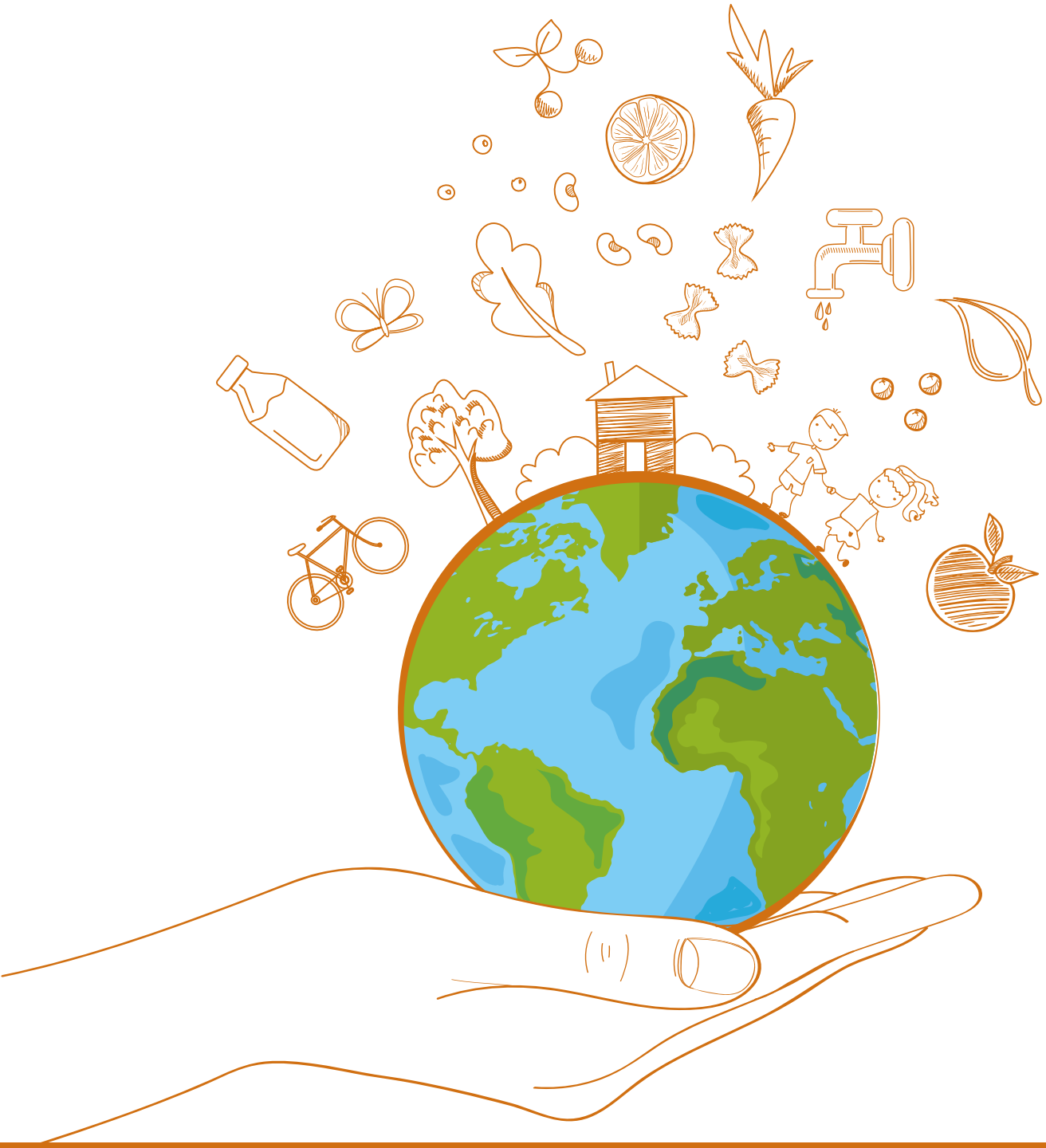

FOOD IN THE CITY.
URBAN FOOD POLICIES FOR PEOPLE AND THE PLANET

Fondazione Barilla

il tuo cibo, la tua terra

CONTENTS

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Chapter 1:
The global food chain and the role of cities

The aim of this study is to provide a general framework for understanding the processes that affect urban sustainability and the quality of people's lives in terms of nutrition. Increasing urbanization, the progressive depopulation of rural areas, the inefficiency of the current food system and climate change are some of the factors which, combined, have a considerable impact on the tangible and intangible characteristics of cities, including the lack of healthy, sustainable and affordable food for all.

Globally, humanity has never had so much food available and, historically, it is in a state of relative well-being. In our cities, food is everywhere, available seven days a week, twenty-four hours a day. However, if we stop for a moment and think that every day food has to be cultivated, processed, transported, bought, sold, consumed and managed when it becomes waste, the complexity (and nuances) of the whole process are revealed and we become more aware of the things we take for granted.

Food systems - the series of processes that food undergoes at every stage of the supply chain, from production, to consumption and waste treatment - are the basis of a global crisis that brings with it malnutrition and non-communicable diseases, such as heart attacks, certain types of cancer or diabetes, but also problems related to the environment and climate change. The current composition of diets, in fact, does not allow everyone in the world to be fed adequately, nor ecosystems and natural resources to be preserved.

Over two billion people in the world are currently obese or overweight, while more than 690 million people are hungry. More than 500 million of these live in Asia, while in Africa there are almost 260 million. Paradoxically, while many people are falling ill due to lack of nutrition, every year more than a billion tons of food are wasted or lost along the supply chain: one third of the food produced globally which, hypothetically, would be enough to feed the millions suffering from hunger.

Current cereal production may be sufficient to combat the lack of food but just under half is destined for human consumption. The rest is used to feed animals and create biofuels: a conversion that is proving unsafe and ineffective for mankind. Moreover, even though in the last twenty years, the global food production rate has increased more rapidly than population growth, wars and climate shocks are harming agriculture, fueling a negative spiral of high prices and malnutrition.

Finally, we must not forget that food production is one of the most important factors impacting on climate change, the production of greenhouse gases (emissions linked to the food system as a whole are 21-37% - IPCC, 2019), the loss of biodiversity, the use of water resources, the impairment of nutrient cycles and changes in land use (Marino and Mazzocchi, 2019).

The global food chain and the role of cities

Current food systems are therefore unable to feed people with ecologically sustainable techniques, particularly because they are dominated by diets that have a serious impact on ecosystems and our health. To change this paradigm, a close dialogue needs to be restored between cities and the countryside, but when we think of a way to improve the situation, rather than thinking of cities, we immediately think of the countryside, with its cultivated land and historical places of production. In reality, agriculture and urban settlements were born at the same time, as the cyclical and constant supplies provided by the land allowed man to abandon nomadic life and become settled. Only with the arrival of the modern age and technology did these two elements partially depart from one another, as faster and swifter means of transport and new production techniques gradually lengthened the distance between the places of production and consumption.

The problem lies not only in managing supplies but also in ensuring healthy, sustainable and affordable food for all. The urbanization process, in fact, brought with it a transition to highly processed foods, a greater consumption of dairy products and products of animal origin and a decrease in fresh fruit and vegetables, whole grains and legumes, which are a safeguard for our health, as they help counteract the onset of non-communicable diseases (such as some cancers, cardiovascular diseases or diabetes), and are more sustainable for our planet. One example of this food transition is the gradual abandonment of the Mediterranean diet in the countries where it originates, such as Italy. Italians, Greeks and Cypriots, to name a few, are gradually distancing themselves from traditional food, increasingly embracing eating habits characterized by an excessive consumption of animal fats, salt, sugar and red and preserved meats, with serious repercussions on their health and on the environment around them[1].

At the moment, more than half of the world's population lives in urban areas and the percentage is expected to rise to 70 percent over the next thirty years. That is 2.5 billion more people who risk massing in the so-called "mega-cities" with over ten million inhabitants. While only New York, Tokyo and Mexico City held this record in 1975, now there are 33 such cities around the world and by 2030 there will be more than 40 (FAO, 2018).

1 For a discussion about food and health and the Mediterranean diet, we recommend reading "Living Healthily: Let's Start from Food" https://www.educazionedigitale.it/noiilciboilpianeta/insegnanti/

The global food chain and the role of cities

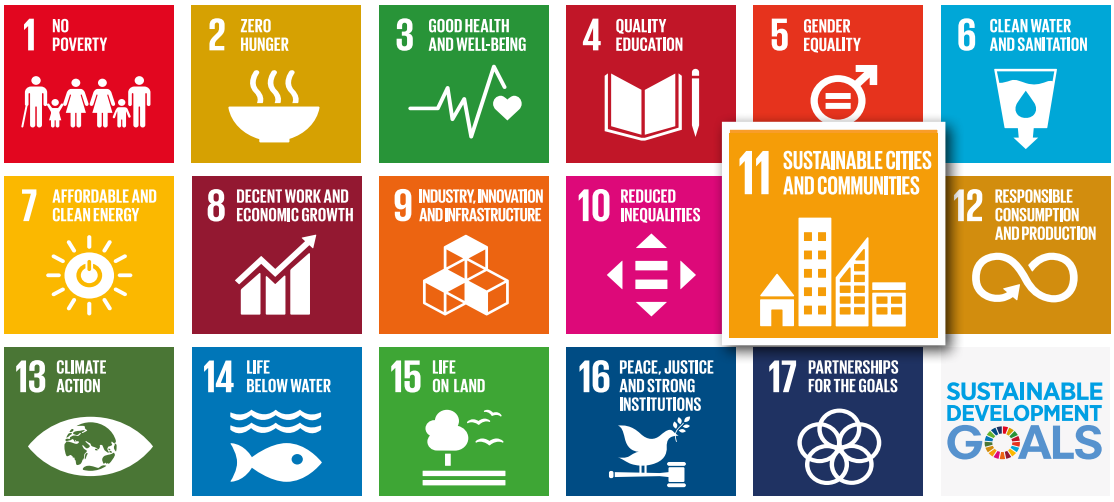
Cities consume up to 70% of food produced nationally (FAO, 2018) but 90% of people living in the suburbs of large urban settlements in developing countries are already suffering from food insecurity[2]. Furthermore, in cities, food and organic waste accounts for more than half of the total municipal waste and is one of the main expenditure items of municipalities (Silpa et al., 2018). In order to guarantee food to the growing number of inhabitants that will move to cities, we therefore need to rethink traditional food systems and adopt common policies to support these transitions. At the same time, **cities must shift from simple reception hubs to catalysts for food and environmental sustainability,** supporting the various transformations and involving different players to create solutions that strengthen rural-urban linkages and establish a link between producers and consumers.

2 **Food insecurity**: the lack of physical, social and economic access to sufficient, safe and nutritious food that fulfills their food requirements and preferences to lead a healthy and active life (FAO, 2006).

Chapter 1.1:
A common political agenda: the Sustainable Development Goals (SDGs)

In September 2015, 193 world leaders of UN member countries adopted the 2030 Agenda for Sustainable Development, which describes 17 specific goals, called SDGs (Sustainable Development Goals), corresponding to 169 targets, to be achieved by 2030, to end hunger and poverty, protect the planet and its resources, and guarantee prosperity and peace. According to the Sustainable Development Solutions Network (SDSN), cities have a very important role to play in this Agenda as 65% of SDGs could not be fully achieved without their involvement. In fact, in order to tackle poverty, unemployment and socio-economic disparities, unsustainable patterns of consumption and production, climate change and environmental degradation it is essential to involve mayors and local leaders (SDSN & the Brabant Center for Sustainable Development - Telos, Tilburg University, 2019).

Cities produce 80% of global GDP, consume 60% - 80% of global energy, and are responsible for 75% of CO_2 emissions, while occupying only 3% of the earth's surface (UN, 2016). The impact is considerable in terms of food as well. A recent publication, which analyzed 40 cities around the world, underlines how food emissions attributable to consumption were, in 2017, the main source of urban carbon dioxide emissions, amounting to 13% of the annual total (C40, Urup & University of Leeds, 2019). Building urban environments that include protecting the environment and its citizens is therefore fundamental for the future, which is the reason for **Goal 11: Sustainable Cities and Communities.** *"Make cities and human settlements inclusive, safe, resilient and sustainable"*. Specifically, this SDG aims to limit and gradually reduce the negative effects of the environmental impact of cities, especially in terms of air quality, waste management, access to green and public spaces and the implementation of safe and convenient transport. Finally, by 2030, more inclusive and sustainable forms of urbanization are being sought, based on a participatory, integrated and sustainable approach to urban planning.



A common political agenda: the Sustainable Development Goals (SDGs)

There are many reasons why food should be considered an urban issue. Poverty, food insecurity, lifestyle changes, production and consumption of non-sustainable foods are profoundly affecting the well-being of people living in cities, and the food system has to be included in many urban public policies. In fact, it has the ability to virtuously connect different aspects, including health and nutrition, relations between the city and the countryside, relationships within supply chains, workers' rights, green area planning and waste management. Reflections on the link between food and cities began around the 2000s, thanks to the impetus of pioneering cities like as Toronto, New York, Vancouver, London and Bristol and today they are expanding thanks to the work of creative research centers and social movements. However, in order for this inclusion process to spread globally, a change of mentality is needed, starting from recognizing agro-ecosystems and agricultural production no longer as antithetical activities to those taking place in the city but as integrated phenomena that can play a key role in the development of urban systems (Marino D. and Cavallo A., edited by, 2014).

Chapter 2:
Food and cities: what challenges lie ahead?

The previous section illustrated how ending malnutrition, in all its forms, and building sustainable food systems are fundamental for the UN 2030 Agenda and its Goals. Production and consumption need to become more and more responsible, so that everyone can benefit from healthy and affordable eating habits and means of subsistence, not only economically but also from a physical point of view. In large urban centers, there are is a growing number of **food deserts**, i.e. entire areas with no access to healthy food (e.g. fresh fruits and vegetables), and **food swamps**, areas characterized by a high percentage of places selling high calorie fast-food and junk food (see page 9). This is, particularly true in the poorest areas of the planet, and is forcing citizens to choose street food and fast food, with serious repercussions on their health. Yet, the problem also affects cities with a high level of well-being, such as New York, Detroit, Chicago and San Francisco, , with millions of people living without access to healthy and nutritious food.

Food has always been a key element of urban planning. If you look at any city map before the industrial era, you can identify where the food came from but also see how supply requirements shaped the cities themselves. Bread Street in London, for example, located near the Thames river bank, reminds us that three hundred years ago there was a cereal market here, where the product was delivered by ship, as the fastest and safest means of transport. The fish market was also located nearby, while the meat market (for example, Smithfield market, one of the most famous) was north of the city, as farm animals could arrive by land from the pastures of Scotland and Wales. In Italy, another example is the various "Piazza delle Erbe" [Herb Square] (the one in Verona is famous but there is also one in Ancona, Brescia and Turin, just to mention a few cities), strategically located in city centers, whose name recalls the ancient commercial function of foodstuffs in medieval times. With the advent of transportation[3], however, cities and their inhabitants became emancipated from their sources of supply. This led to the birth of urban agglomerations of all sizes, in all geographical conformations, with the food system becoming no longer a priority of planning policies and strategies, explaining why phenomena such as food deserts became so spread.

However, the combination of growing environmental, social and economic concerns, the flaws in the organization of food supply chains (for example transport, regulation, changes in the market, etc.) and the increase in food insecurity and malnutrition in all its forms (due both to excessive and insufficient nourishment), led cities rediscover the role of urban food policies as a way to directly or indirectly tackle various forms of malnutrition. . Although it is difficult to classify the challenges that all cities will have to face in respect of food, we can identify a few common elements (De Cunto et al., 2017):

- **public health and well-being,** paying particular attention to the fight against obesity and diseases linked to incorrect eating habits, especially among the younger generations;

3 Particularly in the late 1950s, with the spread of transportation networks and infrastructure.

- **the search for a balance between urban and rural areas,** for example to improve resilience and decrease the vulnerability of natural resources in peri-urban areas;
- **environmental protection,** for example reducing carbon dioxide, combating waste and improving energy efficiency;
- **development of the local economy and community,** for example by offering support to farmers, retailers and local markets;
- **social justice, for example by fighting food poverty,** striving for greater fairness in the food chain, fighting the emergence of areas isolated from basic necessities, such as food deserts;
- **lifelong learning and empowering citizens.** People can in fact be an engine of change but they must be trained and educated appropriately.

Overcoming these challenges is a great opportunity to lead our communities towards a more sustainable and inclusive urban environment. This will allow the phenomena related to food insecurity to be curbed and people's health to be improved starting with the food they eat, improving the quality of life of urban and peri-urban farmers, as well as promoting the creation of jobs and economic development in the poorest countries, without overshadowing protection of the environment and local ecosystems, thus reducing the impact on the climate. In the following paragraphs, two particularly important challenges will be examined: dietary changes and the connection between city and countryside.

Let's learn English

According to the US Ministry of Agriculture, **urban food deserts** are defined as urban areas, usually located in the suburbs, where the lack of supermarkets, shops or markets greatly restricts the opportunity to buy fruit, vegetables and other fresh, good quality products at affordable prices.

Specifically, poor access defines an area where more than 500 people or no less than 33% of the registered population reside more than a kilometer and a half from a supermarket or a large grocery store (for rural areas, however, the distance is around 16 kilometers - ANA, 2010).

Food Swamps, however, are defined as urban areas characterized by a high concentration of fast food outlets selling processed and/or high calorie food and junk food rather than shops and retail outlets selling healthier food.

Chapter 2.1:
Dietary changes and urbanization

There are many nutritional challenges to our planet, above all malnutrition, nutritional deficiency, overweight and obesity. At first glance, we are led to think that while rich countries suffer from the effects of a diet of excess, the poorest countries are suffering from a lack of food. However, although there are substantial differences between the regions of the planet (see the "let's learn political geography" box on page 12), cities act as microcosms facing both problems within their boundaries. Compared to rural areas, in fact, urban environments have a greater variety of food products and gastronomic experiences to choose from, but for social, economic and accessibility reasons, this wealth is not distributed evenly.

Mention has already been made in this section of so-called food deserts, i.e areas of the city characterized by a scarcity or total absence of supermarkets or shops selling foodstuffs. Moreover, due to the faster pace of life, formal and informal work and other needs, more and more families have no time to shop and cook. In both cases, people in these situations tend to resort more often to street food, fast food or other ready-to-eat foods. In general, modern food systems, based on large-scale production, especially at industrial level, combined with greater economic availability, have favored a **transition in cities towards diets characterized by a greater consumption of meat, dairy products, oils and highly processed foods,** which often tend to cost less than healthy and fresh foods. All this is contributing to serious repercussions on people's health.

Overweight, obesity and non-communicable diseases (i.e. illnesses that result of a combination of genetic, physiological, environmental and behaviours factors, such as cardiovascular diseases, diabetes or hypertension) are on the rise in all countries. NCDs account for 60% of all deaths globally, of which 80% is in low-and-middle-income countries (Lachat et al., 2013; WHO, 2011). Also, children are highly involved. According to WHO, in 2106, globally, the number of overweight children under the age of five, was estimated to be over 41 million. Nearly half of these lived in Asia, whereas in Africa, the number of overweight children under 5 has increased by nearly 50% since 2000. At the same time, over 340 million children and adolescents aged 5-19 were overweight or obese. (WHO, 2018a; 2018b)[4].It therefore appears evident that people's food intake is the result of inescapable food systems and **"obesity-engendering environments"**[5] that prevent access to healthier and more diversified diets and as well as physical activity.

4 From 1975, the percentage of obese children and adolescents in 2016 almost tripled (Abarca-Gómez, Leandra et al., 2017) and Italy is no exception. Data from the Italian national observatory OKkio alla Salute (2016) shows that 21.3% of the children, involved in the research (8-9 years old), are overweight and 9.3% are obese. Among other Countries from Southern Europe, like Spain, Cyprus or Malta, Italy has the highest rate of child obesity and overweight (WHO, 2018).

5 Environments characterized by a constant supply of food, especially foods high in sugars and fats, which promote weight gain (Swinburn & Egger, 2002).

Therefore, to contain the obesity and malnutrition epidemic it is undoubtedly important to intervene on personal choices but also to work to remove the obesity-engendering characteristics of the environment in which we live (for example the constant presence of food rich in saturated fat and sugar and conditions that discourage physical activity). This is a challenge that must be conducted at political level, where cities can make a great contribution. For this reason, SDG 11 - Sustainable Cities and Communities – must ensure that nutrition is included within its sphere of action. By using food as an overarching theme across different policies, economic, environmental and social issues can be connected which are often thought about and dealt with independently of each other, thus improving the nutritional quality and health of citizens, as well as that of food systems in general (Garrett & Oenema, BCFN 2018).

Let's learn about political geography

The world can be divided between North and South both geographically, using the equator, but also in terms of the socioeconomic development of its countries. In this case, the terms: Global South and Global North are used. The first term, recently used by the World Bank, refers to those countries, scattered around the globe, located in Asia, Africa, Latin America and the Caribbean, which have a low to medium income compared to the countries in the Global North. The latter include the United States, Canada, all the member states of the European Union, Russia, Israel, Japan, Singapore, South Korea, as well as Australia and New Zealand which, despite being geographically in the southern hemisphere, are very advanced, high-income economies.

It is worth remembering, however, that this is a distinction based on Gross Domestic Product (GDP), which is a measure of economic growth, while the concept of development is much broader. There are other ways to classify countries, for example, using the Human Development Index [6].

6 Compared to the Gross Domestic Product (GDP), the **human development index** (HDI) does not only look at economic growth but **takes into account the state of development of a country's population,** thus providing a more holistic picture. The HDI is calculated using a weighted average (i.e. an average that takes into account the importance of the different values) of three development factors: GDP, life expectancy and educational level. This way the geographical distribution of well-being changes, it is no longer divided between North and South of the world. In fact, countries with a similar GDP can have very different HDIs, which is fundamental for the strategic organization of national policies, such as education or health plans

Chapter 2.2:
The urban-rural linkages

The city-countryside connection has been a feature of the world for centuries and is associated with a form of dichotomous thought which was accentuated by the industrial revolution and the delocalization of production. Even before that, however, it is clear that the urban and rural worlds were closely connected and the "The Allegory of Good and Bad Government" by Lorenzetti (exhibited at the Palazzo Pubblico in Siena) is a fascinating artistic testimony. In the Middle Ages, in fact, people were firmly convinced (and with good reason) that care and attention paid to the countryside also had beneficial effects on the city, as the rural areas were a direct source of the food products and resources that were essential for the life of the community.

Urban growth increases the demand for food and changes the relationship we have with it: a new demand can create opportunities for producers in rural areas, which can improve their living conditions and promote holistic approaches to natural resources management. However, it is clear that the balance between resources and needs will have to be calibrated within a landscape that is no longer just rural, as new choices will also have to be made in favor of plants (or animals) that are compatible with urban spaces.

Therefore, **strengthening the urban-rural linkages** is a subject that involves different levels. First of all, today, as then, the connection between these two dimensions is **fundamental to improve people's food and nutrition[7] security** as it facilitates the availability of fresh food at affordable prices to an increasing number of people. However, the effects of this combination are not limited to the quality of the diet. They also have **an impact on the economic and environmental aspects** of the area involved, such as improving farmers' income, developing markets and other places of sale, increasing rural tourism, but also enhancing the variety of local products and maintaining the local areas, which is fundamental to face the environmental risks due to the abandonment of agricultural areas. In fact, agriculture and its practices are fundamental to help cities cope with traumatic events, because agro-ecosystems facilitate water filtration processes, as well as helping to improve air quality. The city of New York, for example has been able to avoid the costs of water treatment, saving at least 6 billion dollars, by filtering and purifying water from the surrounding forests (Marino D and Cavallo A., edited by, 2014; TEEB, 2010).

7 Food security: the availability of sufficient food to meet people's basic dietary needs, in other words, a situation in which everyone has equal and stable access to a sufficient quantity of affordable food;

In this context, the subject of **short supply chains** has attracted considerable interest in recent years in the course of debates on the link between urban and rural environments. This is a production and consumption system that allows to reduce the number of intermediaries needed to deliver the final product to the consumer, for example through direct sales at the place of production, direct access to farmers' markets, or the development of fair trade groups.

This can improve the economic development of the rural world, reducing the current gap with the city, while urban populations derive enormous nutritional benefits, because they can build diets based on nutritious, diversified and locally produced foods. Finally, the benefits derived from reducing waste and environmental impacts (for example in terms of carbon dioxide emissions) should not be forgotten.
Also in this case, the integration of food and nutrition into national, regional and "urban" development plans, strategies and policies is fundamental. In order for this to be achieved, however, an integrated approach has to be taken that includes planning across administrative boundaries, as well as the inclusion of different players from urban and rural areas, and cooperation between the different levels of government with civil society, the private sector and universities (Loose, Githiri, Oyuela, Sietchiping, UN Habitat - BCFN, 2018).

Suggested extra-curricular activity

Visit a short food supply chain (or get in touch with related organizations). "Short supply chain" is a generic term that indicates a process that brings a product from the place of production to that of consumption through simplified steps. In fact, the traditional supply chain, which includes production, transformation, distribution and sale, can have profound economic, environmental and social impacts. For this reason, whenever possible, shortening these steps can be of great help for the people and the planet.

The short food supply chains are created in order to establish a direct relationship between consumers and producers. That can be achieved, for example, by means of sales point at the farms or collective shops run by farmers (the so-called local farmers' markets), or with solidary purchasing groups whereby organized consumers get in touch with producers to buy their goods.

In order to have an idea of the phenomenon in Italy, according to ISTAT data (2011), 26% of farming companies sell their production at the farm. Instead, in 2013, nearly 900 solidary purchasing groups and 1360 farmers' markets were registered: a 44% increase compared to 2010 (Marino & Cavallo, 2014).

Another example of extra- curricular activity may be a **visit to a site of urban agriculture,** such as urban gardens or vertical farms. According to FAO (2019), urban and peri-urban agriculture can be defined as growing plants and raising animals within and around cities. Urban agriculture can provide different farming products (e.g., grains, vegetables, mushrooms and fruit. In particular, vegetables/fruit that can be harvested within 60 days of planting are better suited), animal products but also food-related products, such as aromatic herbs.

Last but not least, one should not forget **visiting places involved in the redistribution of food.** Examples are food banks, or non-profit charities which collect and redistribute non-perishable items to people in need or to welfare institutions (for details and further activities that may enrich the food in cities program, please refer to chapter "Exercise for the class" on page 19).

Chapter 3:
How cities contribute to sustainable diets: urban food policies

We have previously described how feeding people in cities sustainably is not an easy task and the increase in urbanization, especially in developing countries, requires a radical food revolution, based on a short chain, seasonality, a closer link between urban, peri-urban and rural food systems, as well as the education of citizens. Cities are dynamic entities and the systems within them need to evolve to promote a new vision of food supply chains, from the countryside to the landfill, through a circular approach to food, integrating all those challenges that are currently dealt with in isolation, such as water, energy, food, health, waste, infrastructure and logistics.

Historically, politicians and administrations have played a leading role in the management of food resources, deciding, not always democratically, how to allocate food to and in what quantities (in the past, choosing the food quotas for rulers, leaders of the community, warriors and priests, in more recent times for market operators), the places where food could be sold and the time within which it should be consumed.

Over the last twenty years, **urban food policies** have been implemented throughout the world precisely to guide and regulate food-related activities, coordinating every step of the food chain, from harvest to post-consumption. Specifically, implementing an urban food policy means creating a political and administrative body at the local level (e.g. in municipalities or metropolitan areas) which, in an integrated manner, can bring together all those practices that, directly or indirectly, have an impact on urban, peri-urban and rural food. It is therefore fundamental to treat **food as an integral part of urban planning,** through multi-sectoral and multi-scale approaches that include a wide range of issues, ranging from spatial planning to formal and informal food distribution, from physical accessibility to food, food waste management and recycling. One of the most significant examples of cities that have launched an urban food policy is Milan, which since Expo 2015 has equipped itself with a real administrative structure (the Food Policy Office), that today coordinates all the policies that relate to its citizens. The example of Milan is positively influencing other cities and numerous cities in Italy (Turin, Trento, Livorno among others) and around the world (e.g., Quito, Antananarivo, Nairobi) are launching integrated and innovative urban food policies.

In practical terms, the public sector is essential for promoting sustainable food systems. Mayors and administrators can use the right regulatory and tax incentives (in particular tax deductions) to support shorter supply chains (for example by revitalizing local food markets or farmers' markets, etc.), fight against food waste, increase the traceability of local products and promote the creation of new companies. Furthermore, where possible, priority can be given to greener public procurement in order, for example, to reform school or hospital canteens and/or facilitate access to markets for small producers, while at the same time guaranteeing access to healthy and sustainable food for all sections of the population, so that all the players involved, including citizens, can actively participate in the change.

Strength lies in unity

Cities around the world are making various efforts to change the way food is produced and consumed. For example:

The **Milan Urban Food Policy Pact (MUFPP)** is an agreement between mayors on urban food policies that currently involves 209 small, medium and large cities in the world (including 26 in Italy). Under this agreement, the mayors voluntarily commit themselves to work together so that their citizens can benefit from more sustainable, fair, climate-friendly, safe, diversified, resilient, inclusive local food systems than can provide healthy food at affordable prices to all local food systems, in a framework based on respect for human rights[8].
The **C40**, on the other hand, is a global network of cities created to help the largest cities in the world with many millions of inhabitants to cope with climate change. Thanks to this network, mayors and administrations can collaborate more effectively, exchange information and knowledge, and promote significant, measurable and sustainable actions. In October 2019, 14 mayors of as many cities belonging to this network, (i.e. **Barcelona, Copenhagen, Guadalajara, Lima, London, Los Angeles, Milan, Oslo, Paris, Quezon City, Seoul, Stockholm, Tokyo and Toronto**) signed a declaration entitled "C40 Good Food Cities". Under this declaration, these cities undertake, by 2030, to:

- Align their city's food policies with the so-called planetary health diet[9], endeavoring to favor food produced from organic farming;
- Get away as much as possible from unhealthy and unsustainable diets, increasing the consumption of healthy and plant-based foods;
- Reduce food losses and waste by 50% compared to 2015 data;
- Work with citizens, companies, public institutions and other organizations to develop a common strategy to implement these measures and thus achieve these objectives in a fair and inclusive manner, as well as incorporating this design into the city's climate action plan.

These 14 signatory cities serve 500 million meals a year in schools, hospitals and other public buildings, which allows them to improve the availability, accessibility and affordability of healthy, nutritious, sustainable and good food for their 64 million citizens, significantly benefiting their health and the environment.

8 www.milanurbanfoodpolicypact.org
9 According to the report drawn up by the EAT Foundation and the Lancet in January 2019, the planetary health diet provides balanced and nutritious foods that can provide up to 2,500 calories a day for all adults, it is recommends not exceeding 16 kg of meat per person per year (or 300 g per week) and 90 kg of dairy products per person per year (or 250 g per day), as well as limiting highly processed foods as much as possible https: / /eatforum.org/content/uploads/2019/01/EAT-Lancet_Commission_Summary_Report.pdf

Chapter 3.1:
Experiences from around the world

Urban food policies vary from specific policy actions, to broader and more integrated approaches, often involving targeted interventions, from public health to environmental issues (such as obesity, food waste, public canteens, malnutrition, etc.), and can be incorporated into broader policies.

Quito, the capital of Ecuador, has for example launched a real urban strategy and **created a participative urban agriculture project** (called AGRUPAR) aimed at promoting self-production of food through the use of public and private land as a strategy to reduce food insecurity. The city of **Mezitli**, in Turkey, has instead developed an initiative to increase the production of food by women, called the **"Mezitli women's producer market"** which reduces gender differences and increases job opportunities for women through food markets.

Thanks to this project 650 women have been able to develop the skills needed to produce and sell food in 9 different women's markets. On the other side of the world, in **Melbourne**, Australia, in the absence of accessible public spaces, residents have created family-friendly **urban vegetable gardens** using disused bowling greens. **Da Nang** (Vietnam) is running a **new distribution model for organic and healthy products** that provides work and better livelihoods for people suffering the side effects of large-scale urbanization linked to massive industrial development (such as lack of access to fresh food and food deserts). Also in Asia, but in South Korea, the city of **Seoul** is committed to promoting the health of future generations through a multi-stakeholder project called **Seoul Eco Public Plate** (SEPP) which, since 2015, has been transforming school cafeteria meals into "Eco Meals". Tailored to their nutritional requirements, the meals are provided free of charge to all elementary and middle school students, linking the urban districts of the city to the countryside through a supply system that mainly relies on environmentally friendly local agricultural areas. On the subject of food waste, instead, the city of **São Paulo** (Brazil) has promoted the donation of food surpluses, creating municipal **food banks** that have collected 170 tons of food. The initiative has established a partnership between 310 charitable organizations and reached 120,000 needy people. In Italy, the city of **Milan** is intending to cut food waste by 50% by 2030. To achieve this, the Food Policy Office is coordinating a wide range of actions, including some dedicated to raising awareness among citizens, including the youngest ones. The **"Io non spreco" educational campaign**, for example, launched in collaboration with the City's Department of Education and the environmental organization Legambiente, provides pupils of the participating primary schools with a "save a snack" bag, made of washable material, to encourage them to take home any non-perishable products they have not eaten during lunch (bread, fruit, puddings, etc.)[10].

To conclude, whether it is a small or large-scale initiative, food must remain an essential element of a city's identity and development, to successfully face multiple challenges and contribute to its resilience.

10 Other examples can be found in the BCFN "Food & Cities" 2018 publication. https://www.barillacfn.com/it/pubblicazioni/cibo-e-citta/

Exercise

Below are a few ideas for dealing with the topic of food and cities in the classroom. The basic concept is applicable to every level of education, as it is considered essential for children of all ages to become aware of the actions being taken to make cities healthier and more sustainable from the point of view of food. The teacher can therefore choose the level of complexity with which address the topic and the difficulty of the example brought to the classroom. To support the lesson, a presentation has been created to explain the link between cities and food systems and take into account the different learning opportunities children have (in primary school, lower secondary school, upper secondary school). The material can be downloaded from the teachers section of the noiilciboilpianeta.it website by clicking on the appropriate box to access the "Food and city" topic.
https://www.educazionedigitale.it/noiilciboilpianeta/insegnanti/https://www.educazionedigitale.it/noiilciboilpianeta/insegnanti/

General aim: to become aware of the link between food and cities. Discover the virtuous examples and the good practices related to food and nutrition that cities are putting in place to achieve the Sustainable Development Goals.

Preparation: the teacher identifies a food-related action in their area (recommended, but they can choose any other area they prefer) that aims to make the city and its citizens healthier and more sustainable, in line with the Goals of the UN 2030 Agenda. **Examples of actions,** divided by theme, are: educational farms, urban gardens, urban agriculture, local markets and farmers' markets, organizations that deal with redistributing surplus food, initiatives to improve people's diets or to feed people who have no food, the offices dedicated to the urban food policies of your municipality, solutions to make canteens and their menu more sustainable in terms of the food eaten, examples of circular economy for waste management. To find inspiration we suggest reading paragraph 3.3.

Material: Slide to support the suggested topic.

Exercise:

The teacher explains the impact of cities and their link with sustainable food systems. For older children, the explanation can be supplemented with a group discussion to help them think about the areas in which an urban food policy can intervene (see chapter 2). Examples of questions to stimulate discussion include:

- **How can politics influence the food system?**
- **Where is food present/sold in cities?**

The teacher presents the chosen initiative (or a list of initiatives which the students can choose from) and its link with the theme of food and cities. The students are made aware of the initiative and, with the help of the teacher, draw up a list of questions to ask the people running the project in question. **The interview** can be carried out on site, perhaps after a visit to the site (for example, in the case of an educational farm) or remotely using the medium that is deemed most appropriate (e.g. a video call with the Councilor of your municipality on urban food policies or with the head of the school canteen to understand how a school menu is defined).

Homework:

depending on the cognitive abilities of the students, we suggest:

- **Producing a drawing that summarizes the experience;**
- **Writing an account of the experience and interview, focusing on the reasons that led the people involved to implement the project;**
- **Finding similar initiatives in other cities, in Italy or abroad.**

Project extension: when the experience as a whole has produced ideas that contribute to improving the local area, we recommend submitting them to the local authority to make the experience more meaningful, as well as to lay the foundations for shared work in the near future that will extend to a growing number of people.

Exercise example
FOOD BANKS

Recommended target: middle school.

General goal: understanding the importance of the redistribution of food to reduce food insecurity and fight food waste.

Preparation: investigate the themes of urban policies related to food waste and surplus distribution management (see for example chapter 3 and 3.1). Looking at the food waste topic through the dedicated monograph "Waste not, want not!" is also recommended. (https://www.educazionedigitale.it/noiilciboilpianeta/insegnanti/).

Materials: computer room with Internet connection (recommended, non-mandatory).

Exercise: Following an introduction on the urban food policy and the impact of food waste, it is advised to help students to visualize an example from everyday life, such as Food Banks.

A food bank is a charity, or a no-profit organization that collects non-perishable food along the entire supply chain and redistributes it to the people in need and/or to welfare organizations. It is an important aid for people in need, and a way to redistribute excess food. Such organization work at national and international level. In Europe, the main food banks are organized under the FEBA (European Food Banks Federation) which groups 24 national organizations and another 5 associations. The Italian FEBA representative is Banco Alimentare ONLUS.

Food banks offer significant social, economic and environmental benefits, as they:

- contribute to mitigate food insecurity;
- reduce inequalities among the population, improving the purchasing power of the poorer;
- recover important resources for the well-being of the planet, while reducing disposal costs.

After describing what a food bank is, create small groups of pupils and ask them to search the Internet for examples of banks working in their area or at national level. Each group leader reports what has been found and one or two options are

selected together. Groups proceed by compiling a set of questions to be asked to people who work for the selected food bank. After having examined all the questions, a set of the most relevant questions (say, 5) is collectively agreed (the number is only indicative. The final choice of the most appropriate questions and the number of is left to the teacher). Thereafter, the teacher with or without the help of the students, will contact the selected food bank to organize an interview, either by telephone or via the Internet, to be carried out by the students in the classroom based on the questions they prepared.

Homework:

Once the interview is done, ask pupils to write a brief summary of the experience, focusing on the new things they learnt and the emotions they felt.

Glossary

Biodiversity: this refers to the extraordinary variety of plants and animals that live in nature and interact with one another in their natural habitats and ecosystems. Biodiversity is not a fixed value, because within the environment the quantity of plant or animal species can increase or decrease over time due to various factors that can be natural and/or the result of human activity.

Food desert: area characterized by a lack of supermarkets, shops or markets, which limits the possibility of buying fruit, vegetables and other fresh, good quality food at affordable prices.

Greenhouse gases: these are gases present in the atmosphere that tend to block the emission of heat from the earth's surface, from the atmosphere and clouds, thus hindering its escape into space. They work like the glass in a greenhouse, hence their name. These gases can be either natural or the result of human activity.

SDGs: The Sustainable Development Goals (SDGs) set by the United Nations are a set of 17 goals established for the future of international development which together form an extensive plan of action and include 169 targets. The Development Goals were signed in 2015 by the 193 member countries of the United Nations for the 2015-2030 time frame. Unlike the Millennium Development Goals, the SDGs are designed for all countries of the world, reminding us that sustainable development is a universal objective.

Food swamp: an urban area characterized by a high concentration of fast food outlets selling processed and/or high calorie food and junk food rather than shops and retail outlets selling healthier food.

Food losses: food that is lost before it arrives in stores. Food losses reduce the amount of edible food along the supply chain leading to human consumption. The focus is the production system itself, from cultivation to processing, before arrival at the places where food is sold.

Food policy: set of programs and actions which aim to connect stakeholders with the topic of food, in order to circumscribe areas of action, objectives and procedures for the design, implementation and measurement of actions that have public effects.

Urban policy: action aimed at promoting activities to achieve one or more strategic objectives for the city, whether they involve meeting requirements or seizing opportunities offered by the local areas and by national and international government plans.

Global warming: a climatic phenomenon involving a general rise in the average temperature of the Earth's surface, in particular that of the oceans waters and the atmosphere that surrounds our planet. Global warming is caused naturally by the sun's rays but human action has accelerated this phenomenon, especially due to greenhouse gases.

Food waste: this occurs at the end of the food chain intended for human consumption. The key point in this case is the individual, as it consists of the waste that occurs at home, but also in restaurants and shops, such as supermarkets, or in other places where food is sold.

Food security: this refers to the availability of sufficient food to meet people's basic dietary needs, in other words, a situation in which everyone has equal and stable access to a sufficient quantity of affordable food.

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AFTERWORD

The Barilla Center for Food & Nutrition Foundation (BCFN) is a think tank and research center which analyzes the complexity of current agri-food systems and, through a variety of initiatives, fosters change towards healthier and more sustainable lifestyles in order to achieve the Goals set by the United Nations 2030 Agenda for Sustainable Development (SDGs). With its scientific research and public initiatives, the BCFN Foundation promotes an open dialogue between science and society both nationally and internationally. It addresses today's major food-related issues with a multidisciplinary approach and from the environmental, economic and social perspective, to secure the wellbeing and health of people and the planet.

SDSN Mediterranean is the regional Sustainable Development Solutions Network of the United Nations which promotes the 2030 Agenda and the Sustainable Development Goals (SDGs) throughout the Mediterranean region through research, innovation and new teaching methods and is coordinated by the University of Siena.

The role of SDSN Mediterranean includes many activities, such as: mobilizing the relevant bodies, coordinating the activities of the network, disseminating the regional and global initiatives, also with policy makers, the private sector and NGOs, promoting initiatives that offer regional and global solutions, as well as forging close-knit communities of young academics with a strong awareness of the greatest challenges posed by sustainable development.

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