Sustainability of city-based food sharing

WORKING PAPER 1

SHARECITY TYPOLOGIES OF FOOD SHARING

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INTRODUCTION

As an era of planetary urbanization approaches there is increasing clarity regarding the unsustainability of complex urban socio-technical systems (hereafter referred to as cities for brevity). This unsustainability has many dimensions, not least with respect to the food system (Cohen and Ilieva, 2015). At the same time, there has been increased attention to new and expanded activities, typified by new business models or forms of exchange that disrupt mainstream forms of consumption and ownership (Gold, 2004). Together these activities are being loosely referred to as 'sharing economies' (Martin, 2016) and their expansion has been facilitated by a suite of socio-technical, economic and environmental drivers (Botsman and Rogers, 2010). Claims are being made by protagonists that such sharing creates sustainability benefits in terms of increasing resource efficiency, forging new social relationships and offering possibilities for enhanced economic vitality for participants (Schor, 2010; Simms and Potts, 2012). Currently, however, these claims are loosely conceptualised and rely on limited empirical data, particularly within the food arena.

Accounting for more than half of the world's population currently, cities are increasingly significant sites of resource consumption; territorial nodes where goods, services and waste collide, with inhabitants consuming in excess of three quarters of global natural resources whilst also producing around three-quarters of carbon emissions (UNEP, 2013). More than 1.3 billion tonnes of solid waste is produced by cities annually of which between 47-61% is organic and mostly food waste (Hoornweg and Bhada-Tata, 2012). Indeed, it is estimated that between a third and a half of all food produced is wasted, yet 842 million people (that is around 12% of the global population), are unable to meet their daily dietary needs. At the other end of the spectrum, worldwide obesity has more than doubled since 1980, with an estimated 1.9 billion adults being overweight and more than 600 million clinically diagnosed as being obese (WHO, 2015). Such a nutrition transition is unsustainable in many ways and increasing calls are being

made to transform global food consumption.

Globally, much attention has focused on supply-side issues of producing more food to meet the needs of the growing urban population on the one hand (Davies, 2014), and the challenges such increases in food production might create under conditions of climate change and in the context of other scarce, finite or otherwise precarious resources on the other (Poppy et al., 2014). These issues are undoubtedly important and a wealth of information has emerged relating to the science and technology of food production. However, such a 'predict and provide' approach to food production fails to address wider issues of food processing, transport, distribution and food waste management (sometimes termed food energy efficiency), nor does it engage with the complex and often contingent cultures of eating amongst communities and within particular places. These considerations are significant, for the unsustainability of food systems continues despite global food production and per capita calorie intake increasing over the past century.

The current food system then not only fails to feed those who are hungry, it also wastes significant resources (water, energy, people) used in the production, storage and distribution of food. The European Commission's 'Roadmap to a Resource Efficient Europe' (2010) suggests that in Europe alone 180kg of food is wasted per person every year, much of it still suitable for human consumption. With cities expected to host 80% of the population by 2050, annual waste production is projected to double again within the next 15 years. Patterns of food consumption clearly require radical transformation if cities are to become more sustainable. In particular, redirecting food waste will require co-ordinated actions from across complex food chains, from farmers and agrifood industries, to retailers, regulators and consumers.

Evaluations of the sustainability of food systems at the city scale have tended to focus on how cities might become more self-sufficient in meeting their food needs through expanding urban agriculture, developing vertical farming and community gardening, or by connecting city-citizens more efficiently with local food suppliers and expanding the purchase of ethical, fairtrade or organic

produce (Goodman et al., 2012). While important, rarely do these studies connect directly with scholars investigating food poverty within cities, which is predominantly seen through a health, nutrition and welfare lens (Wrigley et al., 2003). Both fields tend to be isolated from analyses of food waste management, which is still primarily seen as a technical matter of energy recovery or recycling (Lundie and Peters, 2005). Existing understanding of unsustainable food consumption in cities is then partial and fragmented. Movement towards sustainable pathways requires mechanisms for linking up these important, but disparate, dimensions of unsustainable food consumption.

Focusing on what is shared, there are enterprises that focus on the redistribution of under-utilised food including the redistribution of surplus public or privately grown crops, as exemplified by Cropmobster which is active in 93 cities across the USA. Redistributing such food also takes place through enterprises which connect individuals or households such as Foodsharing.de, which is active across multiple cities in Germany and Austria. Within this category of food sharing there is also the more established process of redistributing surplus food from retailers to charities for further redistribution, ultimately to those in need of food. This practice has traditionally been conducted within particular localities through networks of local food banks, but the process has been expanded by the adoption of facilitating ICT-platforms connecting those with surplus food to those in need. This is the modus operandi of FoodCloud in Ireland, which began in Dublin in 2013 and now operates in cities throughout the Republic (and from 2015 also across the UK in conjunction with FareShare). Beyond the sharing of food itself, the search revealed a number of activities which focused on utilising idling resources for food related purposes. This includes the sharing of home-cooking skills and the sharing of produce from cottage industries (for example, Cookisto in Athens and London) or the sharing of space and appliances, as illustrated by The Kitchen Library in Toronto, and even sharing food cultures such as fermented goods, the focus of The Cultured Club in Dublin. Other enterprises focus on the sharing of knowledge about food. In some cases this involves sharing information about wild or publicly available goods. Falling Fruit, for example, collates a global 'edible map' of 1,317 different types of food (most, but not all, plant species) which are mapped over 790,443 locations across the

globe. In other cases enterprises focus on the sharing of food production and preparation skills, as found in The People's Kitchen in Detroit, USA. Finally in this category, there are food sharing enterprises which focus on sharing the experiences of eating together, whether that is local people sharing home-cooked food with travellers as in Eat With (which claims to be active in more than 150 although in 2015 101 cities were listed on the website), or in alternative spaces through underground (or secret) supper clubs such as The Open Door Supper Club in Dublin, Ireland. However, in some cases food sharing enterprises offer multiple opportunities to share different aspects of food. The People's Kitchen in Detroit, for example describes itself as 'a safe, respectful and inclusive space where Detroiters can access affordable healthy local and bulk foods, learn and share empowering skills to plan and prepare healthy meals, holistically manage and prevent disease and preserve local harvest while building community strength through food security, activism and a deeper connection to the Earth'. The Kitchen offers two explicit sharing activities, 'skill-shares' for preserving foods, making cheeses and yoghurts or fermented foods and 'cook-shares' which focus on communal cooking and sharing of the resulting food. Food sharing activities are then diverse, dynamic assemblages; and embody what Agyeman et al. (2013), in their manifesto for sharing cities, call a spectrum of sharing. In Table 1, this spectrum of sharing is applied to the food realm and food sharing enterprises are identified according to the nature of what is being shared and its relative materiality or intangibility.

However, the spectrum classification in Table 1 does not address the way in which sharing takes place; that is who is sharing with whom and under what conditions. In response to this, Agyeman et al. (2013) present a condensed classification of what is being shared (things, services and experiences) with what they call individual, collective and public 'territories' of sharing. Although little detail is provided on the precise definitions of these territories, it is interpreted here to relate to sharing between individuals (peer-to-peer), sharing within or between communities (including communities of interest or location) and sharing that is in some sense open to broader populations, such that it might be considered 'public'. As illustrated in Table 2, it is possible to identify food sharing enterprises at each of these territories.

Property	Concept	Example
Material	Recovery and recycling	Community composting e.g. Rust Belt Riders, Cleveland, USA
Product	Food redistribution	Food banks e.g. Eugene Food Rescue, USA
Service	Product service system	Kitchen appliance libraries e.g. The Kitchen Library, Toronto, Canada
Wellbeing	Collaborative lifestyles	Community kitchens e.g. Chelsea Community Kitchen, USA
Capability	Collective commons	Landshare e.g. Woods Earth, Ithaca, USA

Table 1 A spectrum of food sharing

Neither of these two frameworks for analysing sharing refers explicitly to the mode of exchange that is operationalized through sharing, nor do they provide any indication of the overriding mission, goal or intended outcomes of the sharing taking place, all of which provide important insights into the extent to which the activities might contribute to sustainability. In response to this, Table 3 delineates a range of different modes of sharing in the food sphere, using established categories of gifting (bestowing something voluntarily and without compensation), bartering (the exchange of goods or services for other goods or services without using money) and monetary exchange (the exchange of goods or services for monetary payment, although not necessarily for profit). Table 3 also includes another category which captures informal, illicit or unorganised (IIU) activities such as foraging, gleaning and freeganism where food is the main focus.

	Things	Services	Experiences
Individual	Leftovers e.g. Cookisto, Athens, London	Meal sharing e.g. Eat With, 150+ cities globally	Food skills sharing e.g. Good Cents Pantry, New Zealand
Collective	Kitchen libraries e.g. The Kitchen Library, Toronto	Food banks e.g. Bia Food Bank, Dublin	Community growing e.g. Dublin community growers
Public	Gleaning e.g. The Gleaning Network, UK	Breakfast Clubs e.g. Magic Breakfast, London	Edible Parks e.g. Incredible edible parks task force, Oakland

Table 2 Territories of food sharing in cities (Following Agyeman et al., 2013)

IIU	Gifting	Bartering	Monetary Exchange
Gleaning e.g. Concrete Jungle, Atlanta	Free food distribution e.g. Food Not Bombs	Community support agriculture e.g. Local harvest	Not-for-profit companies e.g. foodsharing.de
Freeganism e.g. Freegan Info, UK	Food banks e.g. Bia, Dublin	Neighbourhood food stores e.g. Trade labour in stores in exchange for food	For-profit shared dining e.g. Eat With
Foraging e.g. Wildfruits, New Zealand	Networks of gifting e.g. Foodnet, Ontario	Food swaps e.g. The Table, Perth	Community marketplaces e.g. Cookisto, Dublin

Table 3 Modes of food sharing in cities

This delineation into different modes of exchange provides a useful lens to examine the range of ways in which food is shared within cities. It does have limitations however, particularly with respect to the sometimes tricky issue of identifying when gifting becomes bartering and when bartering becomes monetary exchange, as there are many ways to give and receive and the precise formations and scales of exchange may change over time. Certainly, there is considerable boundary work still to be conducted in terms of delineating food

sharing modes, just as there is within the sharing economy more widely. This is not helped by the fact that activities adopting new business models that include sharing concepts currently operate within a predominantly reactive governing framework, or 'regulatory soup' (Orsi, 2010). Drawing on elements of the spectrum and territory classifications, and combining these with attention to the sharing modes being adopted, a food sharing typology was outlined (see Table 4). In this typology the monetary exchange classification of Table 3 has been further sub-divided into for-profit and not-for-profit categories and these parameters of sharing were used to shape the collection of data on food sharing enterprises for further analysis of the location, form and function of food sharing globally.

Mode of sharing / What is shared	IIU	Gifting	Bartering	Not-for-profit	For-profit
Stuff *From seeds, to unprocessed and processed foodstuffs including utensils, food waste or compost*	Sharing the foodstuff that has been 'liberated', foraged or gleaned e.g. 510 fruits, Berkeley, USA	Providing foodstuff for free e.g. FoodCloud.ie	Swapping foodstuff e.g. Adelaide Hills Produce Swap, Australia	Providing opportunities to offer or collect excess food on a not-for-profit basis e.g. Foodsharing.de	Selling homecooked food that generates income beyond the costs of production e.g. Cookisto, Athens
Spaces *From shared growing spaces to shared food preparation or shared eating spaces*	Guerilla gardening of public open spaces e.g. Elephant and Castle roundabout, London	Providing spaces for growing for free e.g. The Monroe Sharing Gardens, USA	Providing spaces where food can be acquired in exchange for labour e.g. Neighbourhood foodstores	Providing spaces for people to grow food on a not-for-profit basis e.g. Milwaukee Urban Gardens	Providing spaces for supper clubs e.g. The Underground Supper Club, Dublin
Skills *Including the sharing of knowledge and experiences around food from growing to eating and food waste disposal*	Identifying places where gleaning or foraging might occur e.g. Fallen Fruit, Los Angeles, USA	Providing skills around growing, e.g. 3000 acres, Melbourne, Australia	Providing opportunities to learn about growing food, swap seeds and produce with other gardeners near you. e.g. Grow stuff, Melbourne, Australia	Providing workshops around nutrition or growing e.g. Hunger mountain co-op, Montpellier, USA	Providing opportunities for travelers to experience homecooked meals with locals e.g. Eat With, global

Table 4. SHARECITY urban food sharing typology

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