



**Food and Agriculture
Organization of the
United Nations**



Milan Urban Food Policy Pact Monitoring Framework

July 2018 version

Indicator 34: Existence of policies/programmes that address the reduction of GHG emissions in different parts of the food supply chain

MUFPP framework of actions' category: Food supply and distribution

The indicator assesses the existence of policies/programmes that address the reduction of GHG emissions/ in different parts of the food supply chain (e.g. processing, storage, transport, packaging, retail, cooking, waste disposal etc.)

Overview table

MUFPP Work stream	Food supply and distribution
MUFPP action	Assess the flows of food to and through cities to ensure physical access to fresh, affordable foods in low-income or underserved neighbourhoods while addressing sustainable transportation and logistics planning to reduce carbon emissions with alternative fuels or means of transport.
What the indicator measures	The indicator assesses the existence of policies/programmes that address the reduction of GHG emissions/ in different parts of the food supply chain (e.g. processing, storage, transport, packaging, retail, cooking, waste disposal etc.)
Which variables need to be measured / what data are needed	Policy initiatives, research initiatives, practical initiatives (e.g. technical innovation; public engagement & behaviour change)
Unit of measurement (i.e. Percentages, averages, number, etc.)	This is an assessment of action that is being taken by the municipality and its partners to address reduction in GHG emissions. These could be actual GHG emission calculations or practical initiatives or clear policy guidelines and GHG reduction targets, etc.
Unit(s) of Analysis (i.e. people under 5 years old, etc.)	Metrics could include: <ul style="list-style-type: none"> - Number (and types) of policies and regulations - Number of city partnerships formed to specifically address GHG emissions - Number and type of information and communication mechanisms and target groups - Number of research studies - Number of GHG emissions calculations relating to the food system (for example, impact of the last mile supplying system, total or specific food transport GHG emissions, organic waste related GHG emissions).

	- Number of practical initiatives to support a low-carbon food system
Possible sources of information of such data	-Climate change or sustainability/resilience, or environmental departments; -Policy and planning department; -Universities and colleges; -Food governance structures; -Local food & climate change networks; -Environmental NGO's and campaigners; -Businesses
Possible methods/tools for data-collection	Policy documents, reports, research proposals, climate change campaigns, interviews with key stakeholders
Expertise required	Research, interviewing, data analysis
Resources required/ estimated costs	
Specific observations	Some cities may have been able to quantify, monitor and reduce food system related GHG emissions in certain areas of the food system. For most however, measurement and monitoring of GHG emissions in any single food business, let alone food sector, or indeed whole city food system, is difficult to do. As yet there is no one agreed way to do this. Most cities would need to hire specialist consultants at high cost. However, cities need to act and therefore need to understand how best to act, so any work that supports this intention is very important. The responsibility for making change happen has to be shared across many different actors. There may be overlaps with this and other indicators, so this one should focus on any important data gaps.
Examples of application	[FAO to add here a link to the experience you had in AGS/ESN looking for feasible ways to determine the impact of the last mile supplying system on GHG emissions]

Rationale/evidence

The overall purpose of this area of work is to increase understanding of how to achieve targeted improvements in the food chain. Reducing fossil fuel-based energy consumption is essential to meet global commitments to reduce greenhouse gas emissions, a man-made contributor to climate change. Sustainable Development Goal (SDG) 12 is 'to ensure sustainable production and consumption patterns'¹.

One regional analysis for Europe finds that food accounts for 31% of the EU-25's total GHG impacts, with a further 9% arising from the hotel and restaurants sector (European Commission, 2006)².

The Paris Agreement in December 2015 is the first truly global effort to reduce emissions. To date, 160 UNFCCC parties have made voluntary pledges to reduce emissions up to 2030, including China, the US and the European Union (on behalf of the EU nations)³.

The impacts of climate change will present challenges to achieve many of the Sustainable Development Goals (SDGs). For example, climate change undermines progress made towards zero hunger and climate variability raises the risk of disruptions to food supply and distribution. "To achieve SDG2 and effectively respond to climate change, we require a transformation of our agriculture sectors and food

¹ Sustainable Development Goals and indicators <https://unstats.un.org/sdgs/tierIII-indicators/>

² What are the best opportunities for reducing GHG emissions in the food system (including in the food chain)? Tara Garnett, 2010, Food Climate Research Network https://www.fcrn.org.uk/sites/default/files/Food_Policy.pdf

³ United Nations Climate Change: Paris Agreement 2015 http://unfccc.int/paris_agreement/items/9485.php

systems,” (José Graziano da Silva, Director-General of the Food and Agriculture Organization of the United Nations (FAO))⁴.

At a city and city region level there is now much more discussion about how to build a low carbon food economy or food system. However it’s an area of great complexity and there are many unanswered questions that relate specifically to impacts and methodologies for measurements.

Food flow analysis may provide information on where improvements are needed: GHG emissions or food loss and waste volumes generated in different parts of the food chain (e.g. production, processing, storage, transport, packaging, retail, cooking, waste disposal etc.). Food flow analysis can also provide information on the number of jobs generated at different parts of the food chain, opportunities for increased local food business, or on the extent to which local consumption is covered by regional production versus food imports from outside the region⁵.

Local governments, through policy and investment in practical programmes, can support social, technological and organisational innovation in processing, distribution, logistics and trading activities to facilitate the transition to a sustainable and resilient food system. (See Indicator 35: *Presence of a development plan to strengthen resilience and efficiency of local food supply chains logistics*). For example, municipalities can apply closed cycles principles of material and energy to the food system from a circular economy and bio-economy perspective. Many of these food chain improvements are covered under other indicators (e.g. food production, number of food jobs, food markets providing fresh fruits and vegetables, waste recovery).

This indicator should therefore focus on areas not covered by other indicators. Each city should consider this question: *To what extent do other indicators already cover areas related to targeted improvements in the food chain and what is still missing?* The issue of GHG emissions may well be one that is missing, and should be addressed in some way, even if not entirely satisfactory.

Glossary/concepts/definitions used

What can cities do to address the reduction of GHG emissions in different parts of the food supply chain?

The C40 Food Systems Network sets out how through policy and practical initiatives, cities can use their own powers to facilitate transformation in the following ways:

- Food Procurement and Sustainable Diets: Addressing purchases that are controlled by the municipality, for example procurement of food for schools, hospitals and elderly homes.
- Food Production: Promoting and strengthening urban and peri-urban food production to support short food chains, reduce building energy demand (cooling and heating) in the production process and mitigate the urban heat island effect.
- Food Supply and Distribution: Developing sustainable food transportation and logistics by improving alternative fuels or means of transport; enhancing farmer’s markets, informal markets, retail and wholesale markets; and strengthening the food supply chain to withstand disruptive events such as natural disasters.

⁴ Climate Action Priority for Food Security and Zero Hunger; UNFCCC

<https://cop23.unfccc.int/news/climate-action-priority-for-food-security-and-zero-hunger>

⁵ City Region Food System assessment toolkit <http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/>

- Food Waste: Raising awareness of and promoting the food waste “pyramid” – reducing of food loss and waste, facilitating food recovery for people and animals, and improving collection of waste for biogas or fertilizers.⁶

Evidence of policies/programmes that address the reduction of GHG emissions

There are a number of approaches that could be used as proxy indicators or as evidence that action has been taken:

Public procurement as a vehicle for driving GHG emission reductions; City of Malmo

By 2020, the City of Malmo in Sweden aims to be climate neutral and by 2030 the whole municipality aims to run on 100% renewable energy. Greenhouse gas emissions relating to food shall decrease by 40 % by 2020, compared to the 2002 levels. Malmo’s goal is to serve 100% organic food in all of its public catering services by 2020 as part of the strategy for achieving GHG reduction targets. The city is using an Eat S.M.A.R.T. model to help get the balance between eating healthily and decreasing the impact on the environment⁷.



Understanding city emissions better

The City of Bristol, UK has used national emissions data from which to calculate a more detailed breakdown of percentage contributions to total city CO2 emissions by sector; and also to calculate specific municipality contributions⁸.

Urban food production & circular economy initiatives

There are many well-known examples of urban micro-businesses or community initiatives that are based on circular economy principles and based in or near to urban centres:

- Mushrooms production using recycled coffee grounds as a growing medium
- Vehicles run on recycled vegetable oil from catering establishments
- Reduction of methane from land-fill sites by reducing the amount of wasted edible food through redistribution, or composting of food waste material.

Preparations

The team responsible for monitoring this indicator should agree on:

1. Scope and parameters of the assessment
2. Most useful and feasible metrics (useful to discuss these with the municipality and any key stakeholders, ideally in a roundtable situation)

⁶ C40 The Food Systems Network and EAT <http://www.eatforum.org/programmes/>

⁷ Policy for sustainable development and food; the City of Malmö
http://malmo.se/download/18.d8bc6b31373089f7d9800018573/Foodpolicy_Malmo.pdf

⁸ Our resilient future: a framework for climate and energy security, City of Bristol, 2015
https://bristol.citizenspace.com/city-directors-department/climate-and-energy-framework/supporting_documents/OurResilientFuture_v2.pdf

3. Type of data disaggregation and categories that will be used (linked to above discussions)
4. Data collection method (analysis of records or interviews)
5. If interviews are to be used, questions have to be designed. Training of interviewers may be needed.

Sampling

N/A

Data collection and data disaggregation

This is an assessment of policy and action that is being taken by the municipality and its partners to address reduction in GHG emissions. These could be actual GHG emission calculations or practical initiatives or clear policy guidelines and GHG reduction targets, etc.

An initial roundtable discussion with key stakeholders would help to inform the scope of this assessment and agree possible metrics. The breadth of the assessment is important to agree. What are the policy priorities and where should the focus be? What are the main gaps in related data from other indicators?

Metrics could include, for example:

- Number (and types) of GHG-related policies and regulations
- Number of city partnerships formed to specifically address GHG emissions
- Number and type of GHG or climate change-related information, communication mechanisms and main target groups
- Number of food system GHG research studies
- Number of food system GHG emissions calculations
- Number of practical initiatives to support a low-carbon food system within local neighbourhoods, or start up support for new low carbon food enterprises
- Etc.

Follow up interviews may be needed with leaders of GHG reduction initiatives. It will be important to note level of involvement or support provided by the municipality in each case.

Data analysis/calculation of the indicator

An analysis of exiting policy and action could be presented as a brief report or presentation, ideally with recommendations for addressing gaps in data and new development needs.

If there are useful quantifiable figures for GHG emissions or even GHG reductions for specific sectors within the food system, they should be included and help to inform recommendations.

References and links to reports/tools

Policy

Policy for sustainable development and food; the City of Malmö

http://malmo.se/download/18.d8bc6b31373089f7d9800018573/Foodpolicy_Malmo.pdf

Sustainable food procurement in the city of Malmö

Gunilla Andersson, Environment department City of Malmö, October 2010

http://www.foodlinkscommunity.net/fileadmin/documents_organicresearch/foodlinks/publications/andersson-2012-malmoe.pdf

Tools for GHG calculations

There are many methodologies, most of which have their critics, and none of which is yet seen as the solution.

Life Cycle Assessment (LCA): Life cycle assessment determines the environmental impacts of products, processes or services, through production, usage, and disposal. It is a well-used approach in relation to measuring CO₂ emissions or climate change impacts, mainly by academics. It also tends to be very costly.

‘Methodological guidelines for calculating climate change related indicators of urban/regional food production and consumption: monitoring impacts of urban and peri-urban agriculture (UPA) and forestry on climate change mitigation and adaptation’. (Sukkel and Dubbeling, Nov 2014; RUAF Foundation)

This methodology provides measurement and quantification methods to design different urban/regional food production and consumption scenarios and to assess the hypothesis that increased urban and peri-urban agriculture and resource recycling will reduce the food (transport) related emissions, food kilometres and related energy use.

<http://www.ruaf.org/publications/guideline-3-methodological-guidelines-calculating-climate-change-related-indicators>

See further also: <http://www.ruaf.org/projects/monitoring-impacts-urban-agriculture-climate-change-adaptation-and-mitigation-cities>. This project implemented the following activities:

- **Design of a draft monitoring framework** with clear indicators and simple yet robust tools for the monitoring of the impacts of Urban and Peri-urban Agriculture and Forestry (UPAF) on climate change adaptation; mitigation and developmental benefits.
- **Field testing of the draft monitoring framework** in UPAF projects in 4 cities: Kesbewa (Sri Lanka), Rosario (Argentina), Kathmandu (Nepal) and Bobo Dioulassou (Burkina Faso) (field testing in the latter two cities was funded by the UN-HABITAT -Cities and Climate Change programme).
- In two cities (Kesbewa and Rosario): **the design of alternative scenarios for the development of urban food systems** in that city, and the calculation of expected impacts of each scenario (food-miles, emissions and energy use), as a basis for local decision making and planning.
- Facilitation of the **integration of UPAF as a component of the city and provincial climate change and urban development strategies** and securing adequate follow-up actions amongst others by training local researchers and local government staff on UPAF models, their inclusion in climate change programmes and the monitoring of their impacts.

For a report on Rosario. Calculations of GHG emissions comparing local versus more distant food production and various means of food transport:

<http://www.ruaf.org/sites/default/files/Consumo%20de%20combustible%20y%20emision%20de%20CO2%20comparando%20la%20produccion%20y%20transporte%20de%20vegetales%20hacia%20la%20ciudad%20de%20Rosario%20con%20una%20produccion%20local.pdf>

Food flow analysis approaches

City Region Food System Toolkit: <http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/>

Last mile logistics

FAO is testing an approach on “the last mile logistics and related GHG emissions, for example using wholesale markets as entry point. Many wholesale markets have good data on products and buyers (and their businesses). In this case, one can calculate the average routes from wholesaler to retailers and their associated GHG.



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Milan Urban Food Policy Pact Monitoring Framework

July 2018 version

Indicator 35: Presence of a development plan to strengthen resilience and efficiency of local food supply chains logistics

MUFPP framework of actions' category: Food supply and distribution

The indicator allows for (self) assessment of the presence, functioning and effectiveness of a development plan to strengthen resilience and efficiency of local food supply chains logistics. It also helps to define areas for improvement.

Overview table

MUFPP Work stream	Food supply and distribution
MUFPP action	Support improved food storage, processing, transport and distribution technologies and infrastructure linking peri-urban and near rural areas to ensure seasonal food consumption and reduce food insecurity as well as food and nutrient loss and waste with an emphasis on diversified small and medium scale food businesses along the value chain that may provide decent and stable employment.
What the indicator measures	The indicator allows for (self) assessment of the presence, functioning and effectiveness of a development plan to strengthen resilience and efficiency of local food supply chains logistics. It also helps to define areas for improvement.
Which variables need to be measured / what data are needed	Information is collected on Presence (yes/no), as well as a set of metrics and variables indicated below. Details of relevant existing development plans, by type; the list of metrics above; can be conducted as a complementary audit study
Unit of measurement (i.e. Percentages, averages, number, etc.)	Metrics proposed include: <ul style="list-style-type: none"> - Number (by type) of relevant developments plans - Number (by type) of different stakeholders involved with i) developing and ii) implementing plans - Number (by type) of food businesses involved - Number of meetings held in relation to developing the plan(s) - Number of i) municipal departments; and ii) municipal staff involved - Amount (and sources) of budget - Number (by type) of initiatives/actions taken by the multi-stakeholder body to implement the plan (including any funding or other support provided by local government)

Unit(s) of Analysis (i.e. people under 5 years old, etc.)	See above
Possible sources of information of such data	-Municipal funding proposals and reports; -Municipal Agriculture, Food Supply Chain and Markets departments; -Development agencies and support organisations; -NGO's; -Food system labour organisations; -Colleges and universities; -Key stakeholders e.g. leading scientists and researchers; food entrepreneurs and innovators; processing, wholesale and distribution companies; food governance bodies; local food support initiatives
Possible methods/tools for data-collection	-Desk top study of existing reports and documents -Interviews with key stakeholders
Expertise required	Research, design delivery and analysis of interview data
Resources required/estimated costs	
Specific observations	There may be one single plan or there may be several plans that have elements of the local food system included. Each city will need to decide whether to focus only on projects and plans supported by the municipality or to look wider.
Examples of application	

Rationale/evidence

Purpose: The overarching purpose of this area of work is to improve and optimise local/regional food processing, storage and distribution capacity. This is important because the city i) provides a potential market place for food producers in and around the city (the scale and distance depending on the specifics of the city region), and ii) benefits from access to local/regional produce for economic, social and environmental sustainability reasons. Optimising local supply also relates to building regional food system resilience. If the local supply chain is unable to optimise its capacity due to insufficient infrastructure that would otherwise enable flows of food into the city, then this is an area that should be addressed.

Resilience and local food systems: Much has been written over the past few decades about the role that local food systems can play in increasing food security and food system resilience: travels less, is fresher, therefore more nutritious; provides local jobs etc. This is often presented as a counter argument for the mainstream 'just in time' distribution system that currently dominates and is actually quite vulnerable to disruptions caused by man-made or natural crises. Recent examples include the impact of Storm Sandy on the city of New York in 2012 where floods prevented food and drink deliveries for several days. Another example is the UK truck driver protests over fuel prices in 2000 when supermarkets shelves were left bare and emergency food rationing was used in some places.

Oliver de Schutter, (UN Special Rapporteur on the right to food, 2008-2014) drew attention to how food prices, increasingly volatile since 2008, have raised serious food availability concerns in developing countries and called for priority investments in agro ecological and poverty-reducing forms of agriculture. Mitigating the exposure of vulnerable populations to food price volatility means avoiding excessive reliance on trade, and ensuring resilient local food production systems. De Schutter also comments:

- "Food democracy must start from the bottom-up, at the level of villages, regions, cities, and municipalities"
- "Food security must be built around securing the ability of smallholder farmers to thrive"
- "Respect for their access to productive resources is key in this regard"

- “By 2050 more than 6 billion people – more than two in three - will live in cities. It is vital that these cities identify logistical challenges and pressure points in their food supply chains, and develop a variety of channels to procure their food, in line with the wishes, needs and ideas of their inhabitants.”
- “Emerging social innovations in all parts of the world show how urban consumers can be reconnected with local food producers, while at the same time reducing rural poverty and food insecurity, such innovations must be supported.”¹

Role of the city: The city, as a crucial market place, therefore needs to provide support for improved food storage, processing, transport and distribution technologies and infrastructure linking peri-urban and near rural areas. The presence of a development plan to strengthen resilience and efficiency of local food supply chains logistics is one way to assess whether or not this support is happening. However, of course it is not just the presence, but also the implementation of such a plan that matters.

Such a plan could be part of a municipal or regional development plan, or it could be more related to innovation and scientific research of city institutions.

For example in Curitiba, Brazil, a development project includes support for distribution of regional production, as well as creating a culture of consumption of these products, including a brand that enables traceability.

The municipality of Milan, Italy, has guidelines to support social, technological and organisational innovation in processing, distribution, logistics and trading activities to facilitate the transition to a sustainable food system. It aims to promote the development of Milanese agri-food scientific research that relates to the urban system and to encourage the development of innovative projects in the agrifood sector.

Glossary/concepts/definitions used

Logistics and supply chain management: An article from Michigan University provides the following useful definitions. The terms logistics and supply chain management are sometimes used interchangeably. What is considered supply chain management in the United States is more commonly known as logistics management in Europe. Purchasing, materials handling, logistics, transportation, inventory control and supply chain management have continued to evolve, causing many of these functional areas to intersect with one another. While these two terms do have some similarities they are, in fact, different concepts with different meanings. Supply chain management is an overarching concept that links together multiple processes to achieve competitive advantage, while logistics refers to the movement, storage and flow of goods, services and information within the overall supply chain. One process cannot exist without the other.

There are some key differences between the two terms:

- Supply chain management is a way to link major business processes within and across companies into a high-performance business model that drives competitive advantage.
- Logistics refers to the movement, storage and flow of goods, services and information inside and outside the organization.
- The main focus of supply chain is competitive advantage, while the main focus of logistics is meeting customer requirements.

¹ Democracy and diversity can mend broken food systems - final diagnosis from UN right to food expert, Olivier De Schutter, 2014

<http://www.srfood.org/en/democracy-and-diversity-can-mend-broken-food-systems-final-diagnosis-from-un-right-to-food-expert>

- Logistics is a term that has been around for a long time, emerging from its military roots, while supply chain management is a relatively new term.
- Logistics is an activity within the supply chain. (Michigan State University) ²

Supply chain efficiency and effectiveness: PLS Logistics Services provides a useful definition. Supply chain efficiency is an organization's core standard of performance. Efficiency measures the ratio of work performed in a process and whether the process is using the best practices and making the most of available resources. Supply chain efficiency doesn't always guarantee effectiveness. A supply chain might efficiently lessen costs, but if the end consumer is unhappy with the product, it's ineffective. An effective supply chain focuses on the outcome and external standards. Well-built supply chains improve margins, support expansion, drive positive consumer experiences, and reduce operating costs. Determining the best way to move a product to its destination takes consideration of optimizing order processing, receiving procedures, outbound schedules, and reverse logistics.³

Local food supply chain logistics: Based on the above definitions, the term 'local food supply chain logistics' is a merger of two functional areas and can be understood to refer to the movement, storage and flow of locally (in or close to the city) or regionally produced goods, services and information to ultimately meet customer requirements. Work in this area might focus on increases in efficiency, effectiveness and economic viability of the actual movement of products from farm to consumer. It might also focus on improving markets or raising consumer awareness. Each city will need to decide on appropriate parameters.

Examples of relevant development plans: These could include all sorts of practical innovations, some with a focus on technical logistical efficiency improvements, others with a focus on innovative business models or infrastructure support that helps to increase access to local produce. For example:

- Farmers markets or street markets
- Local produce festivals and promotions
- Local food sourcing directories and eating out guides
- Food hubs and new physical premises for distribution
- Expansion or improvements to wholesale and retail market locations
- Online platforms that support local food ordering and distribution
- Scientific studies on transport efficiencies, or GHG emission reductions or use of non-fossil fuel powered vehicles
- Improved (small scale) processing and packaging facilities that help increase capacity to deal with more local products
- Circular economy innovation and design for specific locations or businesses or types of products, etc.

Preparations

The team responsible for monitoring this indicator should agree on:

1. Scope, parameters and types of development plans to include (there may be a wide range of initiatives that contribute in different ways to strengthening the resilience and efficiency of local food supply chains logistics; leaders of such projects may not be from local government)

² Is Logistics the same as supply chain management, Eli Broad College of Business, Michigan State University
<https://www.michiganstateuniversityonline.com/resources/supply-chain/is-logistics-the-same-as-supply-chain-management/#.Wm8YyoS5z6w>

³ Supply chain management best practices: Efficiency, Effectiveness; PLS Logistics, 2016
<http://info.plslogistics.com/blog/supply-chain-management-best-practices-efficiency-effectiveness>

2. Type of data disaggregation and categories that will be used (see further below)
3. Data collection method (analysis of reports and documents, interviews with key stakeholders)
4. The key stakeholders to interview – people leading work on relevant development plans
5. If interviews are to be used, questions have to be designed. Training of interviewers may be needed.

Sampling

In the case of an audit, the aim will be to gather as much information as possible and to try and interview all key stakeholders i.e. those that are leading work on relevant development plans.

It could also be helpful to do a sample survey of project partners or beneficiaries of any large-scale support initiative to find out more about the impact of the development plan implementation on the local food chain.

Data collection and data disaggregation

Data to help with this indicator may be most usefully collected in the form of an audit. The audit may be more qualitative than quantitative but the following metrics could be explored, the combination of which would provide a good overview of current support. Inclusion of actions taken to implement plans will further strengthen the value of this particular indicator and sub-sets of data.

Metrics (and data disaggregation) proposed include:

- Number (by type) of relevant developments plans
- Number (by type) of different stakeholders involved with i) developing and ii) implementing plans
- Number (by type) of food businesses involved
- Number of meetings held in relation to developing the plan(s)
- Number of i) municipal departments; and ii) municipal staff involved
- Amount (and sources) of budget
- Number (by type) of initiatives/actions taken by the multi-stakeholder body to implement the plan (including any funding or other support provided by local government)

Data can be collected from existing documents, funding proposals, reports and registers (economic or market department, food business registers, agricultural programmes) followed up by interviews with key stakeholders. The interviews could be shaped to ask the same questions in more depth or breadth, depending on what existing data has already been found.

It could also be helpful to do a sampled survey of beneficiaries of any large-scale support initiative to find out more about the impact on the local food chain. This would depend on priorities and resources. (See sampling notes above).

Data analysis/calculation of the indicator

Once the audit is completed, this could form the basis for an overview document that serves as a baseline audit and can be revised on an annual basis. It may also help to identify gaps in support provision, or to identify the extent to which plans on paper are in reality being implemented.

Depending on the type of survey questions used, further analysis of information can be done, for example about location, access of producers to such infrastructure, infrastructure needs and requirements, vulnerability to climate change etc.

References and links to reports/tools

Local Food and economic development: a guide for Local Governments, March 2014

Mayors innovation project; Centre On Wisconsin Strategy, USA

This paper focuses on the roles cities can take to support economic development through the local food economy.

https://www.mayorsinnovation.org/images/uploads/pdf/Food_and_Economic_Development_Brief_updated.pdf



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Milan Urban Food Policy Pact Monitoring Framework

March 2021 version

Indicator 36: Number of fresh fruit and vegetable outlets per 1000 inhabitants (markets and shops) supported by the municipality.

MUFPP framework of actions' category: Food supply and distribution

The indicator measures the number of food markets or retail outlets providing fresh fruit and vegetables per 1000 inhabitants that are directly supported by the municipality in some way.

Overview table

MUFPP Work stream	Food supply and distribution
MUFPP action	<ul style="list-style-type: none"> - Provide policy and programme support for municipal public food markets including farmers markets, informal markets, retail and wholesale markets, restaurants, and other food distributors, recognizing different approaches by cities working with private and public components of market systems - Improve and expand support for infrastructure related to market systems that link urban buyers to urban, peri-urban and rural sellers while also building social cohesion and trust, supporting cultural exchange and ensuring sustainable livelihood, especially for women and young entrepreneurs.
What the indicator measures	Number of food markets or retail outlets providing fresh fruit and vegetables per 1000 inhabitants that are directly supported by the municipality in some way.
Which variables need to be measured / what data are needed	Categories of shops by type and scale; categories of markets by type and scale; numbers of shops and markets per neighbourhood that sell fresh fruit and vegetables; total population figures by neighbourhood
Unit of measurement	Number
Unit(s) of Analysis (i.e people under 5 years old, etc.)	Number of fresh fruits and vegetables outlets per 1000 inhabitants; outlets supported by the municipality
Possible sources of information of such data	<ul style="list-style-type: none"> - Public food register or similar list held by food safety inspection team or Environmental Health Department(national or local government); - Economic Development Department; - City Markets Department; - Trader organizations or unions; Business Development partnerships; - Wholesale and retail consortia or representative bodies; - Greengrocer networks; - Local food activists; - Food governance body e.g. Food Policy Council, Public Health Department, - NGO's concerned with food access

Possible methods/tools for data-collection	Review of existing databases and reports; interviews with key stakeholders
Expertise required	Research, data analysis, interview design implementation and analysis, statistics
Resources required/estimated costs	
Specific observations	There are several challenges with this indicator. 1) It may be too much to measure both shops and markets so figures on either would be a good place to start. 2) It may be difficult to separate out which ones the municipality does or does not support. 3) Scale of retail or market outlet will determine overall total numbers of customer to a large extent, so this scale context needs to be reflected in some way. 4) The indicator could be changed to look at floor space per capita (see below), or area of shelves dedicated to volumes of fresh fruit and vegetables (see data section below). 5) The final figures could be worked out simply as totals but without any additional context this would not be very useful. 6) Alternatively, this work could be done as an audit on a neighbourhood basis, initially targeting specific neighbourhoods of concern, and gathering more useful comparative data across all neighbourhoods. As always, contextual notes need to be available alongside any indicator figures. Work on this indicator should be done alongside work on indicator 37 ' <i>Annual municipal investment in food markets or retail outlets</i> '.
Examples of application	New York City measures amount of grocery store space per person - specifically calculated as the square footage of supermarket floor space per capita by community district (p20). http://www1.nyc.gov/assets/foodpolicy/downloads/pdf/2016-Food-Metrics-Report.pdf

Rationale/evidence

The overarching purpose of this area of work is to improve and optimise the functioning and infrastructure of food markets in the city. This indicator relates to the provision of supportive policy and programmes that enable public food markets to successfully operate. The final calculated indicator figure also needs additional contextual information to be meaningful.

Retail & local government: In most cities, food retail is organised and owned by private companies that provide food to residents through a range of different types of retail outlets. In relation to these outlets, the role of local government may be largely restricted to granting planning permission for use or change of premises, enforcing food safety regulations and dealing with business rates and rents.

Fresh food markets & local government: The area where the local government has more scope to influence food supply is with fresh food markets where market traders sell the products: covered or uncovered, traditional city centre or neighbourhood food retail markets, farmers markets, fresh produce markets, specialist product markets, street food markets etc. In this case the local government may grant trader licences, provide planning permissions for markets to take place, manage temporary street closures and provide practical market organising logistics including signage, provision of water and power and cleaning and waste disposal services. Each country will have their own particular arrangements that in turn determine the role of the municipality.

Policy example: The UK All Party Parliamentary Markets Group (APPMG) set out, in their 2007 Markets Policy Framework document, why "successful markets matter in all their forms." For the APPMG, "they contribute to the social, environmental and economic well-being of the nation" by:

- Providing a sense of place
- Being part of the nation's cultural tradition.
- Remaining an important element of the economy, particularly in relation to independent

- retailing, local employment and business start-up opportunities.
- Offering local access to fresh produce and other commodities.
- Reducing environmental impacts e.g. by eliminating excessive packaging/waste.¹

(See references section for more on the benefits of these markets and why local governments should support them.)

Glossary/concepts/definitions used

‘Supported by the municipality’: As outlined above, most municipalities will have some kind of statutory regulatory and financial relationship with retail and market outlets, but this may not be regarded as ‘support’. Support could be understood as a particular intervention to enable, maintain, or increase accessibility and availability of fresh fruit and vegetables in the city. For retail outlets this could be support for community-run shops where premises may be offered at low or no rent; permission to run ‘pop-up’ shops in temporarily empty premises; exemptions or low rates for fruit and vegetable businesses based in low income areas or neighbourhoods classed as ‘food deserts’. In general supermarkets are owned by large companies and don’t need the support of the municipality, but sometimes residents may request supermarkets in areas where the food retail offer is poor. In which case the municipality might do more than usual to enable formal planning permissions or leases, etc. For markets the support provided by the municipality may be more obvious. Some examples can be found above (see Rationale/Evidence). A municipality might change local laws to allow markets to take place, or provide training for all market traders in food safety etc. Criteria for what ‘supported by the municipality’ means will need to be agreed by each city as appropriate.

Retail outlets by type: Each city will have its own particular food retail typology (see also guidance notes for indicator 21 *Number of jobs related to the food sector*). An adapted and locally relevant food retail typology needs to be developed and used to guide data collection and analysis. For example, within food retail a range of types can be distinguished: supermarkets, smaller grocery stores, specialist food retailers (e.g. bakers, butchers, and fish sellers), kiosks, market vendors, etc. The retail outlets that sell fresh fruit and vegetables then need to be identified ideally also by location. It will also be important to note scale of the retail outlet as part of the context, even though the indicator calculation cannot show this.

Community-led retail: In addition to other examples already given, there may also be municipal support in the form of start-up grants for particular types of food retail enterprise like farmers markets or community supported agriculture or urban market gardens or food cooperatives or community shops. These types of retail outlets should be included.

Market outlets by type: As with retail outlets, each city will have its own particular market typology. This needs to be identified and used to guide data collection and analysis. There are some examples of different types of markets above (see Rationale/Evidence). The market outlets that sell fresh fruit and vegetables then need to be identified, ideally also by location and scale.

Preparations

The team responsible for monitoring this indicator should agree on:

1. Criteria for what ‘supported by the municipality’ means (e.g. include supermarkets or not – according to criteria). This may need to be done in consultation with relevant officers in the municipality, or by speaking to retail and market managers.

¹ House of Commons paper: Can the traditional market survive? Communities and Local Government Committee, UK Parliament
<https://publications.parliament.uk/pa/cm200809/cmselect/cmcomloc/308/30806.htm>

2. Which outlets to include (identify which outlets sell fresh fruit and vegetables)
3. Type of data disaggregation and categories that will be used (see further below)
4. How to address the location and scale issues, in relation to calculating a final figure (see further below)
5. How to relate numbers of outlets to 1000 inhabitants – use overall totals for the city or provide more detailed analysis by neighbourhood
6. Data collection method (analysis of records and/or stakeholder interviews)
7. Key stakeholders to interview if there are gaps in the data
8. If interviews are to be used, questions have to be designed. Training of interviewers may be needed.

Sampling

N/A. The purpose of interviews would be to identify data on outlets and to gain more understanding of the nature of municipal support.

Data collection and data disaggregation

Sources of data: See above table for possible sources of data. Most municipalities will have records of food outlets. If none exist or if there are clear gaps in the data, then the best way to do this audit is to begin with the most known and well used types of fruit and vegetable outlets or to focus on one neighbourhood at a time. A simple random street survey/rapid appraisal could be done to find out where people buy their fruit and vegetables in each neighbourhood. While the resulting figures on numbers of outlets may not be accurate, they would provide some indication of provision. A follow up discussion with the municipality would clarify to some extent the nature and levels of its support for those outlets.

Selection of outlets to include in the final calculation

- Identify which types of retail and market outlets sell fresh fruit & vegetables
- Identify which of retail and market outlets to count (this could be all, and then separate out those 'supported by the municipality'; the whole picture will also be very useful information for other indicators).

Categorise by type (and subtype if necessary)

- Supermarkets
- Shops – type of shop (e.g. specialist shops; fruits and vegetable shops, mixed grocery)
- Fresh food markets – type of market (e.g. specialist shops; fruits and vegetable shops, mixed grocery)
- Note specific support provided by municipality

Categorise by scale: Agree criteria for shops (classification may already exist). For markets, one option may be to record the number of fruit & veg traders at each market. This is important contextual information especially if figures are calculated for each neighbourhood. For a final calculation it would be simplest to use total numbers of outlets in relation to the total number of inhabitants. However this figure will not be very useful on its own, as it will not show geographical disparities and the scale of fruit and vegetable provision will not be considered. For example there would be no distinction between a small shop and a large specialist fruit and vegetable market, but they will serve very different numbers of people.

Number of outlets per 1000 inhabitants: If this is done on a neighbourhood basis, the figures will be much more meaningful. This could focus initially on the most vulnerable neighbourhoods and be build up in relation to available resources and policy priorities.

Data analysis/calculation of the indicator

The indicator is computed by calculating the total number of fresh fruit and vegetable outlets that are supported by the municipality, per 1000 inhabitants. However, as noted this number on its own is not very useful. An audit of provision that sets out localised information on a neighbourhood basis would be much more useful.

There are a number of additional contextual figures that could be gathered while doing this work. For example:

- Numbers of specialist i) fresh fruit and vegetable shops; ii) markets per neighbourhood
- Number of fruit and vegetable sellers in each market; & % of traders selling fruit & vegetables in each market
- Type of municipal support already provided or needed in the future
- Neighbourhoods with the highest/lowest per capita provision of fresh fruit and vegetables

Data could be visually presented on maps or tables that distinguish neighbourhood data sets.

Note: Another measure could be to specifically calculate the total retail area of floor space or shelves dedicated to total volumes of fresh fruit and vegetables in each neighbourhood/per capita. The way this is normally calculated takes into account rotation of product. In many Municipal outlets the rotation may be 10-15 Tons per sq. metre, however, in more informal markets it may go up to 60 Tons/sq. metre. Based on a comment by Jorge Fonseca. Please add FAO references/reports.

References and links to reports/tools

The case for supporting markets in urban areas

House of Commons paper: Can the traditional market survive?

Communities and Local Government Committee, UK Parliament

<https://publications.parliament.uk/pa/cm200809/cmselect/cmcomloc/308/30806.htm>

This paper sets out a wide range of benefits that traditional retail markets and farmers markets can bring to local towns and communities and whether they are sufficiently important to warrant greater attention [and therefore support] from local authorities and central government.

Communities and Local Government Committee Select Committee Inquiry into Traditional Retail Markets; National Farmers' Retail and Markets Association (FARMA), UK

<https://publications.parliament.uk/pa/cm200809/cmselect/cmcomloc/memo/tradrema/ucm2702.pdf>

New York City data collection on grocery store space per person

The City of New York measures amount of grocery store space per person - specifically calculated as the square footage of supermarket floor space per capita by community district (p20).

<http://www1.nyc.gov/assets/foodpolicy/downloads/pdf/2016-Food-Metrics-Report.pdf>

Market promotion and international campaign

At an international level, the 'Love Your Local Market' campaign, which began in the UK in 2012 with 400 markets, has developed into an international movement spanning 17 countries, with over 3000 markets participating across the globe in 2017. The global 'Love Your Local Market' (LYLM) campaign is an annual event celebrating wholesale & retail (street or covered) markets. It is held in the month of May, now known as the Month of Markets! LYLM Global is supported & coordinated by the World Union of Wholesale Markets (WUWM) since 2014.

World union of wholesale markets: promoting wholesale and retail markets worldwide
<http://www.wuwm.org/7mr/home/lylm.html>

Food retail assessment and mapping

Who Feeds Bristol: towards a resilient food plan, Carey, 2011 (Section 5, Retail, pp24-26). Data for the mapping in this report was collected by the researcher using databases held by the Environmental Health/Food Safety Inspection team, and turned into maps using GIS technology by the Public Health Department. <http://bristolfoodpolicycouncil.org/who-feeds-bristol/>



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Milan Urban Food Policy Pact Monitoring Framework

March 2021 version

Indicator 37: Annual municipal investment in food markets or retail outlets providing fresh food to city residents, as a proportion of total (investment) budget

MUFPP framework of actions' category: Food supply and distribution

This indicator measures annual municipal investment in food markets or retail outlets providing fresh food to city residents, as a proportion of total investment budget (or whatever budget is most appropriate for the city).

Overview table

MUFPP Work stream	Food supply and distribution
MUFPP action	<p>- Provide policy and programme support for municipal public food markets including farmers markets, informal markets, retail and wholesale markets, restaurants, and other food distributors, recognizing different approaches by cities working with private and public components of market systems</p> <p>- Improve and expand support for infrastructure related to market systems that link urban buyers to urban, peri-urban and rural sellers while also building social cohesion and trust, supporting cultural exchange and ensuring sustainable livelihood, especially for women and young entrepreneurs.</p>
What the indicator measures	Annual municipal investment in food markets or retail outlets providing fresh food to city residents, as a proportion of total investment budget (or whatever budget is most appropriate for the city)
Which variables need to be measured / what data are needed	Total investment budget (or whatever is most appropriate); total annual investment in food markets or retail outlets that provide fresh food to city residents – by type of market and location; and by type of investment. Total population figures by neighbourhood.
Unit of measurement (i.e. Percentages, averages, number, etc.)	Percentage
Unit(s) of Analysis (i.e. people under 5 years old, etc.)	Money (financial investment/proportion of total investment budget)
Possible sources of information of such data	Municipal budgeting and finance or account department; retail and wholesale market managers/coordinators; city regeneration agencies or departments; neighbourhood investment or regeneration partnerships.

Possible methods/tools for data-collection	Municipal budget reports; interviews with key stakeholders
Expertise required	Research, financial understanding, interview skills
Resources required/estimated costs	
Specific observations	This indicator should ideally be calculated together with indicator 36 ' <i>Number of fresh fruit and vegetable outlets per 1000 inhabitants</i> ' - markets and shops - supported by the municipality'. Each city should decide on which comparative budget to use for this indicator and should make it clear in the final figures. It might be helpful, depending on the situation, to consider specific investment in total area of floor space or shelves dedicated for fresh fruit and vegetables. Context information is important, if possible that helps relate proportions of investment to proportions of beneficiaries.
Examples of application	

Rationale/evidence

The overarching purpose of this area of work is to improve and optimise the functioning and infrastructure of food markets in the city. This indicator relates to municipal investment in improvements and expansion of infrastructure related to food market systems, and in particular to investment in food markets or retail outlets providing fresh food to city residents. While a single investment figure is on its own, not very informative, it does at least give a relative idea of the level of investment taking place compared with other areas of investment, or against total local municipal budget spend.

Regular investment: Investment in food supply-related infrastructure is crucial, whether for new developments or maintenance of existing infrastructure. This may be left entirely to the private sector, but the municipality may also invest as partners or may fund other kinds of support. (See notes on examples of municipal support: indicator 36 '*Number of fresh fruit and vegetable outlets per 1000 inhabitants - markets and shops - supported by the municipality*'.) In some cities, investment in the food system may be significant, e.g. for new transportation routes or warehousing or processing units or wholesale/retail markets.

Example of food retail investment from the city of Vaslui, Romania: A new retail market was built from scratch on a former derelict market site, with local budget funds (approx. 3.5 million Euros) in the centre of the city as an energy efficient building. Work started in 2012, finished in September 2014, and the local authority administers the market. It is endowed with high European technical means needed to facilitate the direct sales of local products coming from the small-sized land holdings of Vaslui. The market is divided into 5 well-designed areas: quality control laboratories for food safety and security (which plays an important role in increasing consumer trust), fruits and vegetables, fish products, meat, and dairy products. The market's main target is local produce. Special designated areas and rent conditions are provided in order to encourage local producers to offer best quality products, shorten the food chain, and reduce CO2 emissions.¹

Glossary/concepts/definitions used

Fresh food: In this context, fresh food should be taken to mean any meal ingredients that are not highly processed and from which a household meal can be prepared. It excludes food from take-aways and eating out places. There will be grey areas (e.g. pre-prepared ready meals - so each city will need to

¹ Central market investment, Vaslui, Romania (p 63) http://www.strategicdesignscenarios.net/wp-content/uploads/2013/11/URBACT_Creating-Space-for-Sustainable-Food-Systems-in-Urban-Communities.pdf

decide on appropriate criteria to define fresh food. In its simplest form it could be taken to mean: flours and grains, bread, oils and fats, fruit and vegetables, meat, dairy products, pulses, seeds and nuts, etc.

Community-led retail: In addition to other examples already given, there may also be municipal support in the form of start-up grants for particular types of food retail enterprise like farmers markets or community supported agriculture or urban market gardens or food cooperatives or community shops. These types of retail outlets should be included.

Types of municipal investment

It will be important to understand how the municipality approaches investment in food infrastructure compared to other infrastructure, e.g. housing or roads or leisure facilities.

Often in the development of markets (notably wholesale), the municipality may provide the land or the investment in administration costs (e.g. waste management), the rest coming from national governments.

There may be value in creating categories for different types of food retail investment. E.g. differentiating mainstream wholesale market capital investment from grants for community-led retail.

Preparations

The team responsible for monitoring this indicator should agree on:

1. How this work connects efficiently with work on indicator 36 '*Number of fresh fruit and vegetable outlets per 1000 inhabitants - markets and shops - supported by the municipality*'
2. What overall total investment figure should be used for the final calculation
3. Type of municipal investment in food retail that should be included (it may be important to discuss 2 & 3 at the outset with officers in the municipality)
4. Type of data disaggregation and categories that will be used (see further below)
5. Data collection method

Context: If possible, it will be helpful to have an understanding of how well the city is provided for in terms of food market infrastructure. This could be the number of city residents served by the selected type of key food market infrastructure. For example, only one fruit and vegetable wholesale market that therefore supplies 100% of citizens; or there might be a number of fresh fruit and vegetable retail markets spread evenly around the city, so it would be possible to estimate 10,000's of people served by x area of retail markets etc. The team will need to make a judgement on what is most useful and relevant, how to connect investment to neighbourhood population figures if useful, and how data for this indicator connects with indicator 36.

Sampling

N/A

Data collection and data disaggregation

Data disaggregation can be done i) by type and location of fresh food market or retail outlet; ii) by total annual investment in each outlet and/or by type of outlet, iii) by type of investment. How this is finally presented will have to be agreed, as appropriate for each city.

For example

- \$X in wholesale food markets – capital costs to improved buildings and access routes in city areas x,y,z.
- \$X in 5 out of 10 retail food markets there is investment in improved services – e.g. water provision and waste disposal in city areas x,y,z.
- \$X in 20 new food shops – reduced rates for fruit and vegetable provision in food desert areas x, y, z.

- \$X total in grant funding to 10 community food retail initiatives in city areas x,y,z.
- etc

Data can be collected from existing records and registers (economic or market department, food business registers, agricultural programmes). It may be necessary to interview key stakeholders to cross-check for accuracy and context, and to fill any data gaps.

Data analysis/calculation of the indicator

The indicator is computed by calculating the total amount of annual food outlet investment as a percentage of either i) total annual municipal budget and/or ii) total annual municipal investment budget. Each city will need to decide which comparison is more meaningful and useful. It is quite likely that the final figure will be very small if calculated as a proportion of total annual budget so it may be more useful to present it in relation to a more comparable sub-budget category.

References and links to reports/tools

An EU URBACT programme report on city centre retail investment

Rethinking the city space to better host the new retail proposition

RetailLink programme; URBACT

http://urbact.eu/sites/default/files/media/3_5_rethinking_the_city_space_to_host_new_retail.pdf

EU URBACT programme handbook for cities

Creating space for sustainable food systems in urban communities: practical approaches and examples for cities; URBACT II Thematic Network, Sustainable Food in Urban Communities (2012-2015) http://www.strategicdesignscenarios.net/wp-content/uploads/2013/11/URBACT_Creating-Space-for-Sustainable-Food-Systems-in-Urban-Communities.pdf

Market forces: Creating jobs through public investment in local and regional food systems, Jeffrey K O'Hara, 2011, Union of Concerned Scientists

(Chapter 5 investing in local and regional food systems and creating jobs)

https://www.ucsusa.org/sites/default/files/legacy/assets/documents/food_and_agriculture/market-forces-report.pdf

EU URBACT programme local action plan to develop the Dublin City Retail Food Market

This Local Action Plan identifies the Dublin Wholesale Fruit and Vegetable Market building as an appropriate location for a new City Retail Food Market. It includes research on the need, and proposals for a City Retail Food Market, co-located with the existing Wholesale Fruit and Vegetable Market. The plan further details the operational charter for such a market, and using international and national best practice outlines the mix of providers and other elements needed to deliver a vibrant city asset for use by those who live, work or visit the city.

http://urbact.eu/sites/default/files/dublin_lap_eng_24215.pdf

The role of the private sector in city region food systems, RUAF Foundation, 2017.

<http://www.ruaf.org/publications/role-private-sector-city-region-food-systems-2017>

Case study 16 - Government support for family-owned food processing and marketing enterprises in Brasilia, Brazil <https://cgspace.cgiar.org/rest/bitstreams/89163/retrieve>

Overview of food markets developments around Europe

This publication provides ideas and inspiration for market managers and stakeholders responsible for

city markets on how city markets can become economically successful and drive sustainable urban development.

http://urbact.eu/sites/default/files/urbact_markets_handbook_250315.pdf

Project for Public Spaces (PPS)

PPS is a nonprofit organization dedicated to helping people create and sustain public spaces that build strong communities.

<https://www.pps.org/category/public-markets>



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Milan Urban Food Policy Pact Monitoring Framework

July 2018 version

Indicator 38: Proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains

MUFPP framework of actions' category: Food supply and distribution

The indicator measures the proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains [or presence of a set of criteria to drive an increase in the proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains]

Overview table

MUFPP Work stream	Food supply and distribution
MUFPP action	Review public procurement and trade policy aimed at facilitating food supply from short chains linking cities to secure a supply of healthy food, while also facilitating job access, fair production conditions and sustainable production for the most vulnerable producers and consumers, thereby using the potential of public procurement to help realize the right to food for all.
What the indicator measures	Proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains [or presence of a set of criteria to drive an increase in the proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains]
Which variables need to be measured / what data are needed	Analysis of as many public institution food procurement contracts as possible; analysis to look at contract specifications for 'sustainable', 'ethical', 'short supply chain', 'family farms', 'local', 'regional', 'small-scale', 'agroecological' (or equivalent) products; financial analysis
Unit of measurement (i.e. Percentages, averages, number, etc.)	Percentage
Unit(s) of Analysis (i.e. people under 5 years old, etc.)	Purchase value of specific categories of foods (as an expression of total contract purchase value)

Possible sources of information of such data	Procurement officers in local government and other public institutions (hospitals, schools, colleges, universities, municipal care homes, prisons)
Possible methods/tools for data-collection	Review of contract specifications, interviews with key stakeholders and contract managers or procurement officers
Expertise required	Data analysis, finance, research and interview skills
Resources required/estimated costs	
Specific observations	<p>A significant amount of research will be needed to carry out a comprehensive review of food procurement expenditure by public institutions. It may be pragmatic to begin with just one or two categories, e.g. schools or hospitals. There is no absolute definition of 'sustainable' or 'ethical' foods so each city will need to make use of any existing locally acceptable criteria as a starting point. Where school or hospital food is not provided, the focus should be on whichever public institution food procurement does exist, however large/small. Any overview information on numbers and types of contracts that exist will be very useful contextual information for the future.</p> <p>If this indicator is too ambitious, an alternative could be the presence of a set of criteria to drive an increase in the proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains.</p>
Examples of application	

Rationale/evidence

The overall purpose of work in this area is to shape public procurement and trade policies so as to facilitate an increase in local and sustainable food supply and distribution. Under some national or international procurement laws (e.g. in Europe) it is not permitted to specify 'local' in contracts and thus favour local supply over another non-local source purely based on location and distance.

The role of public sector procurement and 'power of purchase'

The total annual expenditure of public sector institutions on food can be very significant, collectively providing the second largest food market nationally (the first being household food purchasing). Academics estimated for example that in 2008 the annual UK public food procurement bill was £160 billion.¹

As procurers of food and managers of food supply contracts for various services, local government can play a critical role in influencing positive changes. If this expenditure can be directed at least in part towards purchase of more locally sourced or ethical or sustainable products, the impact on the local economy or on ethical business may be significant, with further positive knock on effects.

In more detail, a further example from Wales: Annual public sector expenditure on food is around £60 million in 2008. Of that £20 million is spent on fresh food. This food is used to cater for some of the most vulnerable people in the country (children, elderly, hospitalised). With positive policy towards buying from Welsh sources, Welsh origin products accounted for 47.4% of food purchase in 2009.²

Local economic impacts

¹ Planning, Regeneration and the Public Plate; Kevin Morgan, 2008, School of City and Regional Planning, Cardiff University <http://www.rtpi.org.uk/media/9505/Kevin-Morgan-RTPI-Food-Conference.pdf>

² Eco-innovation and the power of purchase; Kevin Morgan, DIME Conference, Cardiff University, 2011 <http://www.dime-eu.org/files/active/0/Kevin-Morgan.pdf>

There are numerous case studies that aim to illustrate the impacts of ‘positive public purchasing powers’. For example a recent study with North Bristol Health Trust UK, that prepares 3000 meals a day on site, found that 24% of NBT’s annual food spending accounts for suppliers who are based in the city region and also source the majority of their raw material from the city region (within 100km). The same study also investigated local sourcing by the contracted school meal provider and found that for fruit and vegetables, the amount of city region sourced produce is up to 40% of the range, up to 30% of the volume and 20% of the value, varying according to seasonality. The knock-on impact on some of the businesses was significant, with one business saying the contract had increased their credibility with other hospitals and with the increased market they had been able to expand operations and retain previously seasonal labour all year round.³

Impacts of sustainable or ethical procurement

As with local economic impacts, if a company selling sustainably produced or ethically sourced products has an opportunity to supply larger volumes to a public institution as part of a supplier contract, the impact on the business will be significant. (The danger comes if the contract is suddenly terminated leaving a business that has invested in expansion without a secure market.)

Glossary/concepts/definitions used

Use of the term ‘local’ : While buying ‘local’ does not necessarily mean buying sustainable, it can offer significant benefits to the local economy (as outlined above) and also save the buyer money, or cost the buyer no more than their original amounts.

Each city has to define what is local to them and there may be numerous interpretations. A certified UK farmers market may for example only allow producers from a 30-50km radius of the town or city. A city like London however will have a much larger local ‘foodshed’ area. Defining what ‘local’ means is contentious and for some nations ‘local’ may as well be the same as ‘national’. The term ‘local’ may be used when in fact the underlying interest is in food ‘with clear provenance’ or ‘fully traceable’. With regard to this indicator, it may be more useful to cite specific distances or define a foodshed area like ‘city region’ or focus instead on ‘fully traceable food with clear provenance’.

Use of the term ‘ethical’: In general, ‘ethical’ means equitable, fair and just, and implies that the workers benefit from fair and just working conditions and wages. For example, The UK-based Fairtrade Foundation makes buying ethical products easier for consumers by providing a system of certification and product labelling. Fairtrade sets social, economic and environmental standards for both companies and the farmers and workers who grow the food. For farmers and workers the standards include protection of workers’ rights and the environment, for companies they include the payment of the Fairtrade Minimum Price and an additional Fairtrade premium amount that is invested in business or community projects of the community’s choice.⁴

Use of the term ‘sustainable’: The terms ethical and sustainable are sometimes used interchangeably. However ‘sustainable’ tends to be used with reference to environmental aspects. Many cities around the world may want to place in a more prominent way their effort to favour small holders/family farming as in the example of Brazil mentioned below, combining health, social, economic, and environmental interests.

³ The role of private sector in the Bristol (UK) city region food system: Bristol’s public procurement sector and city region food supply (Section 4, p26); Carey and Hochberg, 2016, RUAF Foundation
http://www.ruaf.org/sites/default/files/The_role_of_private_sector_in_the_Bristol_city_region_food_system-final_1.pdf

⁴ Fairtrade Foundation <https://www.fairtrade.org.uk/What-is-Fairtrade/What-Fairtrade-does>

There is no legal definition, though for certain aspects of sustainable food production, terms like organic or fair-trade are clearly defined. Many organisations use the term and have varying definitions that more or less amount to the same underlying principles. Sustain, a national UK food and farming NGO notes that new evidence is emerging all the time on how best to improve the sustainability of the complex food and farming system, so offers principles that are a work in progress:

Sustainable food is food which is produced, processed, distributed and disposed of in ways that:

- Contribute to thriving local economies and sustainable livelihoods - both in the UK and, in the case of imported products, in producer countries;
- Protect the diversity of both plants and animals and the welfare of farmed and wild species,
- Avoid damaging or wasting natural resources or contributing to climate change;
- Provide social benefits, such as good quality food, safe and healthy products, and educational opportunities.⁵

Other 'sustainable' food labels or certification schemes: Products such as certified organic foods or sustainable caught fish may have their own standards. For example the Marine Stewardship Council (MSC), an international non-profit organization, provides standards and certification indicated by a logo on products to show it is certified to come from well-managed fisheries and not from endangered stocks. MSC provides a 'good fish guide' and also information on which fish and seafood should be avoided.⁶

Short food supply chains (local/regional) or family farms: 'Short' refers to both physical and social distance. There are very few or no intermediaries, allowing for more interaction between producer and final customer. Many such supply chains focus on retail sales e.g. farmers markets, community supported agriculture and do not have the economies of scale to engage with procurement contracts, unless there is clear policy to support it.

In Brazil, the National School Feeding Program requires that at least 30% of fruits and vegetables come from family farming (regional production - short chain) as a way of stimulating and providing social and economic sustainability for family farming initiatives.⁷

There are some businesses like Fresh Range in the UK that have successfully won a school meals supply contract with Bath & North East Somerset Council.⁸ (See reference section for further information.)

Preparations

The team responsible for monitoring this indicator should agree on:

1. Scope and parameters for work on this indicator including where to begin and how much detail to gather – to be discussed with the municipality (see research questions below)
2. Any specific focus, either in line with policy priorities, or for pragmatic reasons (e.g. only focus on school meals, or only focus on elderly care homes) – as above, discuss with the municipality
3. Type of data disaggregation and categories that will be used (see further below)

⁵ Sustain: the alliance for better food and farming, UK

https://www.sustainweb.org/sustainablefood/what_is_sustainable_food/

⁶ Marine Stewardship Council <https://www.msc.org/>

⁷ The Brazilian school feeding programme: an example of an integrated programme in support of food and nutrition security, 2012; Sidaner, Balaban and Burlandy; NS Public Health Nutrition Journal; http://hgsf-global.org/en/bank/downloads/doc_details/294-the-brazilian-school-feeding-programme-an-example-of-an-integrated-programme-in-support-of-food-and

⁸ Bath & North East Somerset Council - School Food Contract Opportunity

<http://www.bathnes.gov.uk/services/schools-colleges-and-learning/school-meals-and-catering/bath-north-east-somerset-council>

4. Data collection method (analysis of records, interviews or procurement survey)
5. If surveys are to be used, survey questions and instrument have to be designed. Training of survey enumerators may be needed.

Sampling

In case data are collected by means of a food procurement survey, the ideal would be to have a 10% sample from each type of public institution food procurer is minimally needed: e.g. 10% hospitals, 10% schools, 10% care homes etc. This will provide an overview from which approximate totals may be calculated.

These should be done as structured interviews in order to ensure respondents are clear about the information requested. Written surveys are less accurate.

Data collection and data disaggregation

Researchers should aim to produce an audit report that collects together as much of the following data as possible so as to provide an overview of what is currently happening. In most cases this information will not exist so this exercise will provide a baseline for future monitoring. The procurement contract specifications are the key documents, but they will very likely need explanations from the contract managers through research interviews.

Identify relevant institutions:

- Number and type of public institutions that procure food (e.g. schools, colleges, hospitals, social services and care homes, prisons, municipal-owned canteens, etc.)

Understand and identify relevant procurement contracts

- Number and type of shared procurement contracts (e.g. one catering company may supply several schools; or one supply contract may provide food for several care home kitchens in different locations)
- Number, type and value of food procurement contracts for each/some of the above (see notes on sampling)

Identify relevant contract specifications

- Number of procurement contracts that include specifications for local or equivalent (or fresh, daily deliveries, seasonal, particular local varieties/breeds – other qualities that would still support local)
- Number of procurement contracts that include specifications for 'sustainably produced or caught'
- Number of procurement contracts that include specifications for 'ethical' or fairly or justly traded (or equivalent)

Identify proportion of total value of each/sampled food contract spent on:

- Local/shorter supply chains or equivalent
- Sustainably produced/caught or equivalent
- Ethically traded or equivalent

Data analysis/calculation of the indicator

If all the background information is available, the indicator is computed by i) calculating the total annual value of all public institution food procurement contracts; ii) calculating the total annual value of purchases of local, ethical and sustainable products; iii) calculating one as a proportion of the other.

Very likely this indicator will not be available in the short-term. In that case, an overall assessment of the extent to which procurement expenditure goes on food from sustainable, ethical sources and shorter (local/regional) supply chains will be good progress. Any overview figures that provide context will be useful in the longer-term. If a complete overview is not possible, then the focus could be on one type of public institution food procurement, or even just on one single institution.

References and links to reports/tools

Short Food Supply Chains as drivers of sustainable development: evidence document; Foodlinks Collaborative EU project, 2013 (www.foodlinkscommunity.net)
<http://orgprints.org/28858/1/evidence-document-sfsc-cop.pdf>

Local Food Plus, Toronto

An award-winning charitable organization that nurtures regional food economies by certifying farmers and processors for local sustainable food production and helping them to connect with buyers of all types and sizes

<http://ckc.torontofoundation.ca/org/local-food-plusland-food-people-foundation>

An example of a set of criteria around which sustainable food procurement policy and practice could be developed

The Yale Sustainable Food Project has created a guide to help provide a framework around which institutions can develop new purchasing practices. The authors ask what makes food “sustainable”. Their answer is that sustainable food is:

- Produced by farmers and ranchers who care for the health of their animals and the land
- Sourced locally and seasonally directly from family farms or farm cooperatives
- Cooked from scratch to minimize processed ingredients
- Good for the environment, the people who grow it, and the people who eat it

Published by the Yale Sustainable Food Project and available on request from

food.purchasing@yale.edu



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Milan Urban Food Policy Pact Monitoring Framework

July 2018 version

Indicator 39: Presence of food safety legislation and implementation and enforcement procedures

MUFPP framework of actions' category: Food supply and distribution

The indicator allows for (self) assessment of the presence, implementation and enforcement procedures for food safety legislation

Overview table

MUFPP Work stream	Food supply and distribution
MUFPP action	Assess, review and/or strengthen food control systems by implementing local food safety legislation and regulations that (1) ensure that food producers and suppliers throughout the food chain operate responsibly; (2) eliminate barriers to market access for family farmers and smallholder producers; and (3) integrate food safety, health and environmental dimensions.
What the indicator measures	The indicator allows for (self) assessment of the presence, implementation and enforcement procedures for food safety legislation
Unit of measurement (i.e. Percentages, averages, number, etc.)	This will be a qualitative assessment. There may be some metrics that could be used to give an indication of how food safety is improving (or not). These could include: frequency within which the business comes up for inspection; reduction/increase in number of non-compliance reports; reduction/increase in reported food poisoning incidents; level of public confidence in food safety measures
Unit(s) of Analysis (i.e. people under 5 years old, etc.)	N/A
Which variables need to be measured / what data are needed	Information is collected on type of legislation; nature of implementation; consequences of non-compliance
Possible sources of information of such data	-Environmental Health Department; -Food Safety inspection team or agency; -Ministry or Department of Agriculture; -National Control Authority; Ministry or Department for Public Health;

	-Audit reports on local government food safety procedures
Possible methods/tools for data-collection	Existing documents, audit reports, food safety team records and annual reports, interviews with key experts, Public opinion survey
Expertise required	Research, data analysis, interviewing, survey design and analysis
Resources required/estimated costs	
Specific observations	In some countries this area of work is well developed and in others it is not. If there is very little information available then a proxy indicator could be to test public confidence in food safety using a public survey. This would at least give an indication of perception and confidence. It is an important area for cities to address with national support, so some examples of well-developed systems have been included in these guidelines. Each city will need to decide if there are other possible metrics that could be used in this assessment.
Examples of application	The city and county of Swansea, Wales: Audit Report 2014 https://www.food.gov.uk/enforcement/auditandmonitoring/2014/auditreports/swansea/city-and-county-of-swansea

Rationale/evidence

The overarching purpose of this area of work is to ensure that the food processing, retail and catering sectors comply with sanitation and food safety regulations. This is an area of both national and local government/municipal responsibility in many countries and the area of action is to assess, review and/or strengthen food control systems.

National agencies: The regulations and enforcement procedures with vary from country to country. In the US, Government agencies are responsible for setting food safety standards, conducting inspections, ensuring that standards are met, and maintaining a strong enforcement program to deal with those who do not comply with standards. In the US there are three different Federal Agencies, each with a different role in food safety. In summary, one deals with ensuring the nation's commercial supply of meat, poultry and egg products are safe, and correctly packaged. Another regulates other foods with a focus on protecting consumers against impure unsafe and fraudulently labelled products. A third focuses on foodborne illnesses, outbreaks, prevention and control.¹

European Union: EU Rules regarding Food Hygiene cover all stages of the production, processing, distribution and placing on the market of food intended for human consumption. The European Commission, the European Parliament, the Council of the European Union and the national authorities in each Member State are responsible for decisions on EU food safety legislation. The European Food Safety Authority's role is as risk assessor is to provide independent scientific advice on risks linked to food and feed safety to help EU risk managers make their final decisions. The Directorate-General Sante is the EU Commission department responsible for EU policy of food safety and health, and for monitoring the implementation of related laws.²

Glossary/concepts/definitions used

Food safety legislation: This is most likely established by the national government and overseen by a national agency. In the UK, the national Food Standards Agency (FSA) is directly responsible for The Food Standards Agency is responsible for meat inspection duties in approved meat establishments in England, Scotland and Wales. It is the role of the Agency to help ensure that the meat industry safeguards the health of the public, and the health and welfare of animals at slaughter. Local government audits the local authorities' enforcement services and provides a report that outlines

¹ Selected Federal Agencies with a role in food safety, US

<https://www.foodsafety.gov/about/federal/index.html>

² European Food Safety Authority (EFSA) <https://www.efsa.europa.eu/en/askefsa/EU-food-legislation>

areas where the authority can focus its efforts on improvements (focussing on service organisation, management and internal monitoring arrangements), while also celebrating good practice. These audit reports are publically available on their website.³

Food safety implementation and enforcement procedures – municipal role: In the UK the local authorities (municipalities) have a statutory duty to enforce relevant food law. The Food Law Code of Practice gives statutory guidance to which local authorities must have regard when engaged in the enforcement of food law. The role of the local government (municipality) is to provide local enforcement officers who have wide powers to inspect any stage of the production, manufacturing, distribution and retail chain. Food premises are inspected at a frequency dependent upon risk. Frequency of physical inspections can vary from once every six months to once every two years. Enforcement officers also have the power to take samples of food for testing to ensure compliance with food legislation. Local authorities have a responsibility to investigate any food complaints passed on to them by consumers. Enforcement officers have powers to take action against a food premises which does not comply with food law. This enforcement action can range from issuing warnings and improvement or prohibition notices, to instigating prosecutions. The courts can inflict heavy penalties for non-compliance, including the closure of a business where conditions are particularly bad.

Presence, implementation and enforcement procedures for food safety legislation

- Presence of food safety legislation – most likely set at a national level
- Implementation – most likely implemented at the local government level by specialist food safety or public health inspection teams; may be subject to regular national government agency checks/audits
- Enforcement – ways in which the food safety law enforced.

Preparations

The team responsible for monitoring this indicator should agree on:

1. Clear research questions and type of data that will be used (see further below)
2. Data collection method (analysis of records, interviews, public opinion survey)
3. Key experts to interview to help understand data or fill in gaps, and with whom to discuss possible additional metrics relevant to the city
4. If a public opinion survey is to be used, survey questions and instrument have to be designed. Training of survey enumerators may be needed.

Sampling

The purpose of a public opinion survey would be to assess confidence in food safety measures. In case data are collected by means of a public opinion survey, a randomised sample is the simplest – e.g. a street survey. Depending on policy or monitoring priorities, a more in depth stratified random sample would give a clearer indication of perceptions from different sub populations. This could be done by communities of interest; e.g. in workplaces, in schools, in market places or shopping centres, women, or in specific areas of the city, etc.

Data collection and data disaggregation

Assessment research questions: presence, implementation and enforcement

- Presence – most likely set at a national level; what is the legislation?
- Implementation – most likely implemented at the local government level by specialist food safety or public health teams; who is responsible for doing what, when?

³ UK Food Standards Agency, national food safety standards enforcement and regulation
<https://www.food.gov.uk/enforcement>

- Enforcement – how is the food safety law enforced and what are the consequences for non-compliance?

Measuring effectiveness of food safety implementation and enforcement procedures

National audit: In some countries, there may be national audits carried out on all local authorities/municipalities which could provide a useful baseline or starting point.

Local data: The team responsible for food safety legislation enforcement will hold most of the data needed for this indicator. Interviews with these experts are likely to be needed.

Possible additional metrics: Procedures are not very visible, so there could be a number of additional metrics that help to assess the degree to which implementation and enforcement procedures are happening.

- Most countries will have a national (or at least a local) measure of standard for food safety in food businesses. A measure could be the number of food businesses or establishments achieving different levels of food hygiene rating. For example in the UK, for catering businesses, the Food Hygiene Rating Scheme (FHRS) at 4 or 5 star would be best. 3 star means the establishment has achieved general compliance but can still be below required standard in some elements
- Reduced number of reported food poisoning incidents would be some kind of measure of whether food safety standards are being applied, but is likely to be inaccurate because a lot of incidents don't get reported.
- Every country is different but it may be possible, if the jurisdiction operates a prioritisation system for the highest food safety risk, that frequency of the intervention could be a kind of indicator of compliance, even if there is no published scoring system.

For example, the system in the UK:

Municipal food safety inspectors rate the food premises against 8 criteria which are a mix of hazard and risk. The risk rating is increased as the compliance with the legal requirements falls. These are the three criteria which the business has under its direct control (and are the ones used to calculate the food hygiene rating). The higher the total overall score against the 8 criteria the more frequently the business comes up for inspection. So:

Category A	>91	inspection interval = 6 months
Category B	72 – 91	12 months
Category C	52 – 71	18 months
Category D	31 -51	24 months
Category E	0 -30	36 months

Public opinion survey: This is another option, of particular value if none of the above information is available. The public could be asked about their confidence in food safety measures. The illustration below is from the UK. (Prepared by the Food Standards Agency for the Department of Food and Rural Affairs). ⁴ The same question, or similar could be asked in a street survey or more a more in-depth survey (see notes on sampling).

⁴ Indicators for a Sustainable Food System: Statistics (DEFRA, UK, 2009)

<http://webarchive.nationalarchives.gov.uk/20130124175737/http://www.defra.gov.uk/statistics/foodfarm/cross-cutting/foodsystemindicators/>

Example of a public survey approach (Food Standards Agency, UK)

Headline indicator

Enabling and encouraging people to eat a healthy, sustainable diet – Consumer confidence in food safety

Rationale:

Consumer confidence is dependent upon the availability of healthy and safe food. Public confidence in food safety can be affected by: animal health incidents; statistics on cases of food related illnesses; research linking types of foods with long term illnesses; perceived hygiene standards in food businesses; and perceived vigilance taken with imported foods. If consumer confidence in food safety and availability collapses, panic buying and other socially disruptive behaviour can occur. This could lead to localised shortages of food.

Desired outcomes:

- Consumers are confident in the safety of food

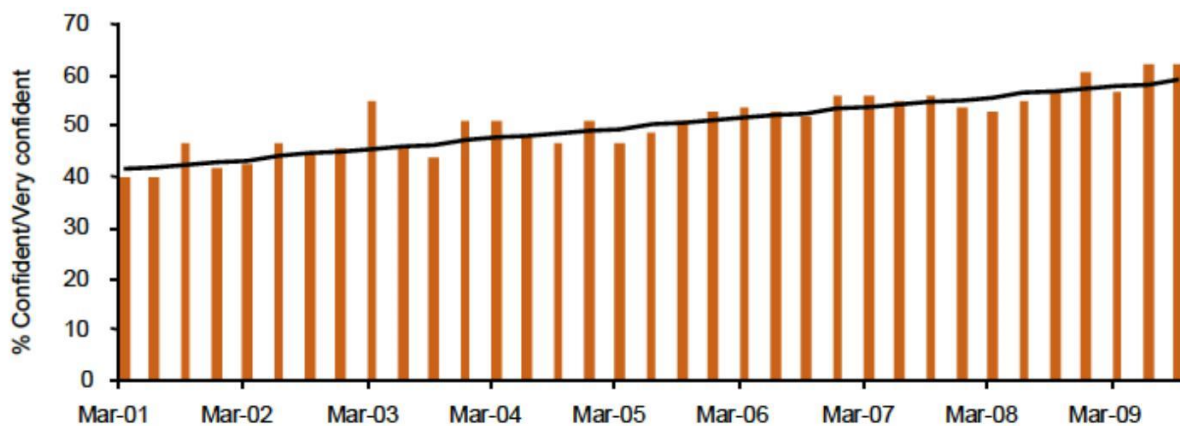
Indicator:

Public confidence in food safety measures

This indicator shows:

- Public confidence in food safety measures. The question asked was: How confident are you about the current measures taken by all organisations involved in protecting your health with regards to food safety? This graph shows those answering confident or very confident as a percentage of all answers.

Public confidence in current food safety measures



Source: FSA

Data analysis/calculation of the indicator

This will be in the form of an assessment report, ideally using national and local data. In some countries, there may be nationally coordinated annual or regular audits carried out on all local authorities/municipalities, which could provide useful baseline data and a starting point from which to draw comparisons and build up the assessment information.

If it has been possible to find relevant metrics (possibly ones used by the food safety inspection team) then they could be usefully included as part of the assessment.

References and links to reports/tools

For a useful source of food safety information, see resources on the UK's Food Standards Agency website <https://www.food.gov.uk/enforcement/approved-establishments-official-controls>

Also the work of the FSA in Europe <https://www.food.gov.uk/about-us/agencyandeurope>



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Milan Urban Food Policy Pact Monitoring Framework

March 2018 version

Indicator 40: Existence of support services for the informal food sector providing business planning, finance and development advice

MUFPP framework of actions' category: Food supply and distribution

This indicator assesses the existence of support services for the informal food sector providing business planning, finance and development advice. (The focus here is primarily in relation to sanitation and food safety regulations as a first priority, but it is important to look at wider support needs and provision – e.g. infrastructure, skills etc.)

Overview table

MUFPP Work stream	Food supply and distribution
MUFPP action	Acknowledge the informal sector's contribution to urban food systems (in terms of food supply, job creation, promotion of local diets and environment management) and provide appropriate support and training in areas such as food safety, sustainable diets, waste prevention and management.
What the indicator measures	This indicator assesses the existence of support services for the informal food sector providing business planning, finance and development advice. (The focus here is primarily in relation to sanitation and food safety regulations as a first priority, but it is important to look at wider support needs and provision – e.g. infrastructure, skills, etc.)
Which variables need to be measured / what data are needed	Types and numbers of informal food businesses, by category Types and numbers of businesses most in need of support services Types and numbers of support services available to informal food businesses Types of support needs that should be addressed as a priority
Unit of measurement (i.e. Percentages, averages, number, etc.)	This is an assessment but there could be useful metrics: - Number and types of informal food sector businesses - Number and type of priority informal food sector support needs - Types of support available and number of organizations providing this support - Number of informal food sector businesses that benefit from support services - Number of informal food sector businesses obtaining certificates or similar (e.g. sanitation and food safety certificates)

	<ul style="list-style-type: none"> - Number of informal food sector businesses becoming registered as formal businesses - Number of informal workers in the food sector who have received support services on business planning, finance, development advice.
Unit(s) of Analysis (i.e people under 5 years old, etc.)	Informal food businesses (or business owners)
Possible sources of information of such data	<ul style="list-style-type: none"> -Existing reports; any registers of informal food businesses; -NGO's, agencies and municipal departments that work with food businesses; - Street trader organisations or unions; community organisations; police; food safety inspectors
Possible methods/tools for data-collection	Mainly interviews with relevant experts and stakeholders
Expertise required	Research, interviewing and analysis of data
Resources required/ estimated costs	
Specific observations	The informal food sector is by nature not easy to support. Many cities will not have any data and may not have any support systems in place. In this case there could still be a useful assessment done to identify to what extent an informal food sector exists, and to find out what kinds of support needs there are. The areas of food hygiene and sanitation are inevitably a priority, given the potential impact on public health. A crucial point to note is that where the informal food sector does exist, the lives of low income families depend on it for their survival so much care is required in provision of support, whatever the specific priorities.
Examples of application	

Rationale/evidence

This indicator assesses the existence of support services for the informal food sector providing business planning, finance and development advice. The focus is primarily in relation to sanitation and food safety regulations as a first priority but it is important to look at wider support needs and provision, for example improved trading spaces or subsidised mobile trading carts or credit provision or business skills. In the first instance a greater understanding about the nature and scale of the informal food sector is needed.

Research into support needs

From 1999-2006 the Natural Resources Institute (NRI) worked with over 22 partners in African and South Asia on four separate street food and informally vended foods (funded by the UK Department for International Development, DFID). This work contributed to an increased understanding of how the informal sector is formed and the types of issues it faces. A feature of the urbanization process has been the development of informal food supply systems. Resource-poor groups have developed livelihood strategies with limited capital assets to meet opportunities in urban areas. This is typified by the increase in ready-to-eat food prepared and sold by street food vendors. However, while street food vending can be an effective way of providing low cost nutrition to urban populations, it can also pose risks to health, in particular for the young, the elderly and those with HIV/AIDS.

A mini-census and a survey of 334 street vendors in Accra, Ghana indicated that the street food sector employs over 60,000 people and has an estimated annual turnover of over US\$100 million with an annual profit of US\$24 million (equal to average daily profit of US\$1 per day). This was comparable to the findings from other studies in cities such as Calcutta; 130,000 street-vendors make an estimated annual profit of nearly US\$100 million. In Accra, most (94%) of the vendors were women, who had

minimal or no education, 75% did not pay taxes and most did not belong to vendors associations.

The research highlighted some key issues

- Street-vended and informally vended food can contribute significantly to the food security of those involved in its production, particularly suppliers of raw produce, food processors and vendors.
- Women are often owners or employees of street food businesses. In certain countries (Benin, Ghana, Lesotho, Togo and Democratic Republic of Congo), they represent 70 to 90% of vendors. In Ghana and most developing countries, most women sell food in the street primarily to improve the food security of their household and also to have some degree of financial independence.
- Despite its growing presence, it is a sector that has rarely been the focus of strategic research initiatives that determine the importance and potential hazards of street-vended food, and what contribution it makes to the livelihoods of the urban and peri-urban poor (both producers and consumers).
- The livelihoods of those in the informal street food sector and the health of consumers could be jeopardized if problems of food safety are not addressed. Loss in public confidence in street foods will not only jeopardize incomes of vendors but also of their employees, and of producers and traders of inputs.¹

Glossary/concepts/definitions used

The informal food sector

The informal sector plays an important role, which is often viewed as controversial. It provides jobs and reduces unemployment and underemployment, but in many cases the jobs are low-paid and the job security is poor. It is important to understand what comprises the informal food sector in terms of context. Unfortunately there is no absolute definition - the simplest is whether the business is registered to pay taxes or not. The informal sector tends to include small manufacturing enterprises and small traders and service providers, legal and illegal activities and a wide array of artisans. The most visible activities relating to the informal food sector are: i) food production (urban and peri-urban); ii) catering and transport; iii) the retail sale of fresh or prepared products (e.g. the stationary or itinerant sale of street food).²

Connections between the informal and formal sectors

It is important to remember however that one sector does not operate independently from others sectors. The food system is a collection of many systems, in which for example the informal and formal sectors are closely related, with mutual trade and exchanges occurring between them. For example, research in South Africa shows that informal traders source their products mainly from formal retailers. Moreover, many large firms engage the informal sector in formal business transactions where deliveries and collections are scheduled in accordance with pre-determined supply schedules. In many countries “farmer’s markets” sellers do not pay taxes, but do comply with certain hygienic measures, so whether or not they are included in the informal sector category is a grey area.

Examples of support services

The NRI research projects mentioned above specifically addressed improvement in food safety. Public

¹ Street foods and informally vended food in Africa, Natural Resources Institute, University of Greenwich <https://www.nri.org/project-websites/food-and-markets/street-foods-and-informally-vended-food-in-africa>

² The informal food sector: Municipal support policies for operators; ‘Food in Cities’ collection no. 4; FAO, 2003 <http://www.fao.org/3/a-y4312e.pdf>

billboards were used to promote food safety to consumers. Teaching aids were produced in partnership with street vendor organisations, for both the street vendors and for the food inspectors. An initial 300 vendors were trained in improved food safety, with an additional 3000 trained by street vendor organisations. Training in financial management was then added, as vendors need to know the cost in improved hygiene and impact on business. A survey of consumers who buy from vendors was carried out and it became clear that consumers were willing to pay more for more hygienic food.³

Preparations

The team responsible for monitoring this indicator should agree on:

1. Scope and parameters of the assessment
2. Main focus and research questions, in discussion with the municipality or relevant support organisations
3. Type of data disaggregation and categories that will be used (see further below)
4. Data collection method (analysis of records, interviews, surveys)
5. If surveys or interviews are to be used, questions and instrument have to be designed. Training of survey enumerators may be needed.

Sampling

In case data are collected by means of an informal food business survey, guidance will be needed from vendors to estimate the numbers. A pragmatic approach may be to survey as many vendors as possible in key locations. The purpose of such a survey would be to find out what support needs they have, what support they receive, (and ideally) under what circumstances new support could be successfully provided. Depending on policy or monitoring priorities, surveys could be implemented among specific groups of vendors (e.g. youth, women, vendors of un-prepared foods, or vendors in specific areas of the city).

Data collection and data disaggregation

The aim is to gather information that together provides an overview assessment. A number of research questions that focus around metrics could be useful.

Understanding the extent and nature of the informal food sector

- Number and types of informal food sector businesses (It will very likely include street food sellers, but there may be other categories – see examples in definition section above)
- Number and type of priority informal food sector support needs
- Number and type of other businesses that supply the informal sector (important to understand their role in relation to support needs of the informal sector)

Understanding the extent and nature of any existing support for the informal food sector

- Types of support available (this may vary considerably, for example from formal training in food hygiene to investment in mobile carts by the local government)
- Number of organisations providing this support

Understanding the take-up of support

- Number of informal food sector businesses that benefit from support services
- Number of informal food sector businesses obtaining certificates or similar (e.g. sanitation and food safety certificates)
- Number of informal food sector businesses becoming registered as formal businesses

³ Street food in Ghana, changing food safety practices, Natural Resources Institute, funded by DFID, 2004
<https://www.nri.org/images/images/project-pages/project2-moreinfo.pdf>

- Number of informal workers in the food sector who have received support services on business planning, finance or development advice.
- Number of formal businesses that are directly connected with the informal sector and need to be included in some way (recipients or providers of support).

Note. As the NRI reports show, it took several years to develop support work with the informal food sector. This exercise can at best provide an overview of the current situation but ideally should help to open up important issues that may not have been either acknowledged or addressed.

Data analysis/calculation of the indicator

The analysis should be presented as a short assessment report, ideally with recommendations for next steps. It could also be presented at a roundtable or workshop and used as an engagement mechanism for further discussion and action.

References and links to reports/tools

Extensive international research on the informal street food and vendors in Africa (Ghana, Zambia, Zimbabwe) and India

Street foods and informally vended food in Africa, Natural Resources Institute, University of Greenwich <https://www.nri.org/project-websites/food-and-markets/street-foods-and-informally-vended-food-in-africa>