DATA POLITICS AND THE POLITICS OF DATA: GENERATING APPROPRIATE DATA FOR FOOD SYSTEM ASSESSMENT IN CAPE TOWN, SOUTH AFRICA

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Sustainable Food System Assessment

Lessons from Global Practice

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To the memory of Marielle Dubbeling, RUAF Foundation co-founder, leading international expert in urban agriculture and city region food systems, researcher, teacher and visionary. 1968–2019

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Jane Battersby

Introduction

There has been an upsurge in interest in governance of urban food systems[1] in the past decade. This has been typified by the rise of local food policy councils, as well as the emergence of national, regional, and global urban food governance networks. While governments and civil society have become increasingly aware of the need to proactively engage with urban food systems, it has become apparent that there are significant data gaps limiting good governance informed by historical framings of mandates of governments.

One of the themes emerging from trans-local governance networks has been the need for metrics and indicators to assess food systems. This need is particularly felt in the African context, where issues of data availability and reliability are a critical challenge for good governance generally (Borel-Saladin, 2017). These general data challenges are amplified in the case of data to inform food systems governance, as this has not been an area of focus of African governments or international agencies collecting and collating data (Haysom & Tawodzera, 2018).

At its heart, this chapter is a discussion on the relationship between the knowledge effects and governance effects of data and indicators (Prada Uribe, 2012). The ways in which the food security issue has been framed has shaped what data are gathered and how these are disaggregated and interpreted (knowledge effect). The data, in turn, reinforce the policy and programmatic focus of the state (governance effect). This chapter seeks to interrogate this mutually reinforcing relationship with regards to urban food governance and to propose new entry points that would enable the state to engage in new policy approaches.

To do so, this chapter reflects on efforts to generate a comprehensive assessment of the food system and the state of food security in Cape Town, South Africa, perhaps the most data resourced city on the African continent. The chapter highlights challenges experienced, suggests alternative approaches to data, and reflects on the potential impact of global data reporting processes, such as the UN Sustainable Development Goals (SDGs)

and the 100 Resilient Cities programme on the ability of cities to effectively monitor and govern their food systems.

The City of Cape Town Food System and Food Security Study

In 2013 the City of Cape Town commissioned a Food System and Food Security study, co-funded by the City and the Provincial Department of Agriculture. The Terms of Reference articulated the need for the study thus,

> Food security or the lack thereof is the outcome of complex and multi-dimensional factors comprising a food system. Therefore, food insecurity is the result of failures or inefficiencies in one or more dimensions of the food system. This necessitates a holistic analysis of the food system that then can provide insights into the various components of the system, especially in our context as a developing world city. That analysis must also take note of the constitutional mandates of the tiers of government in South Africa, such as the legal mandate for food security that rests with the national government, in conjunction with various provincial departments. Local government, however, needs to understand food systems so as to make evidence-based planning and policy decisions that will have long-term impacts on their areas.
>
> (City of Cape Town, 2013, Tender number 414C/2012/13, in Battersby et al., 2014), p. 9)

This call therefore identified a need for the City to understand the nature of its food system as a means to address food insecurity. It further noted that the governance of food systems and food security is complex and requires cross-scale formal governance processes. This was a radical departure in the framing of food security by municipal governments in South Africa, and in Africa more broadly, and emerged out of the experiences of the City's Urban Agriculture Unit's efforts to implement its Urban Agriculture Policy (see also Chapter 4, this volume).

While the Terms of Reference articulated a wide-ranging interest in food systems, the subtext for the report was that the City of Cape Town was having a series of fraught political conversations within municipal government and with external stakeholders about the future of an area of agricultural land within Cape Town, the Philippi Horticultural Area (PHA). As the Mayor publicly articulated it, the report was commissioned to guide the City's decision-making (de Lille, 2013). According to a Council decision in 2012, no decisions were meant to be made about the future of the PHA until after the report had been completed (Davis, 2013). However, the City decided to override this moratorium on decisions before the report was completed, on the basis of the apparent urgent need for housing 'discovered' as a result of the release of 2011 census data (Lewis, 2013). What was already a highly politicized public debate became even more so, and questions of data and

the role of data in governance came sharply into focus in the months that followed.

I was the leader of the team appointed by the City to conduct the study. The resulting 400 page report from the study identified roles of local government under existing constitutional mandates and programming foci, and provided an overview of the South African food system; Cape Town's food production of both commercial and small-scale urban agriculture; food flows into and within the city; retailing, processing, and sustainability; food price inflation; food insecurity; and lessons from elsewhere. The report concluded with mapping a potential governance approach with 31 recommendations all actionable within existing governance mandates of the City (Battersby et al., 2014).

The report was initially blocked by the City and then eventually released as a result of a Public Access to Information Act application by a food activist. When the City allowed the report to be released, it was on the condition that a Council Report on the study document be appended which stated,

> Whilst the study includes important contextual research, it has several limitation[s]. This is due, in part, to difficulties in accessing data, especially from private companies involved in food retail which make up the bulk of the food supply system. The lack of data meant that the study needed to rely on various assumptions in order to draw conclusions. As such, while it is informative background research, it will need to be considered with a number of other data sources, research and contextual factors not least of which are the forces of urbanization and the fact that food security, which has a bearing on food systems, is not a local government competency.
>
> (Battersby et al., 2014, no page)

This chapter uses the Cape Town process to reflect on questions of why data gaps exist in official data, what kinds of data are understood as useful to local government, and what possibilities exist for generating and consolidating data that would enable local government, and other tiers of government, to effectively engage in governance of the urban food system (see also Chapter 11, this volume).

Causes of the city-scale data gap and governance challenges

In their 2017 paper, Giordano et al. identify four clusters of challenges for embedding food systems governance in local governments in Africa. These are: lack of awareness, limited evidence at the local scale, incomplete decentralization processes, and financial challenges (Giordano et al., 2017, pp. 352–353). This chapter largely supports Giordano et al.'s framing of the governance challenge in African cities and seeks to illustrate how

these factors manifest in the Cape Town context. However, this chapter also argues that their framing pays insufficient attention to the private sector's relative power in monitoring and shaping urban food systems in Africa (Battersby, 2017; Battersby & Muwowo, 2019).

This chapter argues that the challenges identified by Giordano et al. (2017) and the role of the private sector are all connected by a fundamental relationship between governance and data informed by deeply entrenched beliefs about the food system and food security. These beliefs are reinforced by data collection, aggregation and analysis decisions, which are in turn informed by the underlying beliefs. This sets up self-reinforcing feedback loops that entrench existing systems and make it exceptionally hard for new perspectives on food systems and food security to emerge and gain traction in policy.

Urban food systems governance challenges all have their origins in the historical and current framings of the food system and food security by national governments (see also Chapter 6, this volume). In the South African, and wider African context, food insecurity has been largely framed in policy as primarily rural and the responsibility of departments of agriculture (Crush & Riley, 2018). However, in their commissioning of the report, the City of Cape Town had come to understand that the problem of food insecurity is directly related to the food system, which has many urban components and determinants. The City was therefore interested in developing an understanding of what its mandates regarding food security were and, as a result, what role it could and should play in working towards food security. This required an analysis of mandates and the data used by the city to inform governance decisions.

Reinterpreting mandates

Within the 2014 report, we argued that City government has a wider mandate for food security than understood by government in general, particularly when acknowledging the food system as a key determinant of food security. Within the South African Constitution, the right to food is recognized (Section 27.1.b) and the state is obligated to ensure the progressive realization of this right (Republic of South Africa, 1996, p. 11). All spheres of government (national, provincial, and local) are bound by the Constitution and are required to respect, protect, and fulfil the rights guaranteed in the Constitution. Therefore, while the role of local government is not overtly articulated with respect to the right to food, it is still constitutionally bound to working towards the progressive realization of this right and to not undermine it.

The Food System and Food Security report argued that there are a number of powers and functions of local government outlined in the South African Constitution that directly or indirectly impact the food system and therefore food security. These include (as outlined in Schedules 4 and 5): licensing and

control of undertakings that sell food to the public, local amenities, markets, municipal abattoirs, municipal parks and recreation, municipal planning, public places, refuse removal, and street trading. Furthermore Provincial and Local government have concurrent legislative competencies which impact food systems and food security, namely: agriculture, consumer protection, disaster management; education at all levels (excluding tertiary education), environment, health services, housing, industrial promotion, pollution control, population development, public transport, public works only in respect of the needs of provincial government departments in the discharge of their responsibilities to administer functions specifically assigned to them in terms of the Constitution or any other law, regional planning and development, soil conservation, trade, urban and rural development, and welfare services (Battersby et al., 2014, pp. 20–21; see also Chapter 11, this volume).

Within the report, we went on to examine the existing programmes and policies of each of the City of Cape Town's Directorates and their mandates in accordance with the national legislation guiding their actions. It found that all directorates already impacted food security – either positively or negatively. It further argued that according to existing mandates, local government does have a clear role to play in ensuring food security through urban food system planning and monitoring (see also Chapter 6, this volume).

However, in order for local government to play a role in food system and food security governance, it requires formal acknowledgement of this mandate – and therefore funding to follow through on obligations – and data to inform and support governance. This is a significant challenge, as the existing mandates as identified above do not explicitly mention food or food security, and the national policy framework's framing of food security omit explicit identification of local governments as agents in food security. Most importantly, the national government's 2002 Integrated Food Security Strategy set out an argument that food security was built on a robust food system, and to achieve food security it was essential to have a multi-departmental approach. However, in reality, implementation of the strategy fell to the Department of Agriculture (now the Department of Agriculture, Forestry and Fisheries). This had two deleterious impacts for urban food system and food security governance.

First, it reinforced an historical framing of food security as a problem to be addressed primarily through production-oriented policies and programmes (Drimie & Ruysenaar, 2010). Second, through placing the strategy under Agriculture, it effectively made food security a provincial government concern, as within South African government structures Agriculture is a provincial rather than local government department. This institutional location of the food security strategy signalled to local government that it did not have a clear role in food security. The impact of this framing was that local government food system- and food security-related mandates established within the constitution are poorly acknowledged by local, provincial, and national government. It also means that the kinds of

data collected to measure and monitor food security are poorly designed and poorly disaggregated, to aid local government in making food system policy and programme decisions.

In 2014, the government released its National Policy on Food and Nutrition Security which was meant to provide a broad framework for the fulfilment of the Constitutional mandates for food security and to 'serve as a guide to national, provincial and local government in working towards food and nutrition security at every level' (DAFF, 2014, p. 29). However, as with the Integrated Food Security Strategy, the implementing departments operate at national and provincial scales, and have no local government representation. The challenges of framing and data therefore persist.

The consequences of the national government framing of food security has been that although key areas of the food system that shape urban food security are under local government mandates (most directly markets, street trading, land-use planning, and municipal abattoirs), local governments have not considered themselves to have food security or food system roles. Further, the framing of food insecurity as a primarily rural problem to be solved by production-based solutions has meant that there are significant gaps in official statistics that could guide local government decisions on food systems and food security.

The following sections highlight the kinds of data challenges impeding local government from developing informed food system and food security policies and programmes. There are four major categories of data challenges: poor disaggregation; dependence on weak proxies; a lack of relevant indicators for local government data sets; and private sector control of data. The lack of awareness and incomplete decentralization identified by Giordano et al. (2017) have fed into these challenges, which lead to limited evidence at the local scale, which in turn reinforces the lack of awareness and reduces the apparent urgency of decentralization.

Data challenge 1: poor disaggregation

Data are never neutral. They are collected to answer particular questions deemed important to the agency collecting them. In the case of official statistics, they are collected and collated to help governments understand and respond to policy issues. In the case of both food security and food systems data, the way in which they have been collected and collated reflects and reinforces a particular understanding of food security. This section of the chapter pays attention to issues of disaggregation and interpretation of disaggregated data.

Food security data

As noted above, food insecurity has been framed in policy documents as a primarily rural challenge in the South African context. This links to a notion that poverty is primarily rural, and that food insecurity and income poverty

are directly correlated. However, it has been argued that the perception of poverty as rural is the outcome, in part, of data disaggregation. In 2003, StatsSA, South Africa's national Statistical Service, produced a 187-page discussion document addressing the challenge of finding an appropriate definition for 'urban' and 'rural' (StatsSA, 2003). Although this may seem excessively long, it is important because the continued use of apartheid era definitions of urban has inflated the country's rural population figure. The use of these apartheid era definitions has meant that many areas that would be considered to be urban using any standard definition, are considered rural. Many of these areas are poor. By classing these areas as rural, the myth of poverty being a rural problem is perpetuated, as is the interpretation that black African people in South Africa are predominantly rural (and live rural lives) (Parnell, 2005).

Furthermore, the state often falls into using percentages of populations instead of absolute numbers to make policy arguments. For example, in their 2015–2020 Strategic Plan, the Western Cape Provincial Department of Social Development argued that provincial focus on food security should centre on rural areas because

> According to the 2013 GHS [General Household Survey], 16.1% of households in the Western Cape have inadequate access to food, while 6.6% have severe inadequate access to food. In total, 22.7% of households are food insecure. Food insecurity is more prevalent in rural areas, where 27% of the population have inadequate access to food. The corresponding figure for urban areas is 20%.
>
> (Western Cape Government Social Development, 2015, p. 8)

However, approximately 90 per cent of the province is urban (with approximately two-thirds of the population residing in Cape Town). When these proportions are translated in numbers of households, there are 44,118 food insecure rural households, on a total of 294,120 food insecure households. Similar misuse of proportions over absolute numbers is found in the 2002 Integrated Food Security Strategy, which framed national food security priority areas (Battersby et al., 2014, p. 28). Poorly disaggregated data compounded with poor use of statistical data have reinforced the perception that food insecurity is not a significant urban challenge and therefore does not require specifically urban funding or programming.

Food system data

The challenge of disaggregation is further evident in food system data. One of the primary reasons for the City's commissioning of the Food System and Food Security Study was to develop an understanding of how much food was being produced in and around the city, and the importance of local production to local consumption (see also Chapter 10).

However, as with the food security data, the official statistics reflect historical assumptions about food security and its connection to the food system. Historically, interest in the food system in South Africa has focussed on issues of aggregate production. This was a particularly important question during the apartheid era, when the nation needed to have high self-sufficiency as a result of political and economic isolation. At that time, there was considerable support for commercial agriculture, and a sophisticated system of marketing boards and subsidies to maintain agricultural production. These boards controlled 70–80 per cent of the marketing of agricultural products. Within this context, the urban food system was subject to very little formal governance, outside of local government's management of fresh produce markets and abattoirs and their regulation of informal trade.

Stats-SA produces an Agricultural Census of Commercial Agriculture every ten years, the most recent of which was released in 2011 using data from 2006 and 2007. This report provides data on the 'production performance of all farmers who responded to the census' (StatsSA, n.d.).

The Agricultural Census had two critical flaws that made it hard to gauge how much food was being produced in and around Cape Town. The first is the partial nature of the data set. The Census collects data only from commercial agriculture, thereby discounting smallholder and subsistence agriculture. It also only collects data on a limited number of key crops: wheat, potatoes, onions, carrots, cabbages, apples and pears, and wine grapes; and livestock: cattle, sheep, pigs, ostriches, and chickens. There are significantly more crops being grown in Cape Town than these. Within our 2012 report on the PHA alone, we found that over 50 different crops were being produced (Battersby-Lennard & Haysom, 2012, p. 8). The main crops by volume were: cabbage, lettuce, cauliflower, broccoli, spinach, carrots, potatoes, and onions (Battersby-Lennard & Haysom, 2012, p. 41). Only four of these are reflected in the Agricultural Census. Additionally, the area is an important source of high value, highly perishable crops, such as herbs, for Cape Town.

The official production data on agricultural produce is framed on a particular vision of the agricultural sector and its value in the South African economy (similar challenges for indigenous communities are presented in Chapter 3, this volume). The limited range of crops monitored therefore obscure the real productive capacity of the land and therefore the land's value as an agricultural resource.

The second challenge was that the data were inappropriately disaggregated for municipal government use. The Agricultural Census disaggregates production data at the Magisterial District level (for reasons that are not entirely clear, since magisterial districts were designed to align judicial service boundaries). Nine different magisterial areas are found within the City of Cape Town's borders, but some of these extend beyond municipal boundaries. They do not align to other demarcations used by the municipality to govern or collate data, such as Ward boundaries, sub-district boundaries or

health districts. In 2008, the City of Cape Town conducted an Agricultural Land Review assessing the value of the agricultural lands in and around the city. This report identified 13 different productive areas. The boundaries of magisterial districts and of these productive areas are unrelated. It was therefore impossible to use official statistics generated by national government to report on how much food was being produced in Cape Town and which of the agricultural areas identified by the City were the most productive.

Data challenge 2: weak proxies

Historically, urban governments have not been mandated to collect data on their food systems, as neither food systems nor food security governance has been recognized as part of their competencies. This leaves them with significant data gaps when they attempt to engage with food systems. They therefore depend on proxy data to build a narrative from contingent data that were collected for other reporting purposes.

Building on the broader question of how much food was being produced in Cape Town, the City had a specific interest in the role of the PHA as part of Cape Town's food system. As noted above, the future of the PHA has been hotly contested over the last ten years and has been a topic of considerable public debate.

The City had come to believe that the PHA's productivity levels were declining on the basis of two proxy indicators: volumes of produce entering the Cape Town Fresh Produce Market from the PHA, and the number of farmers operating in the PHA. Both proxy indicators provide inaccurate assessments of the PHA's productivity, and their use was informed by poor understanding of the South African food system.

The Cape Town Fresh Produce Market is the city's primary fresh produce market and was a municipal facility until it was privatized in 2004. Local governments have the constitutional mandate to manage municipal markets, and so historically have held data on market throughput and pricing. The City government has used the market's figures, which indicated reduced flow of produce from the PHA to the market, to infer declining importance of the PHA as a source of food for Cape Town (Battersby et al., 2014, p. 150). However, the City failed to appreciate the rapid changes in the South Africa food system since the end of apartheid. As a result of market deregulation, supermarkets play an increasingly important role in the food system. Farmers in the PHA estimate that they now sell 80 per cent of their produce directly to retailers and just 12 per cent now goes to the fresh produce market (Battersby et al., 2014, p. 98). Using fresh produce markets to infer production rates is fundamentally flawed.

The second indicator used is the number of farmers active in the PHA. The City inferred that decline in the number of farmers active in the PHA, by about half from 1994 to present, indicated declining production. However, while the number of farmers has declined, the land under production has

actually increased as farms have been consolidated in the past 25 years (Battersby-Lennard & Haysom, 2012, p. 38). In addition, the rate of decline in farmer numbers in the PHA is actually well below the national average. Between 1990 and 2008, the number of farmers in South Africa declined by a staggering 76 per cent (Vink & Van Rooyen, 2009). As in the PHA, while the number of farming units has declined, national productivity has not. Farm consolidation is a national phenomenon and not an indicator of declining agricultural production.

Due to local government's historic and current lack of engagement with national issues of food and farming, the City has made inferences about the productive value of the PHA and its contribution to Cape Town's food system, informed by local proxy data used without an appreciation of the national context of these data.

Data challenge 3: local government data sets lack relevant indicators

Given the historical lack of interest in food system issues, the Food System and Food Security Study found very little data generated by the City that could assist them in understanding the nature of the food system and make informed policy decisions.

In one case, it appeared that City officials failed to understand the limitations of the data they were drawing on to support decisions. In other cases, it was clear that the data gaps were understood, but under existing conditions of perceived mandates and associated funding it was not possible to extend the data collected on the various components of the food system.

Failure to appreciate limitations of data collation

There is significant pressure from developers to convert agriculturally zoned land to an urban zoning to enable development, despite the City's own report in 2010 indicated that there is enough land for all required urban development within the demarcated Urban Edge until 2021 (City of Cape Town, 2010, p. 9). The City therefore established the following principle to protect agricultural land for food security purposes in its 2012 Spatial Development Framework.

> To promote food security and mitigate food price increases, the City should therefore consider having 'high-potential and unique agricultural areas'… declared as agricultural/cultural landscapes by the highest appropriate level of authority; investigate ways in which all agricultural areas of significant value … could receive local protection (over and above the urban edge). Options include environmental or heritage overlay zones applied through the relevant zoning regulations; … inside and outside the urban edge proactively prepare and implement action/

> management plans that prevent encroachment and unlawful land use in agricultural areas, minimize negative impacts of urban development on farmed land and manage the use of water and other natural resources.
>
> (City of Cape Town, 2012, p. 65,

The Spatial Development Framework is a long-term (20+ year) city-scale plan to guide new growth and change in the City, and is meant to guide all area-based planning.

However, the Food System and Food Security study found that it was not possible to apply this principle in practice because of how agricultural land valuations had been conducted. In 2008, the City commissioned an Agricultural Land Review, which assessed the relative value of 13 agricultural areas in Cape Town. This report was conducted by an agricultural economist and was informed by a

> socio-economic empowerment role in terms of food production, food security and contribution to LED [local economic development]; its economic role in food production and other commodities (e.g. Wine), especially as input to the secondary and tertiary industry; and its relationship to the City's green structure and biodiversity corridors.
>
> (City of Cape Town, 2008, p. 1)

The assessment was made on the basis of five main criteria: agricultural potential, economic significance, land-use significance, landscape significance, and environmental significance. Each criteria had a number of subcategories against which their value was assessed and ascribed a value of 'low', 'medium' or 'high' by a team of agricultural specialists. This subjective approach, informed by a very particular set of ways of valuing agricultural land, identified three agricultural areas classified as 'high potential and unique', namely, Constantia Hills, Helderberg/Erinvale, and Philadelphia. The PHA was noted as the fourth most valuable, but importantly did not fall into the 'high potential and unique' category. It is notable that the top two areas are primarily viticulture areas and so cannot be considered as areas that promote food security and mitigate food prices, as articulated in the Spatial Development Framework (SDF). The cumulative impact of the Agricultural Land Review approach is that certain agricultural areas are argued to be of global importance and thus irreplaceable (viticulture), and that areas producing vegetables and grains, which contribute more directly to food security, are not.

The officials who had drafted the SDF had not appreciated the ways in which the food system and its value had been framed by the earlier assessment and therefore were attempting to use it for purposes beyond what it was intended for and then ultimately undermined their objective. We argued with the Food System and Food Security Study that it would be of value for the City to commission a new Agricultural Land Review informed

by the food security contribution of productive lands. It is also essential that municipal officials contributing to strategic planning documents are better informed about what data have been used to inform reports subsequently drawn on to make planning decisions.

Absent data

In addition to the questions of the significance and value of productive land, the Food System and Food Security Study also sought to describe the food system as a whole and identify its points of resilience and vulnerability. This was challenging for a number of data reasons.

As noted earlier, there had previously been no consideration of the nature and dynamics of the urban food system in South African governance processes. As well, food systems governance under apartheid was characterized by support for large-scale commercial agriculture, the dominance of marketing boards, and cooperatives with state-appointed boards. The urban food system was subject to very little formal governance, outside of local government's management of fresh produce markets and abattoirs and their regulation of informal trade. As a result of this absence of formal governance, little data was gathered on components of the urban food system. Following the end of apartheid, the marketing boards were dissolved, and the state stopped monitoring and regulating food flows.

Local and provincial governments only collect data expressly related to their abilities to monitor and report on their core mandates. This is entirely appropriate and a good use of limited municipal finances. However, it does mean that official data are not held on important aspects of the food systems operating in cities.

Both city and provincial governments collect data on urban agriculture projects supported by government. However, the data held by the provincial government were limited to data on physical location and number of beneficiaries. Production data did not extend beyond broad categories of 'vegetables' or 'chicken'. The data supplied by the City to our team as the available data on supported projects were handwritten delivery instructions for compost and manure. There appeared to be no consolidated database even of addresses of supported gardens. Due to the absence of a food security mandate, urban agriculture was housed within the Economic Development Department and therefore viewed as a development initiative and a means of livelihood support. As such, the focus of monitoring and evaluation is strongly input based. This input-based evaluation approach is further necessitated by extremely limited personnel and the financial capacity of the state to engage in output-based evaluation. In conversation with a representative from the Provincial Farmer Support and Development programme, I asked why data were not collected on farm outputs. He explained it was too difficult to get farmers to report on production. I then asked how they

knew if a project was successful and sustainable. He answered that if the beneficiaries asked for resources again the next year, the project was sustainable. In other words, a project was sustainable if it continued to rely on government support.

In terms of food processing, the City of Cape Town holds a database of licensed food processors within the city. However, this database's purpose is simply to guide environmental health inspections. It therefore identifies the physical location of the business and the broad category of food stuffs being processed. It provides no information on the scale of the business, the source of the raw materials used, or the destination of the product.

Within Cape Town, informal vendors trading in food need to apply for a 'hawking in meals' licence and obtain a 'certificate of acceptability'. However, despite these regulations, the City does not hold any data on informal food retail (what is being sold). These data are simply held to allow the City to conduct period health and safety checks according to its environmental health mandate. Additionally, although understood to be a major source of livelihoods in the city, representatives from City government on the steering committee of the Food System and Food Security Study viewed the informal sector to be quite marginal to the food system, despite the fact that the informal sector accounts for at least 25 per cent of food retail in South Africa (Agyenim-Boateng et al., 2015), and is particularly important for low-income consumers (Cooke, 2012).

Finally, there has been a rapid expansion of supermarkets and associated fast food outlets in Cape Town, which have rapidly transformed the food system (Battersby, 2017). The Planning and Building Development Management department are responsible for allocating development rights for new retail developments in the city, but their decision-making process does not consider the food system impact of planning decisions and therefore do not monitor the number of formal food retailers.

The outcome of all of this is that although many components of the food system fall under the governance of local government, and local government collect data on these components, the data are limited to addressing issues that are understood to be local government's core mandate. It therefore leaves the State unable to effectively monitor and evaluate its food system and its relationship to food security, or to justify the development of programmes or policies for food system governance.

Data challenge 4: private sector control of data

The final data challenge is that data pertaining to the food system are increasingly controlled by large-scale private sector actors through the vertical coordination of the supply chain and the increasing dominance of large supermarkets within the formal market. Post-apartheid deregulation of the food system has made it increasingly opaque. The consolidation and concentration in the food sector have made the food system less traceable, as

large companies are unwilling to share their data. As Isabel Schmidt from StatsSA observed:

> Statistics South Africa has noted that the abolition of marketing and control boards in the food sector has resulted in significant information gaps in relation to food systems in South Africa. Furthermore, the activities of the Competition Commission [are] increasingly making non-regulated associations and large scale conglomerates unwilling to voluntarily provide information about their activities to the Agricultural marketing board and other state entities.
>
> (Schmidt, StatsSA & Pers. Comm. in Battersby et al., 2014, p. 67)

The private sector control of data and lack of accountability has been acknowledged to have caused significant problems for food security and food systems governance. The most telling of these has been the listeria outbreak, which resulted in over 200 deaths in South Africa in 2017 and 2018 (Marler, 2018). Two factories producing polony (a ready-to-eat meat product) for Tiger Brands were eventually identified as the source of the listeria outbreak. In South Africa, the ten largest packaged food companies account for around 52 per cent of sale of packaged foods, with Tiger Brands being by far the largest company, having over 17 per cent of the market share of all packaged food sales in the country (Igumbor et al., 2012, pp. 2–3). The combination of this market concentration with the rolling back of state control of the food system has reduced traceability and regulatory power. In the wake of the listeria outbreak, it emerged that the processed meat industry had blocked the implementation of regulatory standards developed in 2014 (Ensor, 2018). In addition to the power ceded to large private-sector actors, there has been an erosion in the capacity of the state to monitor the food system within its existing mandates, given funding shortfalls. At the height of the listeria outbreak, the Minister of Health said, 'We have a serious shortage of environmental health inspectors because that function was given to local government in 1996 … It was a mistake for the constitution to give that job to municipalities because they cannot do it.' He further noted that there was a shortage of 3300 municipal environmental health officers nationally (Mkhwanazi & African News Agency, 2018).

This has therefore led to a position in which industries are effectively left to self-monitor, as the limited state capacity is generally focussed on regulating the informal sector. The long-term trend has therefore been towards greater corporate power and diminished state capacity to regulate the food sector.

Moving forward

When the City commissioned the Food System and Food Security Study, it took a bold move, being the first metropolitan area to seek to engage in the

food system in a holistic manner and attempt to understand what role the city needs to play in the food system. The report argued that local government could be understood to have a significant mandate to govern the food system and food security. However, moves towards acting upon this revealed that the mandate was hampered by the web of knowledge and governance effects constructed by historical framings of food security by national government. This inertia was amplified by a lack of political will and vested interests. Echoing Giordano et al.'s (2017) framing, the lack of complete decentralization has impacted upon funding and capacity at the local scale, which further amplifies the inertia.

The increased interest in governance of urban food systems around the world has highlighted the importance of new forms of governance informed by new forms of data. In the absence of official statistics suitably conceived and disaggregated to address urban food governance questions, there is a necessity for local government to locate or generate appropriate data. Given the connections between food security, food systems, and urban systems, there is a need for data that examine this nexus. The International Institute for Environment and Development has done innovative work in Nairobi, Kenya, examining urban food security's connection to the local urban food system and urban form (Ahmed et al., 2015; see also Chapter 8, this volume). In order to understand the interactions of food systems, urban systems, and food security, it will be essential to start from the most vulnerable to food insecurity and work upwards and outwards towards a systemic understanding. This therefore requires a move from large-scale official data sets towards micro-scale, collaborative, community-generated data and assessment frameworks.

However, 'doing data' in different ways has economic costs and is potentially politically risky as local governments are concerned about being seen to act beyond their mandates. Furthermore, increasingly local governments in Africa are being led by externally generated data imperatives. Governments are currently particularly focussed on reporting against UN Sustainable Development Goals indicators. In the context of urban food systems governance, this is very concerning. The absence of the urban in the hunger/food goal (SDG 2) and the corresponding absence of food in the urban goal (SDG 11) limits any proactive urban food security or food system data collection at the urban scale (Haysom & Tawodzera, 2018, p. 23). Cape Town is a member of the 100 Resilient Cities network and therefore is reporting against their indicators. There is concern that these indicators are poorly aligned to African urban realities and may lead the City along development pathways that undermine food system resilience rather than enhance it. There has been some push back to indicator sets that are poorly aligned to realities of the Global South from some members of the 100 Resilient Cities network, and a number of studies have been conducted examining the viability and utility of the indicators within the various Sustainable Development Goals. It is essential that local and national governments engage critically with externally

produced indicators and provincialize them to meet existing local concerns. This, however, depends on significant local capacity. In the absence of such capacity, this chapter, along with the Food System and Food Security Study argue that the state should draw on the capacity of academic institutions to address these challenges.

If Cape Town and other cities are to work towards proactive urban food systems governance, it is going to be essential for local government to understand the inherent politics of measurement. This will require three steps going forward: (1) understanding why the data have gaps; (2) understanding both what the existing data reveal and what they obscure and why; and (3) identifying what data are required to help local governments address their full mandates regarding food. Only through these steps will it be possible for local government to unpick the Gordian Knot of governance and knowledge effects of data and indicators.

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Note

1 Although there has been an upsurge in interest in food systems it is important to note that the precise meaning of the term 'food systems' varies considerably and the term has been mobilized by researchers and policymakers for different purposes. For the purpose of this chapter, I use the following definition,

> A food system gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socioeconomic and environmental outcomes.
>
> (HLPE, 2014, p. 12)

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