



Rethinking Milan's approach to food waste

Co-author Milan City Resilience Department & Food Policy Office



**CITIES
NETWORK**



Co-Authors

CITY RESILIENCE DEPARTMENT

Piero Pelizzaro
Pietro Cattaneo
Marta Alessandra Mauri

FOOD POLICY OFFICE

Andrea Magarini
Cristina Sossan
Elisa Porreca
Chiara Pirovano

This case study has been developed as part of Urban Ocean, one of Resilient Cities Network's multi-city programs, co-designed and delivered with our partners Ocean Conservancy and The Circulate Initiative. Urban Ocean supports cities in assessing their risks and vulnerabilities as well as gaps in their waste management systems that lead to plastic leakage into the environment and the ocean. It helps cities to identify actions, design better projects and innovative solutions, leverage partnerships, and finally connects cities and their projects to potential funding sources.

Urban Ocean is currently being implemented in six cities in Asia and Latin America and supported by five cities in Europe and Asia Pacific that help their peers to develop projects that allow them to address current and future challenges. The program has a strong emphasis on peer-to-peer learning and knowledge exchange.

The case study series aims to highlight good examples in resilient urban waste management from across the world, and were selected with the following guiding criteria in mind:

- The initiative addresses multiple shocks and stresses
- The initiative exhibits multiple qualities of resilience
- The initiative yields multiple benefits, as it contributes to the overall resilience of both the waste management system and the city as a whole

CASE STUDY TAGS

- ✓ SUSTAINABLE AND CIRCULAR SOLUTIONS
- ✓ EQUITABLE PROVISION OF SERVICES
- ✓ STRATEGIC VISION

PUBLICATION DATE: APRIL, 2021

In response to growing health inequalities and climate change, Milan has rethought its local food system, setting out a comprehensive approach to reduce food waste while achieving multiple co-benefits.

Shocks and stresses



CLIMATE CHANGE



INADEQUATE
HEALTH SYSTEMS



INADEQUATE WASTE
SYSTEMS

Qualities of resilience



REDUNDANT



INCLUSIVE



INTEGRATED



ROBUST



Rethinking Milan's approach to food waste — 2

Photo by Karen from flickr.
Cover photo by Thanate Tan from flickr.



CONTEXT

Milan is the capital of Lombardy region and the centre of the most urbanized area of the country. With just over 1.3 million residents it is the second largest Italian municipality. Today, Milan is facing new challenges, including the environmental transition and growing social inequalities.

By location and geography, Milan is exposed to climate change risks, such as extreme heat and flooding. The agricultural conditions of the Milanese region represented a significant asset during the early development of the territory and are still important to Milan's food system today, but are also impacted by climate change.

Globally one third of all food produced is wasted

Yet this food system has proven to be unsustainable, leading to problems such as obesity, overweight and malnutrition. With a growing population, these challenges are set to worsen. On top of that, globally one third of all food produced is wasted - the equivalent of six garbage trucks of edible food every second. This was no different in Milan. To make the food system more efficient, reduce pressures on the environment, improve public health, and reduce waste, Milan defined a comprehensive Food Policy in 2015. The policy is a long-term commitment and legacy of the 2015 Expo Milano on 'Feed the Planet, Energy for Life'.

APPROACH

The Food Policy aims to solve the lack of connection between tackling climate change and improving the food system in Milan. To understand how the local food system could be improved, a group of food experts in the city launched a public consultation with municipal departments, academic partners, the private sector, and communities, which established priorities around improving access to water and healthy food, regenerative and circular production, raising awareness, making the most of food and reducing waste, and supporting scientific research.

Under the food waste priority, the goal is to achieve a 50% reduction in food waste by 2030. Five main focus areas have been identified:

- 1** Inform and educate citizens and local stakeholders on reducing food losses and waste
- 2** Recover and redistribute food waste
- 3** Create local partnerships such as among charities, food banks, supermarkets and municipal agencies
- 4** Improve and reduce food packaging
- 5** Strive for a circular economy in food system management



Since 2015, several main actions have been implemented under the Food Policy focused on food waste as well as reducing carbon emissions and shortening supply chains, including:



Neighbourhood food waste hubs

In 2018, the municipality commissioned a study by one of the city's academic partners, the Politecnico di Milano and Assolombarda, an association bringing together supermarkets, businesses, and company canteens, to design a pilot to collect and redistribute food waste on a community level. The first pilot hub set up in the Isola neighbourhood in January 2019 was successful, leading to the opening of two new hubs in other parts of the city. The food waste hubs are located in local municipality-owned warehouses, targeting to recover around 70 tonnes of food waste per year from supermarkets and company canteens and provide it to charities that organizes distribution to beneficiaries.



Fiscal incentives to donate surplus food

To avoid perfectly edible food going to waste, Milan introduced a 20% waste tax break in 2018 for any food businesses donating their surplus food to charities and food banks. The municipality created a cross-departmental working group covering environmental, fiscal, and food policy staff to implement the regulation.



Shortening supply chains and stimulating local procurement

Milan is surrounded by over 100 farms and 800 orchards. Thirty of these farms are brought together by the Distretto Agricolo Milanese (DAM), who work together with the Municipality of Milan to facilitate and increase the procurement of locally sourced food. As a result of a pilot with the municipal agency for school canteens Milano Ristorazione, in 2019 the rice produced by DAM has been served in Milanese school canteens, and 19 other horticultural supply chains will be connected to locally produced food. The shortening of the production chain will be further supported by the creation of new gardens for both educational purposes and local food production. This supports the local economy and cuts down emissions by decreasing transportation.



Reducing food waste in school canteens

In partnership with the Municipal Agency for School Canteens Milano Ristorazione, the city ran a campaign to tackle food waste at schools. Simple but effective measures were put in place: at the end of their lunch school pupils would get a piece of fruit which often went to waste, so instead children now receive it as a mid-morning snack. They were also provided with reusable take-away bags to take home leftovers at the end of the day. Overall, the campaign resulted in a 17% decrease in food waste, with the participation of 57 schools covering 19,000 children (28% of total). Together with the charity Banco Alimentare, Milano Ristorazione also connected 106 schools to donate surplus food to charities, while plastic dishes and cutlery were replaced by biodegradable materials and recycled as biowaste.

Additionally, effort has gone into increasing the appreciation of school meals. Milano Ristorazione worked to improve the taste of food served but also the quality of the service in terms of characteristics of the dishes: colours, mix of ingredients. This in order to avoid food waste and to educate children to healthy food.



Food Policy Hot Pot

In 2019 the Municipality of Milan and Fondazione Cariplo launched the Food Policy Hot Pot to encourage local innovation in business models, goods, and services contributing to the Milan Food Policy. The Hot Pot brought together established private sector companies with 20 SMEs selected through an open call, who collaborate to co-develop projects focusing on new solutions to recover food waste, recycling methods, green procurement and supplier relationships, and technology for agriculture.

Other projects include regenerating peri-urban and local soils such as in Gallaratese-QT8 district, new soup kitchens, reducing waste in open street markets, and increasing the collection of organic waste and processing it into biogas used for fertilising peri-urban farmland, and education campaigns on separating waste at home.

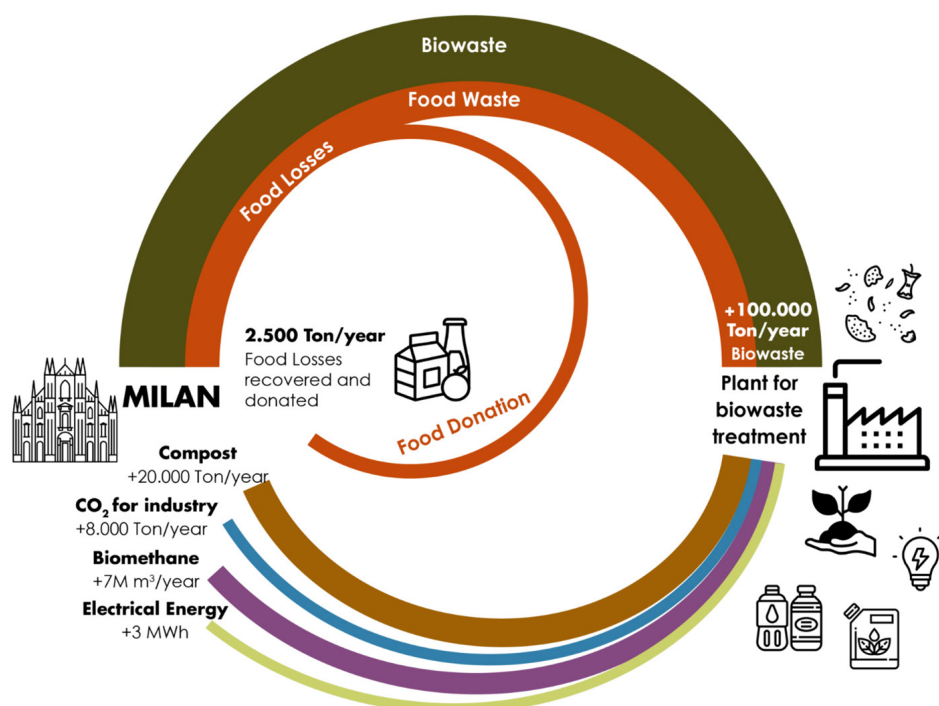
Last but not least, the Municipality of Milan and its municipal agency which owns the General Market supported a call for proposal promoted by Fondazione Cariplo, in order to facilitate projects of food waste collection within the market, involving charities and local start ups.



Resilience and the Food Policy

The Food Policy sets out a comprehensive vision to rethink Milan's food system, targeting multiple stakeholders, risks, and outcomes: healthier food provided at school, reducing greenhouse gas emissions by cutting back on meat consumption and long supply chains, elimination of plastics at schools, and reducing food waste by incentivising donations. Resilience criteria are embedded into the plans using the following checklist:

- Existence of a food supply emergency / food resilience management plan for the project
- The plan is based on a comprehensive vulnerability assessment of the urban food system
- The plan identifies clear roles, responsibilities, resources, and timelines
- Focus on vulnerability: the plan specifically addresses the needs of groups that are less able to prepare for/withstand shocks and stresses
- Level of integration of food system components into other city planning and resilience disaster risk reduction strategies, environmental strategies
- In case of the absence of a full food emergency / food resilience management plan, specific standalone actions still contribute to the same objectives (for example food businesses zoning away from flood prone areas, distributed storage of food emergency supplies, climate smart urban agriculture)
- Information about the implementation and impact of the plan is transparent and widely shared within the city government and with other stakeholders





The **neighbourhood food waste hubs** alone have achieved significant results in reducing food waste:



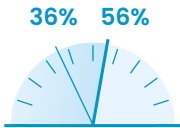
120 tons of food per year recovered (240 000 meals per year monitoring period at Isola hub March 2019 – February 2020) with a value of 500 000 EUR



240 tons of CO2 avoided for production and disposal



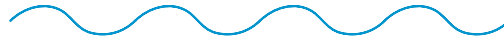
96 million litres of water and **81 hectares of land** to cultivate the recovered food saved



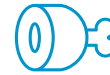
The campaigns to encourage **separation organic from non-organic waste** also achieved a source separation of 56% in three years (compared to 36% in 2012).



In 2018 alone, **130 000 tons of organic waste was processed** and avoided 8 760 tons of CO2 equivalent.



As the **Food Policy** is integrated, the other initiatives under its umbrella have also created a number of co-benefits, despite only formally launching in 2015:



A 20% reduction in greenhouse gas emissions due to the change of ingredients and recipes in school canteens meals (decrease in red meat, increase of vegetables and legumes)



Avoided the use of 720 000 kg plastic waste in school canteens (through the distribution of tap water and the replacement of plastic plates and cutlery)



19 000 children per year involved in the mid-morning fruit program



85 000 citizens (children and teachers) a day who consume meals cooked and delivered by Milano Ristorazione



180 tons of rice now grown within the city boundaries, shortening supply chains



140 tons of food surplus rescued for donations every year

The success of the Milan Food Policy is partly due to its multilevel governance approach, bringing together the municipal, metropolitan, and regional authorities. During the implementation, five lessons learned emerged:



Develop multi stakeholder partnerships

Municipalities should play a key role in facilitating relationships between stakeholders. Adopting a holistic model and engaging the relevant stakeholders (horizontal integration) and connect with the regional authorities (vertical integration) is key.



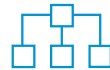
Achieve multiple benefits

Actions tackling food waste must also achieve other goals, such as a reduction in greenhouse gas emissions, improving public health, increasing social equality.



Include local data

To make well informed policy decisions regarding food waste, it is important to have localized data and deep understanding of the drivers shaping the city's food system.



Create new governance arrangements

The positioning of Food Policy within the Mayor's Office and under the mandate of the first Vice Mayor has ensured strong visibility and political commitment.

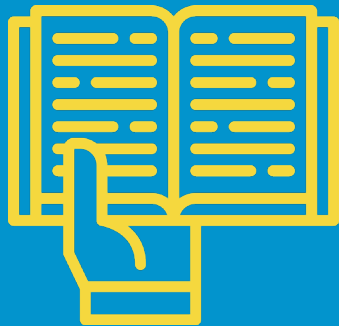


Create awareness

The EXPO 2015 helped focus the attention on the importance of food, and generated greater awareness for the issue. It helped find financial and administrative resources to improve the food system.

In parallel to the Food Policy, the City of Milan established the Milan Urban Food Policy Pact (MUFPP), signed by over one hundred cities globally during the EXPO 2015, which has today increased to 211 cities. By signing up, city leaders commit to develop sustainable and resilient food systems, providing nutritious and accessible food for all, protect the environment and fight food waste. The Food and Agricultural Organization and the MUFPP Secretariat with the support of the FAO and RUAF Urban Agriculture and Food Systems have developed a comprehensive set of indicators and guidelines to monitor the implementation of the recommended city actions in the MUFPP.

Milan has played an exemplar role in building a resilient food system that has proved its efficiency and robustness in times of crisis such as during the COVID-19 pandemic. The City continues to implement and improve the Food Policy, bringing on board more stakeholders and disseminating lessons learned internationally.



Further Reading

Milan Urban Food Policy Pact

<https://www.milanurbanfoodpolicypact.org/>

Food Policy Milano (2019) Policy Brief: Food Waste – Milan Model of Circular Economy for Food Donation

Retrieved from <https://www.foodpolicymilano.org/wp-content/uploads/2019/10/FOODPOLICY-ENG-2018-Policy-Brief-Food-Waste.pdf>

Magarini, A. (2019) CircE Interreg Europe: Milan Food Policy actions on food losses and waste management.

Retrieved from

https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1561017431.pdf

Milan Urban Policy Food Pact – Milan Food System during Covid-19

<https://www.youtube.com/watch?v=YglwRQnajcU>

Milan Urban Policy Food Pact – Milan School Canteens Re-opening

<https://www.youtube.com/watch?v=HBjyFn2qVvc>

World Economic Forum – Milan is cutting GHG emissions by reducing meat in school meals

<https://www.facebook.com/watch/?ref=external&v=432353347735016>

Food Policy Milano – Opening of the Neighborhood Food Hub

<https://www.youtube.com/watch?v=jG0mSZX40Bg>

https://www.youtube.com/watch?v=jYm_83IRH3A

DISCLAIMER: THIS CASE STUDY IS INTENDED FOR KNOWLEDGE-SHARING PURPOSES ONLY, AND SHOULD NOT BE RELIED UPON BY ANY THIRD PARTY.

Icons used throughout the document: Alex Quinto; Annette Spithoven, Template, lipi, Noura Mbarki, Nick Abrams, Andrejs Kirma, Phạm Thanh Lộc, Anna Bearne, and iconixar from the Noun Project.



