



Food and Agriculture
Organization of the
United Nations



Milan Urban Food Policy Pact Monitoring Framework

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Indicator 31: Number of municipal food processing and distribution infrastructures available to food producers in the municipal area

MUFPF framework of actions' category: Food production

The indicator monitors the number (and type of) municipal infrastructure for storage, processing and distribution of food located in the municipal area, including storage buildings, processing plants, transport facilities and (wholesale and consumer) markets.

Overview table

MUFPF Work stream	Food production
MUFPF action	<ul style="list-style-type: none"> - Seek coherence between the city and nearby rural food production, processing and distribution, focussing on smallholder producers and family farmers, paying particular attention to empowering women and youth. - Support short food chains, producer organizations, producer-to-consumer networks and platforms, and other market systems that integrate the social and economic infrastructure of urban food system that links urban and rural areas. This could include civil society-led social and solidarity economy initiatives and alternative market systems.
What the indicator measures	<p>The indicator monitors the number (and type of) municipal infrastructure for storage, processing and distribution of food located in the municipal area, including storage buildings, processing plants, transport facilities and (wholesale and consumer) markets.</p> <p><i>Note: The indicators focusses in first instance on municipal infrastructure as this information may be more readily available. It is acknowledged that other private or civil society funded/managed infrastructures may also be available for municipal food producers. If information is available, these other local infrastructures could also be considered.</i></p>
Which variables need to be measured / what data are needed	<p>Data are needed on:</p> <ul style="list-style-type: none"> - Availability of local food processing and distribution infrastructure - If of interest: data on types of infrastructure, location and other characteristics, and data on users of these services
Unit of measurement (i.e. Percentages, averages, number of people, etc.)	Number of infrastructures
Unit(s) of Analysis	Data can be disaggregated for different types of infrastructure, for locations and other characteristics (equipment, volumes, price of services), and the type of

<i>(i.e people under 5 years old, etc.)</i>	food producers/actors that are making use of these (share of men/ women; youth/adults; other socio-economic categories)
Possible sources of information of such data	-Economic/market government department -Food business registers -Agriculture department/programmes -Earlier research
Possible methods/tools for data-collection	If data are not available from government and other organisation records, information may be collected through food producer surveys (how and where do food producers process and distribute their products).
Expertise required	If surveys are used: survey design and implementation
Resources required/ estimated costs	
Specific observations	Food infrastructure may be provided by both public and private actors, information on the latter may be more difficult to collect
Examples of application	

Rationale/evidence

A recent (2016) study on the 'Role of private sector in city region food systems'¹ highlights that one of the critical factors in enabling a food business to supply markets in the city area is its surrounding hinterland, thus its ability to process and distribute, whether by its own means or through other local businesses. Food processing and distribution infrastructure can either individually or collectively be owned or offered by other private sector or the government.

Ability to access processing infrastructure: For farmers and growers wanting to sell their products in city markets, from farm gate sales to supplying hospitals for example, access to processing facilities is key. For eggs, vegetables and fruit, those processing facilities can be relatively basic (depending on the market) and farmers and growers may require a facility for grading, packing and possibly washing. Dairy and meat products require more costly and complex processing facilities. Farmers either set up their own processing units on farm or are reliant on a (usually small to medium size) processor that provides services for direct selling farmers as well as usually serving other bigger customers. Setting up on-farm processing facilities has many advantages (ability to sell directly, control over quality, etc.) and many challenges. Challenges include the requirement for capital investment which is difficult if the farm is leased and not owned or if grant support is not available. Other challenges can include skills shortage, insufficient cold room space and meeting the food safety standards.

Efficient use of capital inputs (sharing infrastructure) will make the system more competitive. A case study on Rotterdam, The Netherlands, describes how a recent trend is emerging where processing facilities are downscales and decentralised again. Examples include micro-breweries, mobile fruit juice pressing facilities, mobile slaughterhouses and even micro dairy processing facilities that use up-to-date technology for monitoring and quality control. Thus it becomes easier for farmers to add value to their products by including processing and distribution, potentially even marketing and sales at farm level, or work cooperatively with other farmers (e.g. dairy farmers of Midden Delfland). The latter jointly bought pasteurisation equipment and started to bottle and brand their own milk and market it directly to consumers in the Rotterdam area.

Access to distribution infrastructure: Urban and peri-urban food producers selling to city markets generally either rely on their own distribution or on wholesalers who operate in the city. Cities like

¹ Dubbeling M., J. Carey and K. Hochberg, 2016. The role of private sector in city region food systems. RUAF Foundation, the Food Business Knowledge Platform and IWMI/CGAIR WLE programme. <http://www.ruaf.org/projects/role-private-sector-city-region-food-systems>

Medellin, Colombia, and several others, support development of food storage and distribution infrastructures (such as ‘food hubs’). Product aggregation from different producers that leads to a diversified ‘basket’, and synergies between different short food chain supply channels and outlets have proven to be a success factor in a number of cases.

Apart from the availability (e.g. number) of local food processing and distribution infrastructure, the extent to which producers have access to suitable processing and distribution facilities (i.e. in terms of distance, volumes, quality, equipment, skills, and specialisations) is key. As is the degree of vulnerability of such infrastructure to increasing temperatures, flooding and other (climate related) risks².

This indicator is closely related to Indicator 32 (*Proportion of local/regional food producers that sell their products to public markets in the city*) and data for both indicators can be collected by using market or field survey instruments.

Glossary/concepts/definitions used

Food processing and distribution infrastructure: infrastructure for storage, processing and distribution of food, including storage buildings, processing plants, transport facilities and (whole sale and consumer) markets.

Food hubs, as defined by the USDA are “centrally located facilities with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products.” A defining characteristic of food hubs is source identification, food safety and marketing benefit that allows consumers to trace the origin of products they buy. One of the primary goals of food hubs is to give small and medium-sized farmers access to larger or additional markets. Food hubs also fill gaps in food systems infrastructure, such as transportation, product storage, and product processing. A food hub may be set up as a non-profit organisation, a for-profit business, or a cooperative.

Municipal food processing and distribution infrastructure: infrastructure run entirely by the municipality or run through subsidiary companies (municipal-owned companies). Note: The indicators focusses in first instance on municipal infrastructure as this information may be more readily available. It is acknowledged that other private or civil society funded/managed infrastructures may also be available for municipal food producers. If information is available, these other local infrastructures could also be considered.

Preparations

The team responsible for monitoring this indicator should agree on:

1. Type of data disaggregation and categories that will be used (see further below)
2. Data collection method (analysis of records or food producer survey)
3. 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 producer survey, a 10% sample (10% of all food producers) is minimally needed.

² http://icic.org/wp-content/uploads/2017/01/Rockefeller_ResilientFoodSystems_FINAL_post.pdf?x96880

Depending on policy or monitoring priorities, surveys could be implemented among specific groups of producers (e.g. youth, women, small-scale producers etc.) or in specific areas of the city.

Data collection and data disaggregation

Data disaggregation can be done by 1/ Type of food infrastructure; 2/ Characteristics like location, volumes, equipment, costs of services; and 3/ Number and type of food producers accessing/using the infrastructure (e.g. youth vs. adult producers, men vs. women, small scale, vs. medium-scale or large scale producers, any other category (e.g. horticulture vs. livestock farmers; community gardeners with license to sell vs. commercial producers etc.)).

Data can be collected from existing records and registers (economic or market department, food business registers, agricultural programmes) or through food producer surveys (how and where they process, store and distribute their products). This survey could integrate questions that would also provide data for other indicators, like land ownership and tenure regimes (see indicator 28 *Proportion of total agricultural population with ownership or secure rights over agricultural land for food production, by sex*), area under sustainable agriculture (Indicator 29 *Proportion of agricultural land in the municipal area under sustainable agriculture*), the number of producers that benefitted from technical training and assistance (Indicator 30 *Number of food producers that benefited from technical training and assistance in the past 12 months*), or proportion of local/regional food producers that sell their products to public markets in the city (Indicator 32).

Data analysis/calculation of the indicator

The indicator is computed by calculating the total number of local food processing and distribution infrastructure available to urban and peri-urban food producers.

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