to close nutrient loops

[66] As I mentioned in the theoretical framework, alternative agri-food networks represent a key mechanism for food systems transformation by directly connecting producers and consumers, facilitating knowledge sharing, and building communities of practice. These networks address structural 'lock-in' effects of the corporate food regime by providing farmers greater autonomy over production decisions and market access. They operate across multiple scales, linking local agroecosystems to broader food systems while maintaining local specificity.

Some stages differ slightly from those described in these sources. 'Trading', for example, encompasses speculation and investment in and on food. It is not mentioned in the HLPE directly; nonetheless, it is a crucial part of how our food system operates (Vivero-Pol 2017). Similarly, I separated the HLPE's 'Production Systems' (HLPE 2017, 26) into Cultivation and Harvest, as within the context of AFIs these often encompass different practices.[67] Finally, to this list, I added 'Waste'. Composting and disposing of food waste is a key part of urban food systems and an important intervention point by AFIs (Blay-Palmer *et al.* 2018).

To determine the values used for this section of the framework, I took the 25 identified practices and examined how different initiatives and cases in the dataset operationalised them, analysing mentions of specific food chain activities, reported outcomes, and theoretical relationships described in each coded section. An early version of this methodology was suggested by the chair of my session at the NEST conference; I extend my gratitude to them.

Based on how each practice engaged with a stage of the food chain, I scored it for each stage. I would mark a stage as 'positive' if it engaged with a practice directly or indirectly. Direct engagement involved practices explicitly targeting a stage (*e.g.*, 'regenerative agriculture practices' directly affects Cultivation), while indirect engagement captured downstream effects (*e.g.*, 'ensuring healthy food for all' indirectly influences Trading patterns by reconsidering how we should value food as a speculative good). Finally, I determined the sum of the affected stages which determined the final score, seen in Table 10.

[67] CSA schemes, for example, invite members to self-harvest but less frequently encourage collaborative cultivation (Medici, Canavari, and Castellini 2021)

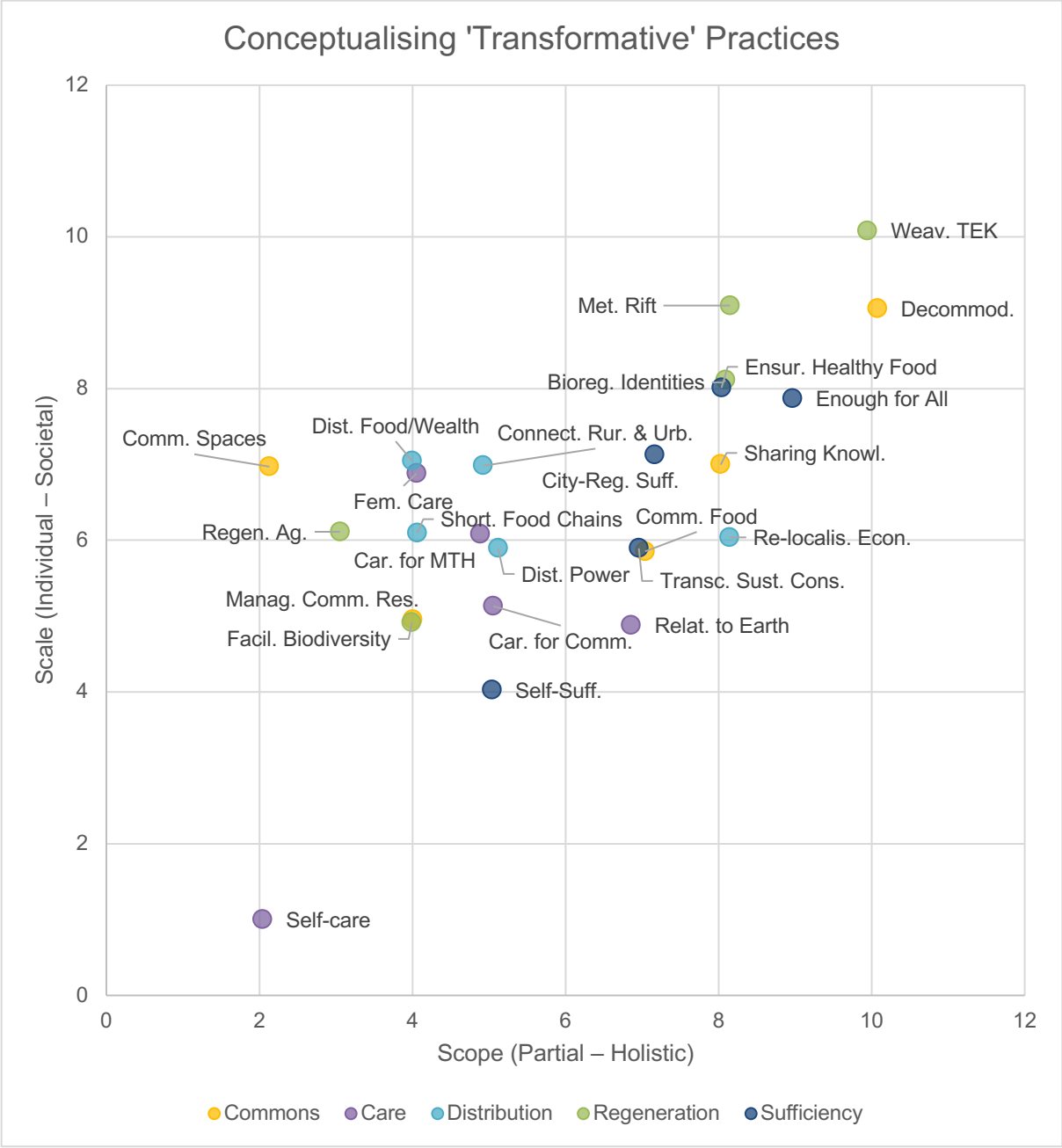

***Figure 9: Conceptual Framework (with labels)**. Due to using whole integers, several of the values overlapped in this data visualisation. I therefore added a small amount (+/-0.10) of random variation ('jittering') to the figure to make all the data points visible.*

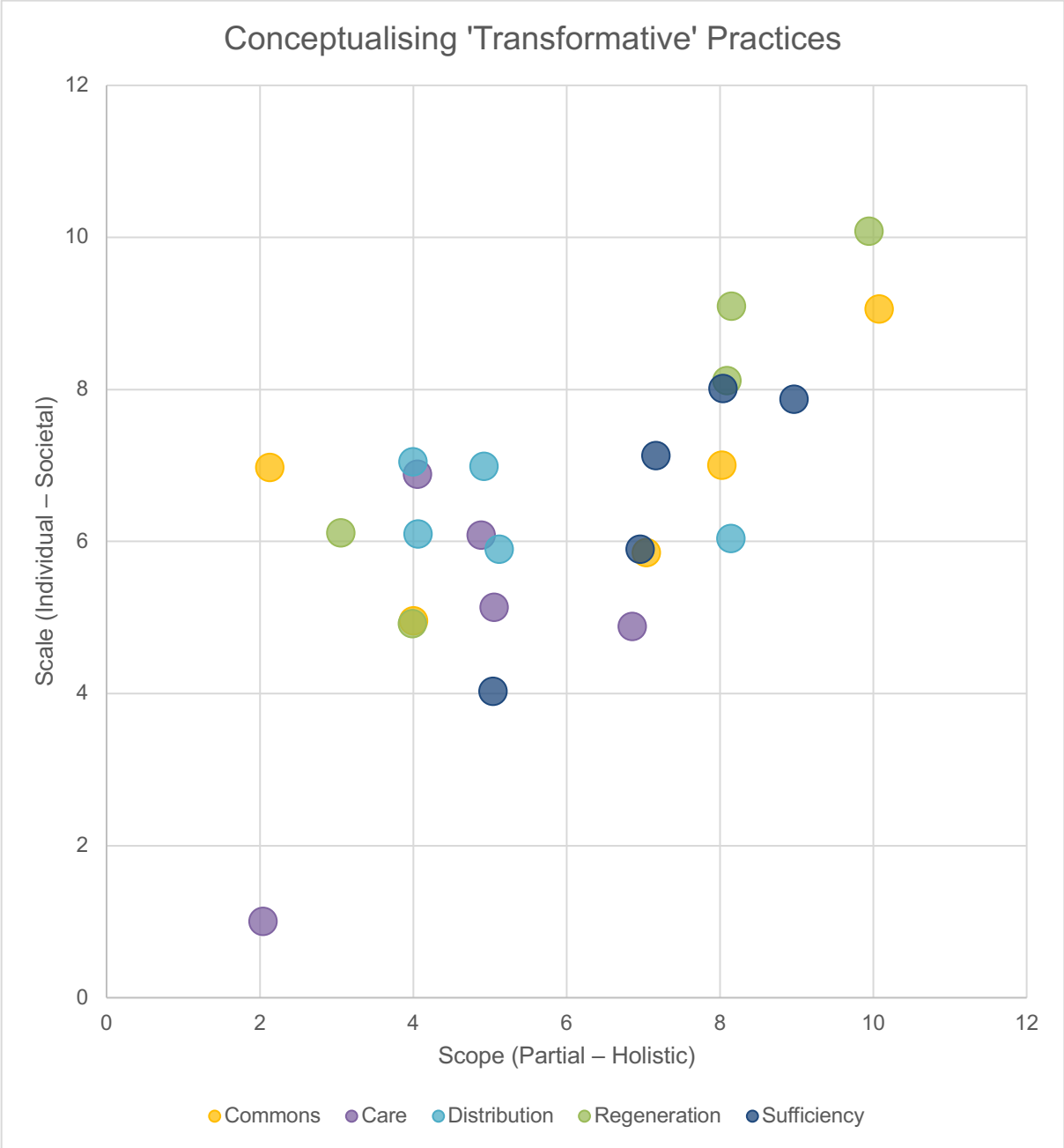

Figure 10: Conceptual Framework (without labels)

Discussion

An agroecological peri-urban farm in Madrid, ES

Degrowth Principles in the City

Before turning to the framework, I want to first explore the results of the systematic map, and the imbalance I uncovered in how degrowth principles manifest through urban AFIs. While the principles of distribution, commons, and care appear frequently across the literature, regeneration and sufficiency remain understudied. This imbalance reflects fundamental tensions between what cities are, what they might aspire to be, and what research on urban food systems can feasibly capture.

This imbalance also raises questions about the relationship between urban form and degrowth transformation. Are certain principles inherently more compatible within urban contexts? Do methodological constraints shape what researchers choose to study? Or might such patterns reveal deeper contradictions in imagining post-growth futures within spaces that epitomize accumulation, extraction, and control?

The following analysis examines each principle in turn, exploring why some of these principles flourish in urban AFI research while others struggle. These patterns, I argue, reveal not just what is happening in urban food initiatives, but expose the conceptual and practical limits of pursuing degrowth transformations through city-based interventions.[68]

Food Distribution in the City

Researchers discussed distribution extensively in the sample, with 55 papers (36 per cent of the sample) considering ways in which AFIs create post-growth systems and allocate food, wealth, and power, particularly in AFNs and food redistribution initiatives. The reason for this dominance may be that the urban condition necessitates a complex distribution system, as cities are consumption centres disconnected from production.

Food is almost entirely consumed (but not produced) in cities, so food distribution—and questions of how to do this better—dominate the discussion. With growing urgency and interest in food supply chains, especially as climate change exposes the fragility of food distribution (Zasada *et al.* 2019), some authors saw this subject as increasingly important and thus explored initiatives and outcomes which connect consumers with producers and shorten and strengthen supply chains (such as CSA schemes or solidarity buying groups) (Basso *et al.* 2022; Jarosz 2008).

Activists' and scholars' interest in distribution also comes as a challenge to capitalist accumulation, an alternative to the neoliberal doctrine of trickle-down economics. Today,

[68] While the systematic map reveals these patterns clearly, understanding their causes requires careful interpretation. The following analysis offers potential explanations grounded in urban theory and insights from the literature studied, though definitive causal claims would require different methodological approaches.

cities are sites of deep inequality, hosting both the world's financial centres as well as areas of deep poverty and food insecurity. In these consumptive, stratified centres, (re)distributing food, wealth, and power from the 'haves' to the 'have-nots' can be seen not only as a moral obligation but a way to create a more just society (Psarikidou and Szerszynski 2012). Some papers explicitly addressed these inequalities, with some initiatives responding to the economic inequalities which followed the 2008 financial crisis (Corcoran, Kettle, and O'Callaghan 2017), while others take an anarchist and activist approach (Heynen 2010).

Reclaiming the Urban Commons

Distribution addresses the flow of food through cities, but researchers considered the ownership of the food equally important. From urban sociology's early roots in Chicago, urban sociologists have considered cities to be contested spaces (Simmel 1903; Burgess 1925). In the decades following the 1980s, when neoliberalism ascended as the dominant political-economic doctrine of the west, cities became seen sites of resistance against the further privatisation, enclosure, and commodification of all aspects of urban life (Harvey 2005). Academic focus on this resistance may help explain the prevalence of research focussing on this principle within the data sample, with 52 papers (34% of the sample) exploring the principle of common ownership.

In her 2015 essay, Saskia Sassens asked, 'Who owns the city?' While Sassens' research does not align with post-capitalism, her question reflects broader trends in urban studies. Scholarship across fields and disciplines has been increasingly concerned with capitalist desires to transform the 'small and/or public' into the 'large and private' (Sassen 2015), resistance to which is captured in Henri Lefebvre's statement about the 'right to the city,' referring to the fundamental right of all urban inhabitants to access, occupy, and participate in urban space (Purcell 2014).

Thus, reflecting a widespread interest in commoning food, land, and labour, papers discussing commons ask: 'Who owns food in the city?' AFIs provide an opportunity for individuals, communities, and city-region policymakers to reclaim power and space from commodifying and privatising powers (McClintock 2021). Urban agricultural initiatives show real places where citizens can reverse the enclosure of space in the city (Ela 2016). Moving beyond private control or state management, practices such as 'managing common resources' offer a third way—beyond the market or government control—for citizens to manage food and land (Berge 2017).

These processes challenge the hegemonic food system and some of its fundamental logics—the privatisation of resources, the commodification and resulting unaffordability of food in many food regions. Their prevalence may speak to the salience of these questions, and the ways in which commoning initiatives are not just salient in an era of enclosure and

privatisation but are visible, accessible, and community-oriented, thus making them methodologically approachable.[69]

Urban Alienation and Care

Beyond questions of ownership, urban AFIs also reshape fundamental relationships between people and species. Research on the relational principle of care—the third of the predominant principles, with 50 papers (32% of the database)—emerges as a resistance to mechanistic and industrial food systems, and the alienating nature of modern cities. Cities epitomise the 'control' paradigm: standardised, efficient food systems that minimise relationality and maximise throughput. Against this backdrop, AFIs create spaces to heal the rationalist separation of food, land, and community.

This tension between control and care has deep roots in urban theory. Georg Simmel (1903) observed how urban life transforms the fundamental human struggle as 'the struggle with nature for the means of life is transformed into a conflict with human beings' (17). Nature itself disappears as it becomes controlled and instrumentalised; land-based vocations give way to wages and markets. The modern conflict shifts from human-versus-nature to individual-versus-social structure—an observation which still resonates today with authors in the dataset (Uhlmann *et al.* 2018; Valle 2021).

However, contemporary AFIs directly address this alienation, perhaps explaining this principle's ubiquity in the literature. First, they restore human-to-human connections severed by urban anonymity (Turner and Hope 2014). Most AFIs are community-led, creating networks of mutual support that counter what Simmel identified as the fundamental disconnection of metropolitan life. The prevalence of women-led initiatives further emphasizes this relational work, making visible the reproductive labour that sustains communities yet remains hidden in market economies (Williams and Sharp 2022; Braga and Bizarria 2023).

Second, they cultivate new forms of multi-species care that challenge anthropocentric urban design (Lovsin 2014), reflecting broader scholarly trends which recognise that human well-being depends on ecological relationships (Tornaghi 2024). By creating spaces where humans can relate to soil, plants, and urban wildlife, the authors in this study argued that AFIs begin to repair what the industrial food system has severed (Lloro-Bidart 2018; Dotter 2018).

Thus, care emerges not merely as a practice but as resistance—a rejection of efficiency-oriented food systems and alienating urban structures. These initiatives demonstrate that

[69] I will return to this theme later in the discussion.

even within the most controlled environments, spaces for connection, healing, and alternative ways of being can flourish.

Regeneration

While AFIs' practices of care encourage members to renegotiate their relationships with each other and the natural world, the principle of regeneration suggests we shift our mindset away from seeing nature as a pool of extractable resources and instead begin to work with the recuperative and creative processes of nature. This principle is critical to a degrowth transition; however, it appears far less frequently in the results, particularly in its deeper manifestations—a scarcity which reflects both the material constraints of urban environments and the temporal mismatches between ecological processes and research cycles.

The literature in the dataset highlighted the importance of regeneratively working with soil health, biodiversity, and ecosystem cycles (Archdeacon 2015; Gladkova 2024). Yet as they currently exist, cities are mostly sealed surfaces with minimal soil access—biodiversity deserts when compared to many rural areas, disconnected from seasonal and ecological rhythms (Royer *et al.* 2023). Within this context, studying ecological processes becomes difficult, as the material basis for them does not exist.

Similarly, while practices of regeneration operate on ecological timescales, urban development cycles are measured in years, not decades. Discussing soil building over generations, for example, falls far outside the scope of urban development narratives (Scheromm and Javelle 2022). While the phenomenon could be an issue more broadly associated with researchers exploring short-term initiatives, it nonetheless makes exploring regenerative practices and effects more difficult. Thus, when regenerative practices appear, they often do so in small-scale, more direct ways— practices such as 'facilitating biodiversity' or 'managing soil health' in small garden plots, rather than taking more radical, societal approaches (Taylor and Lovell 2021).

Moreover, many of the researched AFIs operated in a way that, while not necessarily working against the principle of regeneration, did not in fact work toward it. For example, initiatives often addressed *social dimensions* of regeneration, while leaving the ecological dimension unchanged (Crossan *et al.* 2015; Battisti 2019). This concept appeared frequently in scholarship on the metabolic rift: while some papers explored the idea in cities, fewer papers discussed how to heal such a rift—particularly involving research on how cities might return nutrients to the soil or close unsustainable metabolic loops with the hinterlands (McClintock 2010; Pungas 2010).

The nature of many AFIs permits and encourages a fragmented approach, despite the principle of regeneration theorising and discussing landscape-level regeneration and

bioregional approaches. Instead, as Mincyte and Dobernig (2016) argue, fragmented plots and gardens are often insulated from ecosystems with little focus on ecological corridors or connectivity. Socially, many of the initiatives were isolated, rarely forming part of a city-region approach—the few that do are rare exceptions (*e.g.*, O'Hara and Stuiver 2022; Vaarst *et al.* 2017). Urban regeneration remains trapped at the scale of garden plots and thus finding it difficult to address systemic degradation.

Finally, the regenerative gap is particularly pronounced at the societal and narrative scale: While it highlights the importance of traditional ecological knowledge and indigenous cosmologies that see humans as part of natural systems, the results from the dataset show minimal engagement with indigenous knowledge[70] and western scientific approaches dominate 'alternative' initiatives.

Do urban dwellers lack the embodied knowledge and generational knowledge of land stewardship? Do urban AFIs perpetuate, rather than heal the metabolic rift and processes of extraction? Research is critically needed in this area to find out. Future research should ask how cities reduce their extractive footprints, to better conceptualise bioregional governance beyond city boundaries, and how indigenous knowledge frameworks might be applied and adapted to urban contexts. And perhaps the most pressing question is whether cities are fundamentally incompatible with ecological regeneration. The lack of scholarship thus far raises questions about urban futures in a degrowth paradigm.

Sufficiency Gap

Regeneration discusses how our socio-ecological systems should function; however, the principle of sufficiency asks about the goals around which our economic structure should be structured. Like regeneration, the principle of sufficiency also proved difficult to find in the dataset—both in the effects and practices created by AFIs, and in the questions asked by researchers. I believe this deficit may have roots in the urban, community-level scale at which AFIs operate.

First, the principle may be a difficult one to measure on the community scale which AFIs target: How is sufficiency quantified in urban systems? However, perhaps more likely is that values of sufficiency target the 'deep' logics of growth and accumulation more than other principles, which often discuss concrete, individual actions and practices. Within the theoretical framework, I identified two definitions of sufficiency: one of 'autonomous' sufficiency (*i.e.*, local sovereignty and independence from global chains), and one of 'material' sufficiency (*i.e.*, producing and consuming *enough* within planetary boundaries). When AFIs do engage with sufficiency, they do so with the former, not the latter, often

[70] With only a few exceptions, such as Dombroski et al. (2023) and Deluze et al. (2023)

focussing on individual or household self-provisioning (Sovová 2015; Pungas 2019) rather than on systemic questions of 'enough'.

Second, the principle of sufficiency implies *reduction*, an idea which studies have shown people often perceive as politically unfavourable or challenging (François *et al.* 2025; Trauger 2015). Principles like commons or care are easier to discuss than a principle which implies sacrifice or reduction for some. Similarly, in the context of (often middle class) AFIs (Slocum 2007), participants may want to resist examining their own overconsumption—many initiatives tried to expand access for low-income or marginalised groups through community kitchens or food access (Henson 2013; Taylor Lovell 2021); however, none looked at limiting excess consumption within their own members, for example. In fact, across the dataset, there is little serious engagement with consumption reduction aside from some city-regional policies (Moscatelli *et al.* 2016).

Third, the urban context may play a role— as discussed with the principle of regeneration, cities depend on extracting food from their rural surroundings. Urban AFIs mostly focus on increasing production, not reducing consumption. Over 50% of the studies focus on urban agriculture, yet none of these discuss limiting consumption. In fact, the closest we get are discussions about making the food system more efficient by reducing food waste (Edwards and Mercer 2012)—which is neither sufficient nor a targeted enough reduction in consumption to be an adequate response (Yang and Yang (2022).

The scaling of urban food solutions lies at the heart of the issue. Individual initiatives (*e.g.*, community gardens, food cooperatives) cannot independently address city-scale sufficiency, which requires a multi-scalar, holistic approach incorporating all aspects of the food chain from production to consumption. Creating food networks and conceptualising city-region sufficiency can therefore better address the principle of sufficiency, yet these topics remain understudied, with only a few papers (*e.g.*, Vicente-Vicente *et al.* 2021; Krähmer *et al.* 2024; Yacamán Ochoa 2024) addressing them. Thus, an outstanding question stands: what would socially and ecologically sufficient food systems look like at an urban scale?

If this question remains unanswered, AFIs risk reproducing rather than challenging unsustainable food systems, focussing on alternatives without reducing mainstream consumption, adding more initiatives and institutions without subtracting negative ones, and avoiding hard questions about limits and fair shares.

The sufficiency gap is a critical research gap—we need research that studies initiatives which actively engage with socio-ecological limits, that explore how cities and researchers can model what is 'enough' for their bioregions, and explore pathways where individual action (including, for example, consumption narratives) can interact with societal narratives of sufficiency. If not, we risk further reproducing the hegemony of growth and its ideals.

Framework Analysis

Introduction to the Conceptual Framework

The patterns discussed above—the dominance of certain principles and the systematic neglect of others—raise fundamental questions about *how* we study urban AFIs and their transformative potential. To better understand these patterns, I developed a framework that maps practices along two critical dimensions: scale (from individual to societal) and scope (from partial to holistic interventions in the food system). This framework reveals not just what is being studied but exposes systematic biases in researchers' approach to degrowth transformations through AFIs.

By plotting the 25 practices identified across these dimensions, three critical patterns emerge. First, a 'researchability bias' favours measurable, community-level practices over more abstract societal transformations. Second, research clusters in a 'moderate middle,' avoiding both the individual and the broadly systemic. Third, the practices with the highest transformative potential—those scoring high on both scale and scope—remain systematically understudied. These patterns suggest that methodological constraints and institutional pressures may be limiting our ability to understand and foster the very transformations that degrowth requires.

The 'Researchability' Bias

A tendency towards measurable, grounded practices appeared as one trend from the framework—something I call a 'researchability' bias, which can be seen in the framework where fewer practices explored have societal implications—76 per cent of practices score a 7 or below on the scale.

Based on the literature, the source of this bias likely lies in two places: the subject choice of this literature map, and the methods chosen by authors in the literature database. Regarding the former, the focus on (generally community-scale) AFIs in this literature map likely highlighted practices which were similarly community-focussed.

More importantly, regarding the latter, practices with individual or community-scale impacts may have been easier to measure than those with societal impacts. Understanding how community initiatives impact societal narratives might be difficult to measure and analyse.

This tendency towards community- and individual-level practices aligns with insights from the first part of the discussion. While practices associated with the principles of care, commons, and distribution often have a more local focus, practices like regeneration and distribution have a broader focus.

Therefore, echoing other reviews of the literature (Guerrero Lara *et al.* 2023), this literature map revealed a disconnection between the concrete actions in community initiatives and the systemic outcomes that activists, practitioners, and researchers hope to achieve. A concrete action like 'managing common resources' (4,5) is far simpler to research, whereas something more abstract and societal – 'enough for all'—has more transformative potential but may also be harder to research. Addressing this research gap is highly relevant, and we will return to some potential opportunities and methodological alternatives later in the discussion.

Patterns Across the Framework

The 'Moderate Middle'

The framework also reveals that research gravitates to practices that are clustered in the middle ranges, scoring from 3 to 7 on either axis—neither too individual or too societal, narrow or holistic. The extremes are missing, with few practices which score very high or low on both scales—only 'Weaving TEK' and 'De-commodification' at 10,10 and 10,9 respectively, or 'Self-Care' at 2,1. This led me to ask: why are most researched practices clustered in the middle?

Regarding scale (individual-societal), as previous sections have mentioned, the focus on community-level practices likely relates to the object of research being community AFIs, not of individuals or of policies. Practices which focus on community governance and the commons also dominate, connecting to theories of community management and governance, as Ostrom explored in *Governing the Commons* (1990). Regarding scope, I found holistic practices, integrating aspects from production to waste, rare. Their scarcity may reflect practical constraints—as some authors in the database noted, it is easier to create and manage a focussed intervention rather than trying to transform the whole system at once (Psarikidou and Szerszynski 2012).

Of course, it could also mean AFIs themselves mostly embody practices that are neither too narrow/individual nor too holistic/societal. If this were true, it would suggest a fundamental limitation of AFIs in creating change beyond the community scale. However, as we do not test for bias in this research, it is impossible to draw any conclusions here, and the framework only represents what is being studied and does not attempt to create a representation of AFIs' actions.

Finally, there remains the risk—as we discussed previously—that researchers are studying what is convenient rather than transformative, and that this 'moderate middle' represents an 'easy way'. More research is needed to understand the processes by which AFIs transform specific individual practices as well as societal practices, some suggestions for which will be explored later.

The Transformative Quadrant

Practices which scored highly on scope and scale are deep, holistic practices and reimagine the fundamental structures of the food system from farm to fork. However, these practices and these principles were systematically understudied in research on AFIs. The six principles in the so-called 'transformative quadrant' were as follows:

- Weaving TEK and Holistic Approaches (10, 10) (Regeneration)
- De-commodification (10, 9) (Commons)
- Enough for All (9, 8) (Sufficiency)
- Ensuring Healthy Food for All (8, 8) (Sufficiency)
- Repairing the Metabolic Rift (8, 9) (Regeneration)
- Bioregional Identities (8, 8) (Regeneration)

The principles of regeneration (3 practices) and sufficiency (2 practices) dominate these practices. The related growth principles of extraction and efficiency comprise some of the fundamental belief systems which sustain growth. Their post-growth replacements are not just actions but outline the foundational normative changes which shape actions towards a post-growth shift in the other principles (Vivero-Pol 2017). Therefore, my results led me to ask why the principles of regeneration and sufficiency, which seem to be more transformative, are understudied overall?

One reason may be that many of these practices are temporally broader and thus encompass phenomena which take years to develop. Conversely, the nature of published academic research prioritises subjects which can be more easily measured in the short term. Research funding and publication cycles demand quick results, deprioritising emergent properties which only become visible over time.[71]

Second, urban AFIs are place-based, bounded initiatives often focussed on changing one or two parts of the food chain. However, systemic change (the type of change which is both highly holistic and societal) is necessary for 'deep' scaling (Davelaar 2021) and for degrowth transformation (Bärnthaler *et al.* 2024), as degrowth paradigms radically differ from the paradigms underpinning growth. A mismatch in scale emerges between what is studied and what is needed, creating a tension: authors are studying local, discrete initiatives to try and solve global problems. This reflects a broader tension in degrowth transformations research—can scattered initiatives create systemic change?

[71] Exploring 'regenerative agriculture practices,' for example, is easier to study than a practice like 'repairing the metabolic rift,' or than individuals who are integrating traditional ecological knowledge into their production and consumption routines.

Finally, issues arise around attribution. The narratives in the 'transformative quadrant' are broad and, unlike a practice who impacts are easily attributed,[72] measuring how community initiatives can impact a holistic narrative of de-commodification, for instance, is challenging. Thus, causality may become increasingly opaque as practices become more holistic and societal, especially as multiple initiatives likely contribute in parallel to narrative shifts, making isolation difficult or impossible. To address this, I propose novel research forms, which I will explore in greater depth later in the discussion.

Other researchers' work at the ISEE/Degrowth conference I attended affirmed some of these hypotheses. Anna-Lisa Brattinga,[73] a researcher presenting in my session, did a scoping literature review of the food policies of the World Trade Organisation (WTO). We used the same framework from McGreevy *et al.* (2022); however, while our systematic map found a dominance of care, commons, and distribution principles, her report observed a dominance of the principles of regeneration and sufficiency and distribution (Brattinga 2025).

Her results provide possible answers for some of our previous three hypotheses. The WTO, as an established institution, has interventions and policies dating back to the 1980s and 90s, and thus does not suffer the same temporal limitations that research on local initiatives does; funding sources similarly differ greatly from traditional academic grant structures (Even *et al.* 2024). Similarly, unlike urban AFIs, WTO policies are not place based and may try to impact the food chain holistically. While attribution issues remain for research exploring how these policies shape narrative shifts around regeneration and sufficiency in international trade, this divergence in findings between local AFI research and international policy analysis underscores how different scales of intervention reveal distinct degrowth principles at work.

Therefore, despite a radically different focus, the research done by Brattinga (2025) may help validate this framework. This does not suggest, however, that we should abandon research on regeneration or sufficiency within AFIs. Rather, a degrowth transformation needs to understand how disparate parts (*i.e.*, local initiatives and societal outcomes, or trade policies and local impacts) interact. The following section will explore some of these networks and further synthesise the insights the discussion has explored to this point.

[72] *i.e.*, we can quickly understand how a community kitchen distributes food and alleviates hunger, or how a regenerative urban farm facilitates biodiversity and soil health
[73] Affiliated with the University of Wageningen

Box D: Workshop Mind Maps

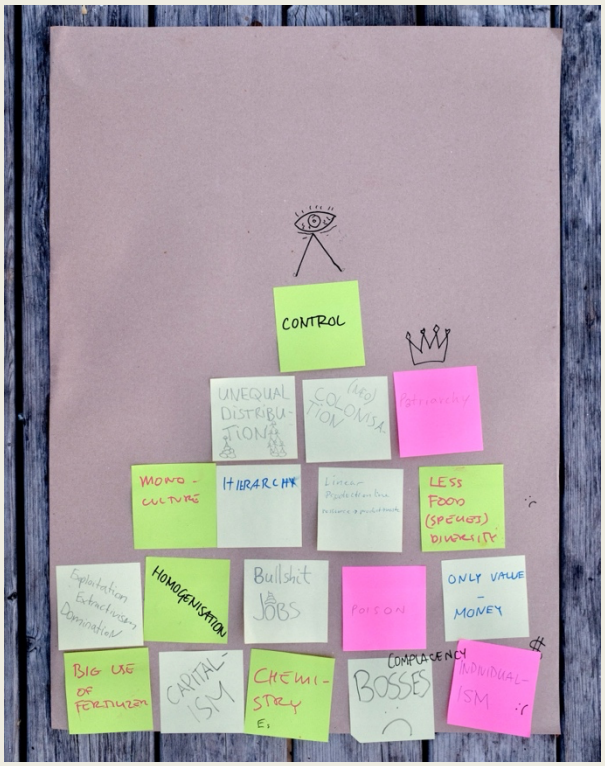

Figure 11 (top): Mind Map 1: *Workshop participants' illustration of the current food system*

Figure 12 (bottom): Mind Map 2. *Workshop participants' illustration of their ideal food system*

Box E: Discussion

The Absence of Regeneration

Absent from participants' narratives at *Madboks* are practices associated with ecological regeneration. While volunteers develop sophisticated understandings of waste reduction and distribution, discussions of biodiversity, seasonal cycles, or ecosystem restoration remain peripheral. The urban context of Madboks—disconnected from agricultural cycles—may partially explain this gap. Volunteers engage with food as a social and economic resource but rarely as part of ecological systems. This absence suggests a limitation of urban food rescue initiatives: while they effectively address distribution and consumption, they may struggle to reconnect participants with the regenerative cycles essential to truly sustainable food systems.

Community or Societal Transformation?

Interviews suggested that Madboks exemplifies the 'moderate middle' from the framework, operating at a community scale (serving 200 households, 1,100 volunteers) and addressing specific food chain segments (distribution, consumption, waste). Similarly, despite interview questions about systemic and normative change at *Madboks*, my interviews suggested that the organisation's impacts gravitate instead toward local, manageable interventions. Interviews highlighted the *Madboks*' non-hierarchical structure and its rejection of profit models—radical interventions that sit within a community (Participant A; G).

However, my participatory workshop suggested that Madboks volunteers desire deeper change. In their art pieces, they drew two illustrations of food systems (Box D). The current system, illustrated with a pyramid, captures the growth principle of *control*, while their 'ideal' system, illustrated by a circle of 'compassion', embodies the post-growth principle of *care*. The 'ideal food system' depicts co-creation, symbiosis, and indigenous knowledge—illustrating some of the transformative quadrant practices and principles this research found to be understudied. The words associated with the current system—'control,' 'neo-colonialism,' and 'only value = money'—directly names some of the growth principles (extraction, accumulation, control) that degrowth seeks to replace.

The gap between aspiration (as shown in the mind map) and action (as expressed in the interviews) demonstrates a tension absent in my systematic map: while participants in AFIs may imagine radical alternatives, AFIs themselves can struggle to practice them within the practical constraints of a community organisation.

Madboks reveals how urban AFIs exist in a state of productive tension—constrained by their urban context (no regeneration), organisational scale (community not societal), and practical needs (feeding people), they are nonetheless capable of imagining and partially prefiguring radical alternatives. The difficulty to translate societal aspirations into societal change is not a failure; rather, this tension lies at the heart of prefiguration, where people create their desired future within the constraints of the present (Boggs 1977). We see this bounded radicalism in *Madboks*' interventions (non-hierarchical structure; rejection of profit), showing us how urban AFIs practice degrowth within the limits of our current food system.

Critical Synthesis

Networking and Scaling

The framework reveals that a slight majority (13/25, 52%) of the practices score a '5' or below on the partial–holistic scale, and 17/25 practices (68%), score below a '7', showing a relatively equal distribution of practices.

Most of the AFIs I identified do not impact all parts of the food system. Partial transformations can be appropriate and effective[74] but the framework illustrates that practices associated with smaller, local changes may be less likely to impact society. However, the problems facing our food system are holistic in nature (*e.g.*, land use change, fossil fuel dependence, delocalised diets); thus, many authors argue that a holistic transformation of the system needs to accompany these partial transformations (Stefanovic, Freytag-Leyer, and Kahl 2020).

The inability of diverse and dispersed initiatives (such as cooperative supermarkets, buying groups, community kitchens) to address societal change might be mitigated by networking and connecting these initiatives. The literature shows that networking strategies, while diverse, can help remove barriers for small-scale actors[75] (Morrow 2019; Sanz-Cañada, Yacamán Ochoa, and Pérez-Campaña 2024). These authors study what would be a narrow, focussed intervention, and show how networking allows these initiatives to scale their impact to encompass several parts of the food system.

The strategies above connect to what Moore, Riddell, and Vocisano (2015) call 'scaling out', as discussed in the Theoretical Framework. However, scaling 'up' and scaling 'deep' are also important and may be positively impacted by networking. Edwards, Pedro, and Rocha (2020) explore scaling up, studying an agroecological food network in Portugal and showing how networks of initiatives, policy makers, and individual actors can overcome fragmented and partial food policies, thus 'institutionalising degrowth' and creating 'holistic food systems that consist of diverse, relational parts within a specific context' (146).

Scaling 'deep', however—changing the norms of our food system (*i.e.*, our 'transformative quadrant')—remains relatively understudied. To scale 'deep' requires interventions and

[74] Cooperative supermarkets, for example, have been shown to be a socially just and feasible alternative to conventional supermarkets (Sanz-Cañada, Yacamán Ochoa, and Pérez-Campaña 2024)

[75] Morrow (2019), for example, researches how food sharing networks in Berlin mitigate risk, and simultaneously create urban commons which magnify the impact of individual food sharing initiatives. Sanz-Cañada, Yacamán Ochoa, and Pérez-Campaña (2024) explore how peri-urban agroecology projects can work with local food hubs, helping to aggregate production from small farmers and thus mitigate economies of scale. Subsequently, they can sell in agroecological food coops and connect local consumers with local producers.

practices which target multiple parts of the food chain and impacts multiple levels of society. The relative paucity of research in this area remains a concern and emerged as a key insight during the Madrid Expert Workshop. Researchers here called for more work looking at how societal movements are connected to societal narrative shifts.

Similarly, I found that research in the dataset has thus far failed to engage with multi-scalar strategies of transformation. There is a lack of knowledge on the ways in which AFIs might impact individual, collective, and institutional change. The systematic map described in this thesis attempts to partially answer this question, but still, I echo the call of Guerrero Lara *et al.* (2023) for research which takes a multi-scalar approach to food systems transformation.

Degrowth: a 'dirty word'?

Language and framing emerged as a particularly interesting result. Despite an explicit search and prioritisation of degrowth and post-growth, only seven papers (4.5% of the total sample) mentioned 'degrowth' in the final dataset, while 29 papers (19% of the sample) offered post-capitalist perspectives. I therefore asked: why are mentions of degrowth absent from much of this dataset?

Feedback during the Madrid expert workshop suggested one possibility. Several researchers asked why their research had not been included in the final dataset, pointing out that they researched degrowth food systems and thus would have assumed their papers would be included. After checking the original ±3500 dataset and confirming their papers did not come up in the search, we hypothesised that researchers may avoid using radical (anti-capitalist, degrowth) language to try and downplay how radical their research. Thus, their research, while engaged with degrowth theories, could not be captured by my search string.

I later communicated this hypothesis to other researchers during the conference workshops I participated in, where several researchers confirmed to me that they also do not include these words so as not to exclude themselves from grants and research opportunities.

These results speak to larger trends in sustainability transitions research, where some authors have asked why the field of sustainability transitions is so hesitant in explicitly criticising capitalism, growth, or promoting alternatives to this mainstream (Loewen 2022; Even *et al.* 2024, Vincent and Feola 2020).

Even *et al.* (2024) propose some answers, arguing that funding imperatives force researchers to align with dominant narratives, due to the productivist and technology-driven narratives of incumbent private actors and funders.[76] Even *et al.* (2024) also note deeper structural

[76] And for research funded by public institutions, path dependency and institutional lock-in forces research into corporate-friendly approaches.

impediments, like researchers' reluctance to explore new topics, disciplinary fragmentation which siloes researchers and disconnects them from societal stakeholders and the realities of the so-called 'real world'.

Yet this tendency to avoid radical words creates real world problems. Policy makers often criticise discourses like degrowth and other alternatives to growthist capitalism for having limited or insufficient research and evidence to support their claims, statements which are often made based on systematic literature reviews (James, Randall, and Haddaway 2016). If these reviews cannot find degrowth literature, their ability to demonstrate the viability of alternatives to capitalism is severely constrained.

Another risk of avoiding discussing 'big words' like capitalism comes when other, moderate actors co-opt terms related to sustainability, seeking support from an alternative audience while maintaining the status quo. The current incorporation of *regenerative farming* into the plans of hegemonic food actors like Nestlé (Nestlé Global 2025), or even the term 'post-growth' becoming favoured over 'degrowth' (Parrique 2025) keeps the window of discourse—the societal range of acceptable and mainstream ideas—firmly planted in the conventional and hegemonic. Limiting our language can limit our transformative potential.

Other reasons for the lack of degrowth may be more commonplace. AFIs, for example, may not use certain terms as degrowth is a relatively recent discourse. Instead, the literature shows that they seem to prefigure degrowth without naming it. Similarly, there may be a disconnect between language which practitioners use, and the language academics use.

However, recent scholarship suggests that all this may be changing. A recent study by Gibson *et al.* (2025), in collaboration with several high-profile institutions found degrowth to be a realistic pathway for food systems transformation. Nonetheless, I believe we must strengthen this trend and propose that researchers use keywords explicitly referring to 'degrowth' or 'capitalism' in their research if they so identify. Alternatively, I consider alternatives to some of the funding barriers discussed above—which we will turn to later in this discussion.

Is an Urban Focus Limited for Degrowth?

In concluding this section, I want to challenge my scale of analysis. This paper explores degrowth food systems through the lens of urban AFIs. As noted in other reviews, most of the cases in degrowth scholarship on agri-food systems are set in urban or peri-urban areas (Guerrero Lara *et al.* 2023): despite a tendency among degrowth scholars to promote a ruralisation of society (Gomiero 2018), degrowth has not fully engaged with rural agri-food realities.

Within the scope of this investigation, two questions arose regarding the role of urban spaces in degrowth food systems transformations. First, is it possible to study a degrowth

food system through an exclusively urban lens? Degrowth food transformations—a holistic, all-encompassing food transformation—necessarily needs to be studied on the holistic and societal levels. By focussing on the urban realm, am I limiting the interventions which can be studied to those which are partial and do not transform the system?

The second question speaks to a potentially fundamental issue: under the principles of a degrowth food system, are cities fundamentally limited as sites for certain degrowth practices? Cities are sites of extraction and wealth where global capital accumulates. They are consumption hubs requiring material inflows, severed from regenerative cycles, and the manifestation of the metabolic rift. They are also the sites of power in the current global hegemonic order, and the financial centres of the world where the 'growth' mindset could be most entrenched.

Yet cities are also historical birthplaces of revolutions. Their dense populations enable networking, rapid social innovation, and allow new narratives to spread quickly (Mancebo 2016). As some authors showed, they can be laboratories for new economic theories and for post-capitalist experimentation (Rooney Vallianatos 2022. Thus, can a city be a regenerative, distributive space? How would a degrowth city envision the relationship between the city and countryside, and what new economic and cultural relationships would need to be established?

My results suggest that some principles may be easier to realise in cities—the principles of commons and care are built on community and relationships between people and the planet. Certain practices, like 'Commoning Spaces', 'Caring for Community', or even 'Caring for More-than-Humans' occur frequently in this research. These practices may offer potential pathways for rapid transformation—the urban commons illustrate a concrete vision for how a degrowth city may appear.

AFIs also prefigure a more caring city—networks of care already exist, and studies show that AFIs are helping people to reshape their relationship to one another and to the planet through food (Scheromm Javelle 2022). AFIs similarly prefigure the principle of distribution, with the large networks of AFNs across continents demonstrating how we can connect rural areas with urban ones through practices like shortened supply chains.

Yet cities face inherent structural limitations that constrain their degrowth potential. Fundamentally, cities are consumption centres that depend on extracting resources from distant hinterlands—a relationship that reproduces the metabolic rift degrowth seeks to heal (Arboleda 2020). This extractive foundation has persisted for centuries in most cities (Foster 1999), making its reversal challenging and perhaps aspirational.

Cities also struggle to accommodate knowledge systems essential to regenerative food practices. Indigenous and traditional ecological knowledge, for instance, often emerges

from long-term relationships with specific landscapes—relationships that urban environments, by their very nature, have severed (Engle, Agyeman, and Chung-Tiam-Fook 2022). While scholars are working to adapt these knowledge systems to urban contexts, the fundamental disconnection between cities and their foodsheds remains problematic.

Furthermore, cities concentrate the very consumption patterns that degrowth challenges. They serve as endpoints for global commodity chains and sites of excess consumption, making them complicit in the planetary extraction machine. While cities contain nature—in parks and even in their built infrastructure (concrete and asphalt being transformed natural materials)—they remain what Swyngedouw (1996) calls 'cyborg cities' that blur nature-society boundaries without fundamentally altering extractive relationships.

These structural features create significant hurdles for urban degrowth transitions. However, cities are not uniform: a compact city surrounded by productive agricultural land faces different constraints than a sprawling megalopolis where peri-urban space becomes fragmented and liminal, creating both new challenges and unexpected opportunities for transformation.

From this research and this discussion, critical new questions emerge. Some arise around the nature of the urban-rural relationship. Can unequal urban-rural power relations be undone, or are they inherent to the urban form? Does 'localising' food chains indeed address structural exploitation (or are we falling into the 'local trap' (Feagan 2007))? What would non-extractive urban-rural metabolisms look like?

Other questions emerge around new imaginaries and possibilities. What does an urban degrowth food system look like? Beyond a handful of studies which attempt to answer this question, such as research on foodsheds, multi-actor collaborations, or agroecological territorial planning, I found a conceptual void: therefore, future scholarship might try to better theorise a degrowth urban agri-food system.

Our final set of questions under this theme challenges urban space itself. Are cities final or transitional forms in degrowth? Within the Global North, can cities continue to exist as they are? My research reveals a critical knowledge gap: while the literature documents numerous urban AFIs practicing elements of care, commons, and distribution, it provides little evidence of how cities might achieve truly regenerative and sufficient food systems at scale. This absence in the literature—whether reflecting genuine impossibility or simply understudied possibilities—forces us to confront a fundamental question: must cities be radically reimagined to align with degrowth principles, or do pathways exist that current research has yet to explore?

Implications and Ways Forward

A New Research Agenda

Previous sections here discussed the phenomena of 'researchability' and a so-called 'moderate middle' of easily accessible practices for researchers to analyse. A concentration of research around these principles, while not necessarily problematic, can be so when this research comes at the expense of deeper yet under-researched trends and narratives (such as those in the 'transformative quadrant'). Yet as I mentioned in previous sections, this gap can sometimes result from systemic constraints in real-world funding mechanisms and methodological constraints.

Thus, this section explores potential solutions to these issues. New funding models, methodologies, and ontological foundations can fundamentally change the way that we conduct research and allow researchers to not just investigate holistic degrowth practices but reflexively embody degrowth principles in their processes and outcomes.

First, I want to explore funding and publication structures, which currently favour bounded projects with measurable results: European grants, for example, are limited to a maximum of five years. Some have already criticised this timescale (Scholten *et al.* 2021), noting that under this grant structure, researching short-to-mid-term effects of initiatives is prioritised.

Publications, too, favour clear, measurable, and positive outcomes across the board, from the medical sector (Joober *et al.* 2012), to the natural sciences (Duyx *et al.* 2017) and social sciences (Franco, Malhotra, and Simonovits 2014). While clear, measurable, and positive outcomes can be achieved for individual or community-level cases and projects, attaining these results for paradigmatic shifts can be significantly more difficult (Moore *et al.* 2015). These factors, combined with academic careers rewarding quick, clear results (the *publish or perish* mindset, favouring quantity of papers published over quality (Stengers 2018)) leads to systematic discrimination against certain phenomena and principles—for example, sufficiency and regeneration—from being researched.

Evidently, new funding models and institutional reform would improve the ability of researchers to conduct transformative studies. What would this look like? One proposal might be community-based research funds (Wallerstein *et al.* 2018), or 'slow science' initiatives (Stengers 2018). A decentralised, community-based funding system could help bring the principle of the commons into research spaces.

Regarding publishing, it suggests the need for new peer review criteria, where we deprioritise clear, positive results, and rather equally value the documentation of process, negative results, and the exploration of new paradigms (Mui *et al.* 2019). We may also

point to a need for new cross-sector partnerships– such as university-community-government collaborations.[77]

In addition to new funding and publication structures, a second avenue for future research points to the need for new methodologies. Living labs, for example[78] may provide a long-term, collaborative approach to addressing complex societal transformations (Bhatta, Vreugdenhil, and Slinger 2025). Participatory methodologies can help to bridge gaps between practice, research, and policy, encouraging researchers and policymakers to co-design processes and practices.[79] Other methodologies to consider might be longitudinal and generational studies,[80] network analyses of AFIs,[81] or other methodologies to better capture the indirect cultural impacts of AFIs.

Turning to ontologies and ways of knowing, my framework suggests that the practice of 'Weaving TEK and Holistic Approaches' is highly transformative—affecting all aspects of the food chain, as well as societal narratives—yet it remains relatively understudied. To address this deficit, indigenous research methodologies should be highly prioritised, incorporated into research design, as should other plural forms of knowledge which may allow researchers to understand more holistic transformation (Tynan 2021)

The radical transformations discussed in the degrowth literature will not happen without resistance. Vested interests and path dependencies will hinder the change needed to create a sustainable agri-food system—here, the sector can learn from sustainability transitions literature to better understand the barriers to transformation (Klitcou *et al.* 2015). Moreover, research in this dataset showed a white, middle-class bias in AFIs (Guthman 2008); thus, studying exclusion and resistance within AFIs might help explain how mainstream society would react to a degrowth transformation.

[77] We can already find these models in place in some regions—the industrial PhD model in Denmark, for example, allows PhD candidates to be funded by the government, an industrial employer, and the university simultaneously and also take more time to complete their degree (Innovationsfonden 2025).
[78] Living labs are a participatory form of research which are often conducted over the course of several years (Bhatta, Vreugdenhil, and Slinger 2025).
[79] This is especially important as traditional models are increasingly considered insufficient to provide the solutions for our urgent sustainability challenges (López-Rodríguez et al. 2015; Godfray et al. 2010).
[80] In these studies, researchers observe the same community or individuals over years, decades, or generations, and could therefore help to capture slow transformations. Generational methodologies could also be used retrospectively—how did past food systems transitions happen? Here, the food sustainability transitions researchers could borrow from the fields of anthropology and ethnographic approaches to best understand the relevant societal transformations.
[81] My results also demonstrated the importance of creating networks of alternative food initiatives to effect holistic change—so, network analysis could capture critical relationships between initiatives and help to better understand how these initiatives interact and work together to scale post-growth, alternative food networks.

Methodological Reflections and Future Directions

Methodological shortcomings and deficits likely affected the quality of the results presented and the conclusions I made from them. I will outline some of these issues in the following section, but there are likely others not discussed here.

Limitations started from the first steps of analysis. My initial search—the sampling method which defined the parameters of my analysis—contained some limitations. My search string prioritised certain AFIs over others, particularly those (such as urban agriculture or community supported agriculture) which conformed to established nomenclature. Similarly, it may have favoured the more 'searchable' of the degrowth principles: 'commons', for example, had lots of synonyms and alternative search terms (*e.g.*, commoning, common, communal, decommodif*, de-commodif*), whereas for the principle of 'sufficiency' I could not identify any widespread synonyms.

Second, my screening strategy chose to include only English-language sources from the Global North. This choice, while intentionally made to ensure the feasibility of this project, absolutely introduced bias by prioritising sources from wealthy, English-speaking countries. It also potentially prioritised countries without a strong academic publishing language of their own, like Spanish, French, and German literature. In turn, literature from countries using these languages were likely underrepresented.

Arguing that degrowth is a concept largely written by and for the Global North, I then similarly chose to exclude literature from the global south. However, I believe my logic here is flawed. First, drawing from post-development theories, many argue for the Global South to find alternatives *to* development (Mahmud 1999). The degrowth principles here may comprise some of these alternatives. In fact, some of the principles (such as commons and care) do not prescribe economic downscaling at all; rather, they suggest what the thematic contours of a post-growth system might look like. And, because degrowth comprises more than just economic downscaling (Parrique 2019), exploring literature from the Global South would have been a valuable exercise which may have suggested very different and interesting conclusions.

Moreover, my logic implies that a degrowth Global North cannot learn from the experiences of the Global South. This is untrue. Beyond traditional ways of knowing and agricultural practices which may be revelationary and helpful, the world's megacities are largely situated in the Global South and often face the brunt of climate change. In our warming and increasingly urbanised world, these insights are invaluable and therefore should be included in systematic maps like these.

Finally, in searching for degrowth outcomes, I potentially ignored studies which research exclusively degrowth practices but do not discuss degrowth outcomes. While this choice was intended to isolate papers where initiatives had measurable (positive, negative, or

neutral) effects, as I later explored degrowth *practices* associated with each principle I may have ignored a large dataset.

This limitation can be partially attributed to the iterative nature of this thesis' research. While the original search (completed in November 2024) intended to only explore the effects and impacts of AFIs on degrowth principles, as I read and explored each paper in the dataset, a gap emerged between the broad, ambiguous principles discussed and the concrete effects measured.

The framework development itself faced methodological constraints that merit acknowledgment. Expert validation scores revealed substantial divergence—for instance, 'Caring for More-than-Humans' received scores ranging from 1 to 10—reflecting both the small sample size (four data points per practice) and the inherent challenges of quantifying complex social practices. These preliminary measurements serve as heuristic tools rather than definitive classifications, though future research using other methodologies could build greater consensus. Despite these limitations, the framework proved analytically productive in revealing patterns within the literature, particularly the clustering of research attention around what I term the 'moderate middle' of transformative practices.

While this discussion has previously suggested and advocated for new research methods and avenues, there are still other directions I want to take this specific project.

First, a deeper exploration of this dataset could yield new and interesting results. A network analysis of the practices identified, exploring their co-occurrence and how they relate to one another or to different AFIs could help explain the predominance of some practices with certain initiatives. Or, it could highlight the interconnectedness of degrowth practices, answering the question of to what extent initiatives exploring these principles need to address the system in a targeted or holistic manner.[82] Similarly, I can observe different distributions of researched principles in different regions—there are more articles exploring the *commons* in Northern Europe, for example, and more exploring *regeneration* in Southern Europe. Do these differences exist for historical-cultural reasons, or something else entirely? Future research on this dataset could help answer this question.

Second, introducing different variables could show different research patterns. For example, exploring cities' connectedness in global value chains (using, for example, the categorisation of cities from the Globalization and World Cities Research Network (GaWC)) might compare cities where 'degrowth AFIs' are common against these cities' location in global finance chains. Does research on AFIs emerge as a form of resistance against the commodification of food and land in these global centres of capitalism and wealth? Or is

[82] Thank you to experts from the Madrid workshop for suggesting these methodologies.

research discouraged in these spaces, instead finding space to flourish in cities located on the peripheries of the core?

Third, while text boxes throughout this thesis have explored how degrowth practices are expressed within a food waste AFI in Copenhagen, further case studies might validate this framework and the practices identified. I had originally planned to validate this framework against both *Madboks* and a cooperative supermarket in Madrid (*La Osa*); unfortunately, a lack of time, space, and resources prevented research on the second case from taking place and from the full integration of the first case into this thesis. Nonetheless, I hope to continue this research in future venues—perhaps in a future doctoral thesis or research project.

Furthermore, I plan to peer-review and publish these results, after which I hope researchers will test this framework against their own cases and challenge and improve the framework. I have argued that transforming our food system towards one aligned with degrowth principles is of critical importance and have shown that to varying degrees and in varying ways, AFIs can practice degrowth and prefigure degrowth outcomes. I hope that this framework provides one lens by which we can understand new modes of transformation, away from mechanisms of, *e.g.*, economic efficiency, control, and extraction, towards care, regeneration, and sufficiency.

Conclusion

Raised beds in an urban front yard in Winnipeg, CA

To conclude my thesis, I will return explicitly to the questions which sparked two years of research and exploration. During this time I sought to understand how people evolve abstract degrowth principles into concrete practices. I found McGreevy *et al.* (2022) to be cogent and comprehensive in discussing such principles and consequently used them as the basis for a literature map (and for my exploration at Madboks).

In my systematic map, I learned that academic knowledge regarding the degrowth impacts of urban AFIs favours the principles of distribution, commons and care, over the principles of regeneration and sufficiency. I also found that despite searching explicitly for degrowth, that term appeared in only 4.5 per cent of the papers in that search. From the 154 papers comprising my database, I identified 25 key ways that AFIs practice degrowth every day.

With these practices, I developed a two-dimensional framework to understand the distribution of practices and why some principles were studied more than others. The framework showed a clustering of research around practices which were community-level and partially networked—around a 3-7 on each axis. However, I discovered a systematic gap in research addressing transformative practices, and around the practices associated with regeneration and sufficiency. Simultaneously, my exploration at Madboks demonstrated a divergence between what people imagined might be possible and what they could practice within the constraints of a local community initiative.

My thesis makes a few contributions to current scholarship. Most broadly, this paper is the first to synthesise the literature which discusses degrowth in AFIs. The uneven principle distribution suggests that degrowth researchers need to more fully understand how the principles of economic sufficiency and socio-ecological regeneration can exist in urban food contexts. Furthermore, this paper advances knowledge on how degrowth principles are prefigured in local food movements by identifying 25 practices which are used to prefigure degrowth futures.

The framework I developed provides a new analytical lens through which to understand the degree to which different food practices are transformative. While the rating of the practices requires more refinement given the high divergence in expert opinions received, feedback I received from food systems researchers validated the framework's usefulness. These researchers noted how the work visualised and combined different theoretical frameworks, such as principles of agroecology (Wezel *et al.* 2020), literature on scaling 'deep' (Moore, Riddell, and Vocisano 2015), and systems interventions and leverage points (Abson *et al.* 2017). Insights from the framework also suggest that the urban context provides unique challenges and possible limitations for degrowth, particularly around cities as ecologically disconnected centres of economic efficiency.

Practically, the systematic map also provided some insight and provocations for future research. The need for new methodologies to escape the tendency of research to prioritise

measurable, bounded results is a necessary step to understand more holistic transformations. Similarly, insights from the map and expert workshops pointed out the necessity of including explicit degrowth language in academic work. For practitioners, the literature on food systems transformation suggests that networking can be a crucial step to scale impact, so integrating diverse AFIs into networks can support transformation to a post-growth paradigm.

Despite the successes of this thesis, some limitations affected the results. Searching and screening criteria impacted the inclusion or exclusion of certain papers into the final dataset, which biased the extracted practices towards those present in wealthy English-language countries. The framework, too, struggles with the inherent challenges of quantifying complex social practices. I observed high divergence in expert scores, suggesting that the practices I identified are interpreted in diverse ways, potentially limiting insights the framework can provide.

In the future, I hope to address this latter limitation by running another workshop and using techniques to build consensus and improve the framework. From my dataset, I also hope to complete a network analysis of AFIs and practices to understand better how they interact and cluster. Further, my research with Madboks gave nuance to the insights gleaned from the systematic map and I hope to further integrate this case study with the framework to investigate the tension between local action and systemic change.

I began this thesis wondering how urban AFIs prefigure post-growth principles. My research suggests that they do so unevenly and within significant constraints. Urban AFIs excel at prefiguring principles of commons, care, and distribution through community-scale practices, yet struggle to embody the transformative practices of regeneration and sufficiency that degrowth theory suggests are essential for systemic change. This uneven prefiguration shows the potential and limitations of urban AFIs, which can imagine radical alternatives and sometimes prefigure them too—not through perfect implementation, but through community and experimentation.

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Appendix A: Protocol

1. Keywords

Degrowth, alternative food initiatives, urban, food systems, sustainability transformations

2. Background

The food system is a major driver of fossil fuel emissions, ecological degradation, and food insecurity for most of the world despite an overabundance for a few. Capitalist extraction necessarily creates these problems by considering food a commodity to be bought, sold, and profited upon. Thus, sustainable food system must be imagined outside the bounds of market-based capitalist institutions of profit-driven markets, private property regimes, and an over-reliance on techno-productivist solutions. Drawing on theories from the sustainability transitions literature, it is crucial to understand the role of grassroots organisations within cities and their role in creating degrowth practices and narratives.

2.1. Theory of change or causal model

Urban alternative food initiatives situated outside the industrial-capitalist food system are able to promote degrowth values and practices among their members and customers. These diverse initiatives include food hubs, food cooperatives, urban agriculture practices, allotment gardens, food rescue initiatives and community kitchens. Through engaging with their community and using non-market discourses and practices, these initiatives promote degrowth food perspectives and practices in a way that conventional profit-driven food systems (supermarkets, industrial food chains) are unable to do.

3. Objectives and review question

What is the nature of the academic knowledge on urban alternative food networks' impacts on degrowth agri-food principles?

3.1. Definitions of the question components

- Population: urban food systems
- Concept: AFNs
- Context: food as commodity/degrowth food principles

4. Search strategy

I will search *The Lens*, *Scopus*, and *Web of Science Core Collections* using the following search string:

(((("food co-operative" OR "food co-operatives" OR "food cooperative" OR "food cooperatives" OR "urban agriculture" OR "allotment garden" OR "allotment gardens" OR "allotment gardening") AND (degrowth OR "de-growth" OR "post-growth" OR "post-capitalist" OR postcapitalist OR anticapitalist OR "anti-capitalist" OR commons OR commoning OR common OR communal OR decommodif* OR de-commodif* OR care OR regenerat* OR sufficiency)) OR ((("food network" OR "food networks" OR "food initiative" OR "food initiatives" OR "food movement" OR "food movements" OR (food AND (grassroot* OR grass-root* OR bottom-up)) OR "food sovereignty" OR "food rescue" OR "agro-ecology" OR "agro-ecological" OR agroecology OR agroecological OR "community supported agriculture" OR "food hub" OR "food hubs" OR "food system") AND (urban OR metropol* OR city OR cities)) AND (degrowth OR "de-growth" OR "post-growth" OR "post-capitalist" OR postcapitalist OR anticapitalist OR "anti-capitalist" OR commons OR commoning OR common OR communal OR decommodif* OR de-commodif* OR care OR regenerat* OR sufficiency)))

4.1. Bibliographic databases

The Lens (Searched on 2024-11-27)

- Microsoft Academic
- CrossRef
- PubMed
- OpenAlex

Searched in title, abstract, and keywords. _note: excluded search results categorised as “datasets”, “conference proceedings”, and “news”.

Web of Science (Searched on 2024-11-27; accessed through the University of Copenhagen library)

- Science Citation Index Expanded (SCI-EXPANDED): 1900-present
- Social Sciences Citation Index (SSCI): 1956-present
- Arts & Humanities Citation Index (AHCI): 1975-present
- Conference Proceedings Citation Index – Science (CPCI-S): 1990-present
- Conference Proceedings Citation Index – Social Science & Humanities (CPCI-SSH): 1990-present
- Book Citation Index – Science (BKCI-S): 2005-present
- Book Citation Index – Social Sciences & Humanities (BKCI-SSH): 2005-present

- Emerging Sources Citation Index (ESCI): 2005-present
- Current Chemical Reactions (CCR-EXPANDED): 1985-present
- Index Chemicus (IC): 1993-present

Searched in title, abstract, and keywords.

Scopus (Searched on 2024-11-27; accessed through the University of Copenhagen library)

- Scopus database

Searched in title, abstract, and keywords.

4.2. Benchmark articles

The benchmark articles for this systematic map are Guerrero Lara *et al.*, 2023; Matacena & Corvo, 2020; McGreevy *et al.*, 2022; Moreira & Fuster Morell, 2020; Morrow, 2019; Sato *et al.*, 2024; Slavuj Borčić, 2022; Vivero-Pol, 2013, 2017

4.3. Web-based search engines

This map focusses on academic knowledge, so this is not applicable.

4.4. Citation Chasing

I will use backwards citation chasing of my benchmark articles to identify other key texts for analysis.

5. Screening strategy

5.1. Eligibility criteria

I will use the following criteria to assess the eligibility of articles and studies for review:

Population	Concept (Alternative Food Networks)	Context (Food as commodity / DG Food Principles)	Other/formal constraints
Urban Food Systems	Alternative Food Networks, Grassroots initiatives	Promotes post-capitalist, de-growth principles	

Global North geographical focus; case must be situated in urban or peri-urban context;	Engages with alternative agri-food systems, specifically moving beyond only farming methods; study must engage with agri-food practices (*i.e.*, not just a study of diets)	Mentions impact on commoning; de-commodifying; post-growth/de-growth outcomes; promoting networks of care; outcomes related to regeneration, sufficiency, distribution	Studies must be in English; must be an empirical study, review, or conceptual paper

5.2. Consistency checking

Due to the small scale of papers (3000 articles), I am the only reviewer for this study. Therefore, this study will not be checking for consistency between multiple reviewers.

5.3. Reporting screening outcomes

I will report outcomes of screening using a ROSES flow chart. Reasons for exclusion shall be provided along with the numbers of excluded papers for each level of screening. A list of articles which are ultimately included in the systematic map will also be provided.

6. Data coding strategy

Data will be coded in Excel in vivo. *If necessary, more codes for unique food initiatives and results will be created and added at the coding stage in order to fully capture the diversity of urban alternative food networks.*

6.1. Meta-data to be coded

- Title
- Citation
- Publication year
- Publication Title
- Item Type
- Study country
- Coordinates (Latitude/Longitude)
- Region
- Urban or Peri-urban intervention
- Resource Type (experimental/conceptual/review/modeling)
- Case Study number

- Type of Resource
- Type of AFI
- Category
- Degrowth Principles Present

7. Type of mapping

Data will be presented in a map, which details:

- Location (latitude/longitude)
- Type of intervention
- Reported outcome(s): (positive, negative, not reported, or mixed/neutral results)
- Link to study

8. Changes to Protocol

Any changes to the protocol will be discussed entirely in the methodology of the final paper.

Appendix B: Madboks Methodology

Interview Guide

1. Background and Motivation (establishing baseline understanding) ***

- Could you tell me about your journey to Madboks - how you discovered it and what drew you to become part of this community?
- What did you initially think about food waste and food distribution before joining?
- What was your relationship with food systems activism/alternative food initiatives before Madboks?

2. Experience and Practice (concrete participation) ***

- Could you walk me through what a typical volunteer shift looks like for you?
- How do you interact with other volunteers during your shifts?
- How are decisions made about food distribution?
- Do you think there are opportunities for people, or barriers to people volunteering at Madboks?

3. Hands-on Experience ***

- Could you describe what it's like to sort through the food that comes in? What surprises you?
- Is there a specific moment that made you think differently about waste?
- Do you think the physicality of touching, feeling, and assessing food on your shifts changes the way you feel about food?

4. Changes in Understanding (shifts in perspective)

- Can you tell me about a memorable experience you've had while volunteering at Madboks?
- Could you share any surprises or unexpected discoveries you've had while volunteering here?
- Has your time at Madboks changed your food practices at home? Does this scale out to your community?
- Have you noticed tensions between Madboks' approach and the broader food system?

5. Community and Collective Action (social dimensions)

- What's it like working together with other volunteers to redistribute food?
- Have you learned anything from working alongside other volunteers?
- From your experience here, who do you see making key decisions about food in our society?
- Do you think the practice of sharing food, rather than selling it, affects relationships between people?

6. Future Imaginaries (transformative potential)

- What do you think works well about Madboks' approach to food waste and distribution? What doesn't work well?
- What would need to change in society for initiatives like Madboks to become the norm?
- How would you compare getting food through Madboks versus through conventional supermarkets?

7. Reflection

- From your perspective and experience, what aspects of our current food system need to be challenged or changed? Where do you see possibilities for positive change happening?
- I want you think "big" and dream of your perfect world. Can you describe what food distribution looks like in this world? How do you get your food every day?
- *I'd like to share some of what I've learned from other volunteers and get your perspective on whether these findings reflect your experience. What aspects of volunteering at Madboks do you think are important for me to understand better?*

Workshop Methodology

Opening Food Stories (30 mins)

Prompt for what the participants will bring: "Please bring a food item (or photo) that tells us something about how our current food system works."

- Participants share their food items and stories (20 mins)
- Group discussion of common themes/issues identified (5 mins)

Discussion prompts:

- *What made you choose this item?*
- *Has your understanding of this item changed since joining Madboks?*

- *What does this item tell us about how food is valued in our current system?*

Scenario Workshop (45 mins)

- Present 3 scenarios (10 mins)
    - Business as usual
    - Conventional sustainable model – market, food as commodity, but sustainable
    - Local cooperative, commons-based model
- Small group discussions (20 mins)
- Report back and collective discussion (15 mins)
    - *"What feels familiar from your experience at Madboks?"*
    - *"What elements from your current involvement could work at a larger scale?"*
    - *"What barriers do you see to these different approaches?"*
    - *"How has your experience made you think differently about these possibilities?"*

Visioning Exercise (35 mins)

- Participants will create visual representations of their ideal food system using drawing, collage, or mind-mapping
- Drawing from your experience at Madboks, imagine and illustrate a food system that works for everyone. Consider:
    - How is food distributed?
    - Who makes decisions?
    - What role does money play?
    - How do people participate?
    - How Madboks fits into this?
- Individual visioning/drawing (10 mins)
- Sharing visions in pairs/small groups (15 mins)
- Final collective discussion (10 mins)

Closing (10 mins)

- Synthesis of key themes
- Reflection on the journey from current system to future possibilities

Appendix C: Database and Excluded Articles

The database and list of excluded articles may be accessed by clicking here (link) or by pasting the following link into your browser:

https://vub-my.sharepoint.com/:x:/g/personal/nicholas_david_orlikow_belluk_vub_be/EVO7_vl7LE1CuDImOeMTJtkB4Tx3bH69A2XT04wQb_bchw?e=jNUfJ5

Appendix D: Degrowth Food Practices

Commons

Commoning Food and Resources was one major *commons*-related practice. Studies under this theme highlighted the importance of conceptualising food and other resources as *commons* rather than as *commodities* (Jose Luis Vivero-Pol 2019; Morrow 2019b; Sumner 2011). Concepts of collective ownership, stewardship, and local governance aimed to ensure universal access to, equitable distribution of, and sustainable management of the inputs and outputs[83] of the food system (Davies, Rut, and Feeney 2022; Scharf *et al.* 2019; Heitlinger, Bryan-Kinns, and Comber 2019). Research described the efforts of grassroots initiatives and community-led efforts to collectivise common resources and challenge neoliberal processes of enclosure, commodification, and marketisation (Vivero-Pol 2017; Mestres 2017). Researchers found the practice of commoning food and resources fostered new social relations and modes of being that are based on cooperation, care, and a sense of shared responsibility, as well as a shift away from individualistic and consumerist values (Moreira and Fuster Morell 2020; Morrow 2019b). Nonetheless, various challenges and tensions were described—issues of access, participation, and governance dominated, and researchers like Scharf *et al.* (Scharf *et al.* 2019) noted that maintaining the collective and inclusive nature of the commons is an ongoing struggle.

Relating to the issues and challenges related to governance, I identified the practice of **Managing Common Resources**. Drawing on Elinor Ostrom's (1990) theories of Common Pool Resources, this theme discussed how community members engage in commoning activities, like rule-setting, maintenance, and collective decision-making to govern and sustain common resources (Berge 2017; Baker 2004; Rutt 2020). 'Bottom-up' governance structures and high levels of trust were crucial for the success and sustainability of commoning initiatives (Ulug and Trell 2020).

The segments highlighted the multifunctional nature of common resources—such as community gardens, which provide not only food but also social, educational, and ecological benefits. The benefits of these resources extend beyond just their economic or utilitarian functions to also provide social value and community-building value (Heitlinger and Houston 2021; Slavuj Borčić 2022; Cachelin *et al.* 2019). Nonetheless, research highlighted challenges of balancing inclusivity and effective governance in managing common resources. While open and welcoming approaches are important, there is also a need for clear rules, roles, and responsibilities to avoid free-rider

[83] Inputs such as seeds, water, land, and soil; outputs such as food and compost

problems—research suggested that a combination of formal and informal governance mechanisms can help address this challenge (Moreira and Fuster Morell 2020; Sturiale *et al.* 2019; Rogge, Theesfeld, and Strassner 2018).

A third theme explored **Sharing Knowledge and Collective Agency** in AFIs. Research looked at how alternative spaces like community gardens and urban agriculture initiatives emerged as vital spaces for informal and formal learning, knowledge sharing, and developing critical consciousness (Eizenberg 2011; de Wit 2014; Hassanein 2008). Fonte (Fonte 2013) notes that these spaces facilitate co-production of knowledge where diverse participants—gardeners, activists, researchers—generate new understandings that challenge dominant representations of city and food systems. Urban gardeners not only learn practical skills but develop broader knowledges and understandings of urban politics and social justice, and Zitcer (Zitcer 2014) explores how participants subsequently share this with their communities. Collective agency and action are central to these initiatives; in urban agriculture initiatives, gardeners and urban farmers developed strategies to protect their spaces and engaged in political processes (McIvor and Hale 2016). These collective efforts extend beyond material outcomes to cultivate new social relations, community bonds, and alternative visions for urban spaces (Hermesse *et al.* 2023).

A fourth theme explored **Commoning Spaces** in AFIs. The literature documented how urban agriculture and community gardens function as 'urban commons' that are collectively managed and used by communities, in contrast to private property or state control (Ginn and Ascensão 2018; Rogge and Theesfeld 2018; Morrow 2019b; White 2018). These commoning processes involve negotiating access, use, benefits, care, and responsibility over shared spaces and resources (Ulug and Trell 2020; Rutt 2020), while Bigell (Bigell 2015) emphasises how these practices challenge dominant notions of private property and the commodification of land, labour, and food while asserting communities' 'right to the city.' Research highlighted community gardens and food initiatives as sites for community building, knowledge sharing, and political empowerment where participants develop a sense of shared ownership and responsibility over public spaces (Kelly Dombroski *et al.* 2023; Chiara Tornaghi 2016; Rutt 2020). However, the literature also acknowledged significant tensions and challenges in sustaining these commons, including conflicts with state regulations, the constant threat of enclosure through development pressures, and internal issues of exclusion and governance (Valle 2021; Ferrari *et al.* 2023). Despite these challenges, commoning spaces emerged as powerful vehicles for social, cultural, and political transformation in urban food systems.

Finally, **De-commodification** emerged as a central narrative in the literature on AFIs. Studies documented how these initiatives challenge the dominant market logic by removing food, land, and labour from commodity relations and treating them as common

goods rather than tradeable commodities. Community-supported agriculture, farmers' markets, and consumer groups establish direct producer-consumer relationships, solidarity payment systems, and collective ownership models that re-embed food exchanges within social relations and ethical frameworks (Mincyte and Dobernig 2016; Sato, Calvet-Mir, and Villamayor-Tomas 2024; Wilson 2012). Urban agriculture and community gardening initiatives work to de-commodify land by reclaiming vacant spaces for food production rather than profit-driven development, thus practically reclaiming the commons in urban environments (Hinrichs 2000; Rooney and Vallianatos 2022). Research also highlighted how food self-provisioning practices de-commodify labour by reuniting producers with their means of production and fostering meaning and autonomy in work (Giraud 2021; Pungas 2019).

The literature emphasised several interrelated aspects of de-commodification: the re-embedding of food systems within social relations (Sato, Calvet-Mir, and Villamayor-Tomas 2024); commoning through collective governance and cooperative practices (Serrano 2023); decentralising and increasing autonomy from global supply chains (Valle 2021); creating values beyond market logic (Canal Vieira, Serrao-Neumann, and Howes 2020); and everyday resistance against capitalist accumulation (Giraud 2021). These practices collectively challenge the reduction of food, land, and labour to mere market commodities by emphasising their use-value, social worth, and moral significance.

Care

The second degrowth principle I explored was the relational principle of *care*, replacing the growth-oriented principle of *control*. Narratives of control dominate food production and consumption. If you see food production as something to be controlled, you imagine that food should be engineered to perfection—fertiliser ratios optimised, pollinating insects made obsolete or closely managed, food grown in a hermetically sealed greenhouse. Or, at least, you should strive for a similar level of granular control. Perhaps you see food consumption as something to be controlled: your body (and others' bodies) as input-output machines requiring precise nutrients and calories, disciplined to provide labour. Foucault might call this a form of *biopolitics* where a state's labour force is biologically optimised to be healthy, reproduce, and provide more labour, feminist scholars like Federici would also note the state's desire to control the reproduction and bodies of women. An ethics of *care* is the alternative, which posits that by relating to and caring for the Earth, for its multi-species entanglements, relating to and caring for other humans, we can create a more equitable and just form of food production and consumption which treats beings with agency and respect.

The first practice which emerged was one of **Relating to the Earth**. The segments here highlighted themes of care and interdependence, both between humans and the more-

than-human world. They showed how urban agriculture and gardening practices can foster a sense of care, responsibility and connection to the land, food, and community, which challenges a dominant cultural norm that urban spaces should be centred around function (Hsu 2019; Uhlmann, Lin, and Ross 2018; Traill *et al.* 2024). Many papers emphasised the importance of physical, embodied engagement with nature and food production as a way to counter alienation and reconnect with the natural environment (Betz 2020; Valle 2021). The papers also studied how engagement with food through agriculture can facilitate the building of community, social relationships, and a sense of belonging, in contrast to a perceived isolation and individualism persistent in modern urban life (Uhlmann, Lin, and Ross 2018; Zutter and Stoltz 2023). Finally, Kelly Dombroski *et al.* (2023) explored how participation in AFIs can foster new subjectivities and ways of being, moving away from individualist perspectives towards more collective, interdependent, and 'commoning' orientations.

A second theme highlighted how AFIs promote **Caring for Community**. Traill *et al.* (2024) conceptualised alternative infrastructures of care, positioning care as a pathway to social renewal and emphasising the significance of mutual aid, solidarity, and community care within AFIs. A recurring theme showed how AFIs weave together diverse social movements and organisations to address food insecurity or advance agroecological principles (Facchini *et al.* 2023; Lundström 2023) . M. J. Williams and Sharp (2022) investigated the politics and ethics of care in urban food governance, analysing how organisations and institutions either assume or reject responsibility for feeding those in need. Inclusivity challenges in AFIs were also discussed, as they frequently serve white middle-to-upper-income populations at the expense of diverse low-income and marginalised groups (Guthman 2008). However, a unifying note in this sub-theme were studies' conceptualisation of care—as both an inherent human quality and a cultivated skill—as essential to maintaining and sustaining communities and AFIs (Moreira and Fuster Morell 2020).

A third theme explored **Caring for the More-Than-Human**. Studies under this theme emphasise adopting perspectives that recognise the agency, needs, and contributions of non-human entities in food systems and urban spaces, including plants, animals, soil, and microbes (Kelly Dombroski *et al.* 2023; Gladkova 2024; Lloro-Bidart 2018; M. J. Williams and Sharp 2022) . Several researchers incorporate Indigenous ontologies, such as Heitlinger and Houston (2021) who apply Māori concepts from Aotearoa/New Zealand to acknowledge the relational interdependence between human and non-human entities. These studies highlight the importance of de-centring humans and fostering an ethics of care inclusive of the more-than-human world, often advanced and achieved through affective and embodied relationships (Lloro-Bidart 2018; Betz 2020; Scheromm and Javelle 2022). Additionally, research examines care as a design practice that moves beyond anthropocentric and extractive approaches toward frameworks emphasising care,

responsibility, and the flourishing of all life. This manifests in practical design interventions, such as seed libraries or soil sensors that visualise and support the more-than-human labour and relationships sustaining urban food systems (Crossan *et al.* 2015; Hassink *et al.* 2020).

A fourth theme emerged around **Enacting Feminist Care** in AFIs. Studies highlighted women's participation in community gardens and urban agriculture as spaces that promote autonomy and challenge gendered exclusionary dynamics, while noting that women's care work and nourishing practices remain central to these initiatives and sometimes reinforce gendered divisions of labour (Braga Bizarria 2023; Jarosz 2011; Lloro and González 2022). Using a feminist framework of care, scholars analyse food systems governance, emphasising values of reciprocity, interdependence, and responsibility (M. J. Williams and Sharp 2022). This framework reveals how care work remains largely invisible and feminised. Research also examined how community-based, collective approaches can challenge individualism through innovations like community kitchens and collective gardens; these studies documented the vital role of mutual aid groups in collectivising care-oriented food work (Di Masso *et al.* 2022; Facchini *et al.* 2023). Finally, the literature explored connections between feminist approaches and agroecology, two approaches whose focuses on interdependence and challenging dominant structures. Thus, some authors suggest that integration of these approaches could address limitations prevalent in alternative food initiatives (Heynen 2010; Giraud 2021; Facchini *et al.* 2023).

Fifth, authors discussed **Cultivating Place-Based Stewardship** in AFIs. Studies explored different stages of care—from caring about to caring with—as they manifest in urban food initiatives (Hassink *et al.* 2020). Zutter and Stoltz (2023) highlight how care-based approaches in CSA, urban gardening, and permaculture contribute to regenerative practices that benefit environments while fostering continuity of knowledge and practice through intergenerational connections. Some scholars conceptualised such activities as forms of 'commoning' that cultivate conviviality and counter neoliberal logics (Kelly Dombroski *et al.* 2023; Rutt 2020). The literature emphasised the co-constitution of commons and commoners through sustained relationships of care with particular places. E. Bowness and Wittman (2021) advanced the concept of urban agrarianism as an ethic of care for foodlands that spans generations. This perspective positions community organisations as nodes in caring infrastructures that provide material and emotional support across time. Heitlinger, Bryan-Kinns, and Comber (2019) highlighted initiatives like seed saving as acts of "spatial autogestion" that challenge dominant timescales of neoliberal sustainability, instead embracing slower, more deliberate relationships with place that connect past, present, and future generations.

Distribution

How should the resources of a food system be allocated? The principle of *distribution*, replacing a growth-oriented principle of *accumulation*, seeks a fairer and more just answer to this question. Our current food system considers the accumulation of resources—of money, technology, power, and food—to be at worst a potential side effect of a functioning food system, and at best a positive driver of innovation, production, and ultimately growth (*à la* trickle-down economics). However, our growth-oriented world is characterised by simultaneous over-production and under-nourishment; of urban food deserts and urban food swamps; of obesity and starvation. Cities, as spaces of food consumption rather than production, are often isolated from their surrounding landscape, while farmers in the periphery struggle to make ends meet. Evidently, an accumulationist model is not working. To address this, many AFIs reconceptualise allocation along more distributive lines—redistributing wealth, food, or power more equitably. In the systematic map, five key practices and themes emerged as ways in which urban AFIs promote distribution over accumulation.

Re-localising Economies emerged as the first theme under the principle of *Distribution*. Studies emphasised localising food systems, shortening supply chains, and embedding food production and consumption within local communities and saw as a result increased sustainability, autonomy, and improved social connections (Di Masso *et al.* 2022; Sylla, Olszewska, and Świąder 2017). Research also emphasised the importance of helping farmers and food producers become more autonomous and self-reliant, as well as supporting farmers to diversify their production (Revilla and Essbai 2022; Jaklin, Kummer, and Milestad 2015). Re-localising economies was also seen to empower consumers and communities, giving them more control over their food systems, whether through direct relationships with producers, collective purchasing, or urban agriculture (Allen and Guthman 2006; Jehlička *et al.* 2021; Fonte 2013). This is linked to goals of food sovereignty and community resilience. Some studies also highlighted the importance of not falling into the 'local trap,' where local food is assumed to be more sustainable by virtue of being local (Jehlička *et al.* 2021).

A second theme emerged around **Distributing Power**. AFIs created more decentralised and equal power relations in a few ways. First, many initiatives employ democratic, participatory, and collective decision-making processes, rather than top-down hierarchical structures (Hennchen and Pregernig 2020; Thorsøe and Kjeldsen 2016). Some empowered marginalised groups and communities through increasing access to fresh, healthy, and sustainable food (Facchini *et al.* 2023; Ganglbauer *et al.* 2014), or empowered small-scale food producers and distributors through multi-level governance from diverse actors (*e.g.*, local governments, civil society, producers) thus enabling holistic and integrated food system transformation (Tzekou and Gritzas 2023). Solidarity, trust, and collective action

were seen as methods with which to challenge the corporate food regime (Sturiale *et al.* 2019; Jarosz 2008). The term 'food democracy' occurred multiple times, referring to more democratic food systems where participants have greater control and agency over how their food is produced, distributed, and consumed: Jarosz (Jarosz 2008), for example, discusses a consumer cooperative in the peri-urban area of Puget Sound in the United States which facilitates the diffusion of knowledge and allows participants space to question existing food provisioning practices.

Some research focussed on the effects of **Shortening Supply Chains**, discussing the effects of lowering the kilometres travelled from food's harvest to ending up on a plate, or reducing the number of linkages in a food chain. Two main practices to achieve this were observed in the literature: facilitating producer-consumer connections, and creating urban-rural networks. Research highlighted the importance of direct, face-to-face interactions and relationships between producers and consumers, often found in initiatives like farmers' markets, CSA, and buying groups. Research found this *embeddedness* and social connection to facilitate trust, appreciation, and a sense of community through these relationships. Research also found that these new relationships helped to share knowledge and build a shared 'social fabric' between producers and consumers.

The literature emphasises **Connecting the Urban and Rural** as another dimension of alternative food networks and agroecological approaches. Research highlights various mechanisms that bridge the divide between urban consumers and rural producers, such as farmers' markets and CSA (Turner and Hope 2014). These platforms 're-embed' food exchange in local social relationships and enabled urban dwellers to connect meaningfully with rural environments and food production processes (McClintock 2010). The concept of 'food citizenship' emerges prominently, encouraging urban consumers to take responsibility for their food choices and engage more actively in the food system, potentially fostering new democratic arrangements around agriculture (Chiara Tornaghi 2016; Giraud 2021). Studies emphasise the importance of overcoming the metabolic rift (the ecological and social disconnection between cities and countryside) (Kirwan 2004; Yacamán Ochoa 2024) through (peri-)urban agriculture and agroecological practices (C. Tornaghi and Certomà 2018; Sage 2014; Yacamán Ochoa *et al.* 2020). These approaches rebuild severed connections while creating integrated, sustainable food systems that facilitate place-based relationships and collective action between urban and rural communities.

Finally, the literature identifies **Distributing Food and Wealth** as a key practice. Diverse models may create more equitable food distribution pathways: these include food sharing initiatives that redirect surplus food rather than waste it (Chiara Tornaghi and Halder 2021), to community-supported agriculture fostering producer-consumer partnerships

(Medici, Canavari, and Castellini 2021), buying groups which enable collective purchasing of local foods (Little, Maye, and Ilbery 2010), and urban gardens increasing community access to fresh produce (Ulug and Trell 2020). These approaches emphasise solidarity, cooperation, and value redistribution beyond conventional economic measures and connect to other sub-themes such as relocalising food systems reconnecting producers and consumers within local communities (Krähmer *et al.* 2024; Heynen 2010; Rozanski and Gavin 2023), building alternative economic models organised around principles of mutual aid and collective ownership rather than neoliberal capitalism (Berge 2017; Sage 2014; Forssell 2016; Egerer and Fairbairn 2018; Sylla, Olszewska, and Świąder 2017), caring for marginalised groups by creating spaces for small-scale producers and low-income consumers, fostering community cohesion through cross-cultural understanding and educational opportunities (Berge 2017; Krähmer *et al.* 2024), and promoting environmental stewardship through agroecological practices that reconnect people with local landscapes and ecologies (Forssell 2016; Ganglbauer *et al.* 2014; Psarikidou and Szerszynski 2012).

Regeneration

The fourth degrowth principle I explored was the social-ecological principle of *regeneration*, replacing *extraction*. Techno-managerial approaches to agriculture seek to optimise inputs and outputs, calculating the exact chemical, climate, and genetic combinations to maximise annual harvests. Food is something to be extracted and taken from the soil, with little thought put into ensuring long-term viability and fertility. Borrowing from systems theory, a principle of regeneration takes an ecological approach to agriculture, and views more-than-human life as important agents to ensure productivity and fertility. A principle of regeneration also considers traditional ecological knowledge and indigenous perspectives and seeks to facilitate an exchange and appreciation for non-Western, non-technological knowledge. Urban AFIs contribute to a post-growth food system in several ways—34 articles discussed how urban AFIs might impact the principle of regeneration, and 5 practices were identified.

A main sub-theme discussed in the literature is **Facilitating Biodiversity**. These theme is often associated with urban gardens, which act as biodiversity hotspots and foster diverse native and spontaneous flora and fauna (Sovová 2015b). In order to facilitate biodiversity in urban settings, the literature recommends several practices, such as encouraging agroecological farming techniques (Yacamán Ochoa 2024), using less intensive agricultural practices (*e.g.* reduced weeding, allowing vacant plots) (Cabral *et al.* 2017), and improving the multifunctionality of agricultural landscapes. Increased biodiversity may help support ecosystem services like nutrient cycling, climate regulation, and flood mitigation (Ponstingel 2022), address the metabolic breakdown of agrarian systems

(Yacamán Ochoa 2024), and can be important in building resilient and inclusive cities (Sturiale *et al.* 2019).

Regenerative Agricultural Practices emerged as another theme, with methods that minimise external inputs, foster biodiversity, and close nutrient and resource loops. Specific practices mentioned included permaculture, biodynamic farming, regenerative agriculture, and closed-loop water and waste management (Canal Vieira, Serrao-Neumann, and Howes 2020; Gladkova 2024; Medici, Canavari, and Castellini 2021; Pungas 2019; Chiara Tornaghi 2024; Scheromm and Javelle 2022). These practices placed an emphasis on soil health, building fertility through composting, manure, and other organic amendments. They also discussed diversifying crops, cultivating traditional varieties, and incorporating more-than-human elements like pollinators (Gladkova 2024; Pungas 2019; Scheromm and Javelle 2022). More broadly, these practices aim to change behaviours to care for the land and see it as a living, interconnected system, providing an alternative to dominant industrial food systems and fostering social-ecological resilience (Hassink *et al.* 2020; Heitlinger, Bryan-Kinns, and Comber 2019; Leitheiser *et al.* 2022). Informal collaboration, knowledge sharing, and community-based approaches emerged as ways to advance regenerative practices (Rozanski and Gavin 2023; Medina-García *et al.* 2022; O'Hara and Stuiver 2022).

Several studies emphasise the importance of **Weaving Traditional Ecological Knowledge and Holistic Approaches**. Papers under this sub-theme emphasise the need for a more holistic, interdependent, and symbiotic relationship between humans and nature which sees humans as a part of, rather than separate from, natural systems (Leitheiser *et al.* 2022). To achieve this, several authors highlight the importance of acknowledging and respecting Indigenous knowledge, cultures, and stewardship of the land (Rozanski and Gavin 2023; Hassink *et al.* 2020), and discuss how indigenous traditions hold important insights for sustainable and resilient food systems (de Wit 2014). By centering the voices and experiences of local communities, farmers, and indigenous peoples in the co-creation of knowledge of and solutions, it is possible to revive and incorporate TEK, engage and educate local communities (Rozanski and Gavin 2023; Russo and Cirella 2020), and shift towards a more holistic and regenerative framework which can challenge the dominant techno-modernist food system and instead create alternative narratives and imaginaries (Leitheiser *et al.* 2022).

Another sub-theme emerging from the literature is **Healing the Metabolic Rift.** The metabolic rift is a concept which has emerged to explain the ecological and social disconnect between the city and the country that results in nutrient cycles being broken, people losing connection to land over generations, and alienation from food production (McClintock 2010). However, some papers suggest that urban agriculture initiatives can address both the ecological and social dimensions of this divide. One type of urban

agriculture is food self-provisioning, which can help re-embed agriculture back into local metabolic cycles and thus counter the exploitative and resource-depleting nature of industrial agriculture (Pungas 2019). Elsewhere, community-based initiatives such as urban gardens, food hubs, and community kitchens engage diverse community members in food production and distribution, and regenerate social groups and urban areas (Russo and Cirella 2020; Di Masso *et al.* 2022). Several studies note how a new sense of collective responsibility among urban dwellers toward the land and food providers can motivate political action toward building just food systems that heal both the ecological and social dimensions of the metabolic rift (Corubolo and Meroni 2023; Bowness and Wittman 2021).

A final sub-theme discussed is **Forming Bioregional Identities**. A *bioregion* is a geographic area defined by natural systems and features (*e.g.*, distinct landforms, watersheds, climates, soils, and native plants and animals) rather than by political boundaries (Feagan 2007). Bioregional theorists propose these natural boundaries as more appropriate frameworks for human decision-making, governance, and cultural identity than arbitrary political divisions. This approach suggests that when human communities organise their lives and economies according to the capacities and limits of their local ecosystems, they develop more sustainable and regenerative relationships with their environments (Meredith 2005; Frenkel 1994). Literature on the effects of urban AFIs on the bioregion discusses how local urban food systems are not just about food production, but also about restoring a 'public culture of democracy', engaging in identity and meaning-making, and promoting self-reliance (DeLind 2011). Enacting aspects of bioregional agroecological planning can help urban areas escape city-centralism (Di Masso *et al.* 2022), and instead rebuild rural-urban linkages and can help develop strategies rooted in the territories to be collectively implemented by communities at the bioregional scale (Yacamán Ochoa 2024).

Sufficiency

The final principle I searched the identified literature for was the economic principle of *sufficiency*, replacing the growth-oriented principle of *efficiency*. A growth perspective answers many economic questions by what would be most efficient: for example, producing food in one region, transporting it elsewhere to be processed, and returning it to the original region to be sold, may be the most economically *efficient* action. A degrowth perspective, rather, asks what is *sufficient*. The literature interprets this theme in various ways, leading to practices of self-sufficiency, city-region sufficiency, as well as broader societal narratives of what is 'enough'—*e.g.*, how much do we need to produce? This question lies at the heart of degrowth itself. Under this principle, five practices or themes were identified, ranging from individual practices to societal questions and narratives. X studies discussed this theme.

Self-sufficiency was the first practice to emerge from the literature. This theme was highlighted in studies which focussed on food self-provisioning and community urban gardens, and how these spaces increased food self-sufficiency and resilience (Winkler 2016), especially during times of crisis or economic hardship, acting as a 'materialised resilience structure' (Ravenscroft *et al.* 2013). By contributing to urban resilience by lowering dependence on external food supply, Facchini *et al.* (Facchini *et al.* 2023) argue that FSP may represent a 'sufficiency economy' which can challenge the status quo of the current industrial food system, while Rozanski and Gavin (Rozanski and Gavin 2023) acknowledge the limits of food self-provision in terms of scalability, vulnerability, and environmental impacts. On the other hand, some authors discussed evidence that food self-sufficiency might contribute to broader sustainability efforts by not only drastically shorten food miles, but increasing food access and food security for marginalised communities and fostering civic engagement and social mobilisation (Sovová 2015a; Pungas 2019; Baker 2004).

On a regional scale, the literature discussed **City-Region Sufficiency**. The literature discussed several aspects of creating sufficiency practices in the city-regional context. First, some authors discussed relocalising farming inputs using agroecological farming techniques, describing city-regional food systems as a complex web of smaller food systems involving urban and peri-urban farming, supply chains, and connections to surrounding landscapes (Simon-Rojo 2019). Second, some authors discussed the potential for local food production to increase sufficiency and resilience within city regions (Sovová 2015b; Pungas 2019; Krähmer *et al.* 2024), using concepts like bioregional territorial planning (Yacamán Ochoa 2024) and foodsheds (José Luis Vicente-Vicente *et al.* 2020) to illustrate this. Third, authors highlighted the importance of governance and policy support for developing sustainable and resilient city-region food systems (Rae 2023). Strategies of reducing food waste, diversifying regional production, and shifting and relocalising dietary patterns were identified as key practices to achieve higher levels of city-region food self-sufficiency (Giraud 2021; José Luis Vicente-Vicente *et al.* 2021; O'Hara and Stuiver 2022).

Certain aspirational practices and themes also emerged, the first of which is a narrative of **Enough for All**. This narrative takes a radical approach to food provisioning, shifting away from practices of what is most efficient or profitable towards what can provide enough food for everyone. Certain sub-themes and sub-practices which emerge under this narrative are the redistribution of surplus food and food waste to address food insecurity (Stock, Carolan, and Rosin 2015; Turner and Tam 2022; Facchini *et al.* 2023), the importance of localised, community-driven approaches to food provisioning, intersectional and solidarity-based coalitions working towards food justice (Ferne Edwards, Pedro, and Rocha 2020; Rae 2023; J. L. Vicente-Vicente *et al.* 2021), the importance of degrowth and alternative economic models and alternative consumption

practices (Rut and Davies 2024; Ganglbauer *et al.* 2014; Facchini *et al.* 2023), and values of accessibility, affordability, and inclusivity—ensuring sustainable and healthy food is accessible for all, not just privileged groups (Turner and Tam 2022). These collaborative, inclusive models aim to create a more equitable and sustainable food system for all.

Another theme revolved around the question of how to **Ensure Healthy Food for All.** Researchers under this theme highlighted the importance of food sovereignty,[84] which emerged as a key strategy to ensure healthy food access, particularly for marginalised communities. Other themes which emerged were the need to address structural inequities and power imbalances in the food system, the importance of participatory governance and rebuilding food-related commons, as well as challenges in ensuring equitable access to healthy, sustainable food. Key pathways to achieving this narrative were identified as AFIs and community-based food networks which often focus on cooperative governance, direct producer-consumer relationships, and food as a collective right rather than a commodity. Urban agriculture, community gardens and food growing spaces in improving food access and building community resilience were also seen as sites for reclaiming control over food systems and rebuilding food-related commons. However, the segments also discuss the challenges in ensuring healthy food access, such as the risk of gentrification and displacement associated with some urban agriculture initiatives, as well as the difficulty of scaling up access to sustainably produced food for marginalised groups.

Finally, several papers identified **Transcending Sustainable Consumption** as a new narrative of a sufficiency-based economy. However, these researchers framed sustainable consumption beyond just individual consumer choices, and instead involved collective action, solidarity, and renegotiating social norms and practices around food. Some key themes include shifting from an individualistic, market-based approach to consumption, towards more collective, participatory, and place-based models (Forssell 2016); values of solidarity, fairness, and accessibility in food provisioning, rather than just price and choice (Tzekou and Gritzas 2023); reconnecting consumers to the seasonality, origins, and production methods of food (Sage 2014; Turner and Hope 2014), and using food as a vehicle to build community, relationships, and alternative economic arrangements (Tzekou and Gritzas 2023; Fonte 2013). Research discussed the limitations of individualistic, market-based approaches to sustainable consumption, and the need for more collective, participatory, and place-based models and highlighted the role of AFNs in transforming food consumption practices (Ravenscroft *et al.* 2013; Tzekou and Gritzas 2023; Rae 2023).

[84] The right of people to define their own food and agriculture systems, and to have access to healthy and culturally appropriate food produced sustainably

Appendix E: Framework Values

Table x

Principle	Practice	Cultivation	Harvest	Storage	Distribution	Processing	Packaging	Trading	Retail	Consumption	Waste	Partial-Holistic Score
Commons	De-commodification	x	x	x	x	x	x	x	x	x	x	10
Commons	Sharing Knowledge & Agency	x	x	x	x	x	x			x	x	8
Commons	Commoning Food & Resources	x	x		x			x	x	x	x	7
Commons	Managing Common Resources	x			x			x	x			4
Commons	Commoning Spaces	x	x									2

Care	Caring for & Relating to the Earth	x	x			x	x		x	x	x	7
Care	Caring for Community				x	x	x		x	x		5
Care	Caring for More-than-Humans	x	x			x				x	x	5
Care	Enacting Feminist Care	x	x						x	x		4
Care	Self-care	x								x		2
Distribution	Re-localising Economies	x	x	x		x		x	x	x		8
Distribution	Distributing Power	x			x	x		x	x			5
Distribution	Connecting Rural & Urban Areas	x	x		x				x	x		5

Distribution	Distributing Food & Wealth			x	x			x	x			4
Distribution	Shortening Food Chains		x		x				x	x		4
Regeneration	Weaving TEK and Holistic Approaches	x	x	x	x	x	x	x	x	x	x	10
Regeneration	Healing the Metabolic Rift	x	x	x	x	x			x	x	x	8
Regeneration	Forming Bioregional Identities	x	x	x	x			x	x	x	x	8
Regeneration	Facilitating Biodiversity	x	x			x					x	4
Regeneration	Regenerative Agricultural Practices	x	x								x	3
Sufficiency	Enough for All	x	x	x	x	x		x	x	x	x	9

Sufficiency	Ensuring Healthy food for All			x	x	x	x	x	x	x	x	8
Sufficiency	City-Region Sufficiency	x	x	x	x				x	x	x	7
Sufficiency	Sustainable Consumption				x	x	x	x	x	x	x	7
Sufficiency	Self-Sufficiency	x	x	x		x				x		5

Table Y

Principle	Practice	Survey 1	Survey 2	Survey 3	Personal Score	Final Score- Societal (1-10)
Commons	De-commodification	10	10	6	8	9
Commons	Sharing Knowledge & Agency	6	8	7	6	7
Commons	Commoning Food & Resources	5	9	6	5	6
Commons	Managing Common Resources	7	6	4	4	5
Commons	Commoning Spaces	6	9	7	7	7
Care	Caring for & Relating to the Earth	10	3	1	7	5
Care	Caring for Community	6	5	3	5	5
Care	Caring for More-than-Humans	7	10	1	5	6
Care	Enacting Feminist Care	6	8	8	7	7
Care	Self-care	1	1	2	1	1
Distribution	Re-localising Economies	4	8	6	4	6
Distribution	Distributing Power	6	9	5	5	6

Distribution	Connecting Rural & Urban Areas	6	8	9	6	7
Distribution	Distributing Food & Wealth	6	10	5	7	7
Distribution	Shortening Food Chains	6	6	7	5	6
Regeneration	Weaving TEK and Holistic Approaches	10	10	4	10	10
Regeneration	Healing the Metabolic Rift	10	8	10	9	9
Regeneration	Forming Bioregional Identities	6	10	8	8	8
Regeneration	Facilitating Biodiversity	4	8	5	4	5
Regeneration	Regenerative Agricultural Practices	6	8	4	5	6
Sufficiency	Enough for All	4	10	8	9	8
Sufficiency	Ensuring Healthy food for All	6	10	8	8	8
Sufficiency	City-Region Sufficiency	6	5	9	7	7
Sufficiency	Transcending Sustainable Consumption	4	9	3	6	6
Sufficiency	Self-Sufficiency	5	2	6	1	4