

THE QUALITÀ & SERVIZI CASE

Between legumes and local development



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Foodinsider is an Italian association that focuses on the rating of school menus, measuring the balance and quality of the diet offered to children at school, and on training activities aimed at all those involved in school canteens on the various issues that help to initiate a process of change towards a good, healthy and sustainable canteen.

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““Good, clean, fair and healthy food is everyone’s right and until even one person on the planet has access to it, we will not stop fighting to ensure it,” Chengdu Declaration, 2017.”

These words were quoted in my candidacy document: when I presented myself to the network, I devoted a paragraph to explain my objectives on collective catering. For me, this theme represents, in a very concrete way, that “for all” that we have, for years now, added to the slogan of “good, clean and fair” food: a necessary and definitive “for all”, simply because if it is not for all it is not “good, clean and fair”. Canteens are for me the cross-cutting issue par excellence: the one that includes children, young people, but also the elderly in nursing homes, hospital patients and prisoners.

This beautiful case study, produced in collaboration with our friends at Foodinsider, explores the case study of “Qualità & Servizi”, an example that gives concrete form to our idea of collective catering and refutes the objections linked to the irreconcilability of quality and economic sustainability when it comes to canteens and large numbers. And to which, needless to say, I am very attached.

But this experience does not need my support: it is now a concrete model that shows unequivocally that the food problem has economic, but also social, agronomic, ecological, cultural and anthropological aspects. An experience that underlines, by way of antithesis, the distortion at the base of the model that is still being proposed, regardless of the proclaimed negative externalities, i.e. the paradox of food as a ‘commodity’, which is produced to be sold rather than eaten.

It is from this radical change of perspective that the “Qualità & Servizi” example springs - where radicalism is given by the determination to understand the issues “at the root” - which

provides for the construction of a canteen starting from the idea that food should, in fact, be eaten, instead of sold; a revolution in thinking that puts the experience of eating at the centre, and the growth, in the broadest sense of the term, of the daily users of their meals. A model that enhances the value of the professionals who cook, involves producers in the proposal of raw materials cultivated with respect for the environment, trains operators and teachers as “ambassadors” of a path of awareness and culture, meets and talks with families, with the support of far-sighted public administrations and with the assiduous and active collaboration of the local Slow Food network (in this case, the Scandicci convivium).

The document that follows, exhaustive and clear, accompanies us in a necessary investigation that documents the positive effects of a virtuous model through descriptions, data and testimonies.

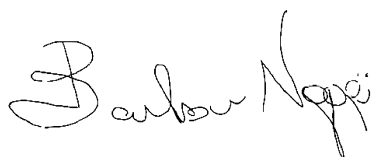
In this context, I would like to underline in particular the numbers of the “before and after” which saw the elimination of the presence of preserved meat from the menu, which reduced from 5 to 2 meat dishes and above all which increased from 3 to 5 the presence of recipes based on legumes.

Aware of the unhealthy link between agro-industry and the climate crisis, desertification, water scarcity and, at the same time, our diets with cardiovascular diseases, obesity and diabetes, the protein transition is a goal we must all work towards.

The ‘protein transition’, with plant-based proteins as the primary source, is a challenge that requires widespread awareness including environmental, agronomic, cultural and health issues. With the objective of that ‘One Welfare’ which concerns everyone and affects all living things. And canteens designed for “food eaten”, and the food policies that include them, are a decisive tool for achieving this.

Ultimately, we know that a project that works is in fact a whole system: a certain number of pieces each of which is necessary to draw the general picture, a canteen that is the expression of a community, which intersects with the network of producers, school gardens, the Cooks Alliance, etc.

That “for all” at the beginning is a reminder: it reminds us that canteens can and must guarantee a “safe” meal even for the weakest sections of the population. A meal that is a right and not a service, a good, clean and fair meal because it is the fruit of a political vision that is concerned with the future, taking care of the present.



EXECUTIVE SUMMARY

Municipalities have generally relegated the school catering service to a cost factor to be included in the budget, whereas today they have the opportunity to transform it into an effective social, economic and environmental policy tool. The instrument which allows it to be elevated to an opportunity for territorial development is legislation. As we shall see, the Minimum Environmental Criteria (MEC) have been introduced in Italy for this purpose. An early application of these criteria was carried out by the municipal company Qualità & Servizi, a Tuscan company in the Florentine plain engaged in the production and supply of community meals, in particular school catering, and the object of this case study. Qualità & Servizi used the MEC as a guide, even before they became mandatory, to achieve a sustainable revolution for the benefit of the school community and the local area.



The metamorphosis of this public company represents the transition from an industrial model governed by numbers, in a logic of efficiency, to a virtuous reality where numbers have an ethical value above all. With this vision, the canteen has linked up with local producers who have been encouraged to reorganise and structure themselves in order to respond to the invitation from Qualità & Servizi to participate in tenders as suppliers. In this new capacity, farmers have increased production, converted conventional crops to organic, and introduced new sustainable crops that benefit the health of the children and the soil, such as pulses, millet, sorghum and ancient grains.

The advantage has benefitted the local economy, which has developed a market that guarantees a constant profit, but also has benefitted the administrations, who have obtained a broader consensus: from the children who use the catering service, who eat better and healthier food, an expression of the local economy and gastronomic culture, from the families who have understood and supported the change of direction of the canteen, and from the school community, which has been involved in the process of changing the catering, which has taken on a real educational value.

The Qualità & Servizi model is not an exceptional, unique and unrepeatable case, but is an example of how the application of a tool such as the MEC can have an impact on the territory, achieving a sustainable revolution that is more urgent than ever to try to mitigate the effects of climate change. Objectives that public administrators can no longer postpone if they want to give the new generations a future.

From the experience of Qualità & Servizi, municipalities can take inspiration to take over the governance of schools catering service, initiating a training process for all the actors who revolve around the school canteen to share the values and objectives of a good, healthy and sustainable canteen.

1. SCHOOL CANTEENS AND THEIR REGULATORY FRAMEWORK

The context in which local administrations operate today is characterized by the need to pursue the goals of the United Nation 2030 Agenda for sustainable development and respond to the Farm to Fork strategy, an integral part of the European Commission's Green Deal whose aim is to make the food system sustainable. In Italy, environmental policy tools extend also to school canteens, which have to respond to the mandatory Minimum Environmental Criteria (MEC) into which the Government has translated the European Green Public Procurement requirements.

1.1 Green Public Procurement and Farm to Fork

Since the publication of its "Public Procurement in the European Union" Green Paper in 1996, the European Commission has progressively shown interest in the Green Public Procurement (GPP), an environmental policy tool that orients the public administration towards the choice of "products and services that have a lower—namely, reduced—effect on human health and the environment than other products and services used for the same purpose". State involvement is important in fostering the birth of a green market and in implementing sustainable development strategies, because for example public authority purchases in Italy account for 17% of the Gross Domestic Product (GDP). GPP practice thus offers the possibility of introducing environmental qualification criteria in the purchase of products and services, among which the environmental impacts these may have in the course of their life cycles.

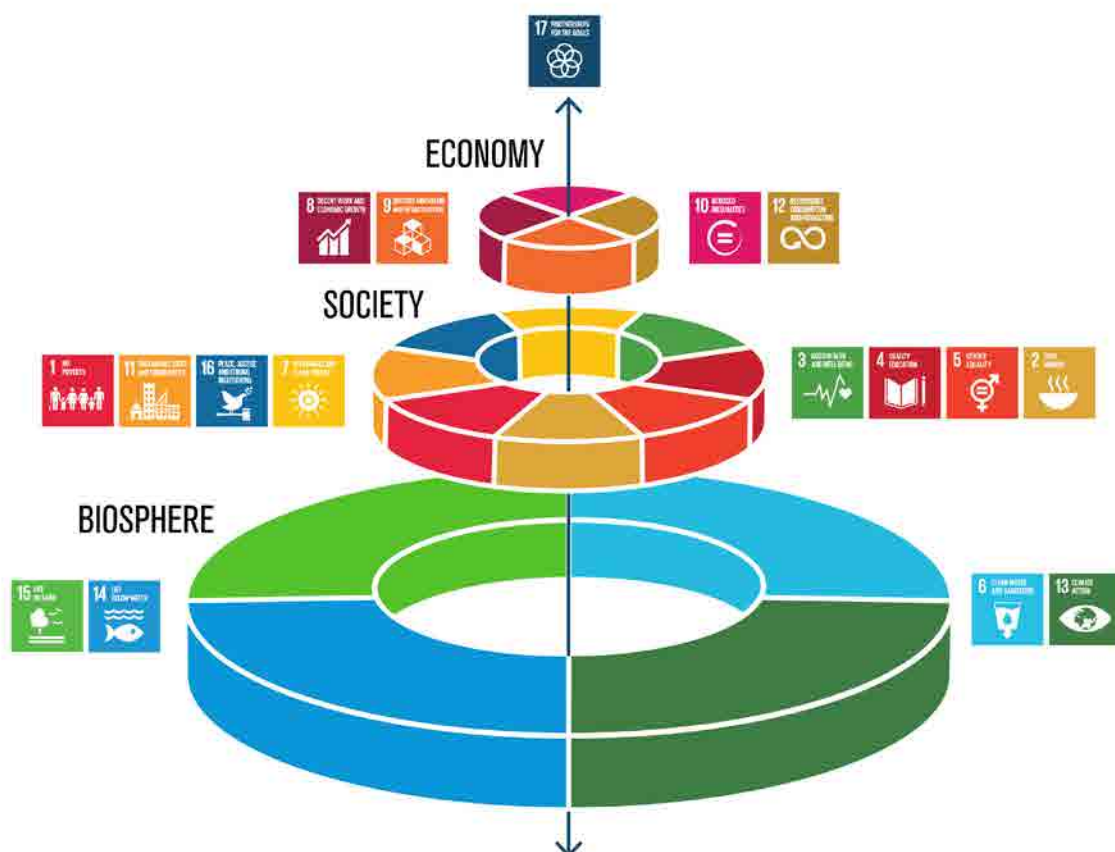
In Italy, GPP is not a voluntary tool, but has become mandatory. It is enacted with the adoption of the MECs that regulate the various spending components of the public administration, one of which being school canteens.

The Farm to Fork (F2F) strategy is the ten-year plan published by the European Commission to make the agri-food sector healthier, fairer and more eco-friendly. It is, in short, the agricultural part of the European Green Deal and it affects every point of the supply chain; hence not only farmers but also processors, transporters and consumers. The road plan for making the EU economy sustainable involves the promotion of organic and small-scale agriculture, and the reduction of the use of pesticides in fields and antibiotics on livestock farms.

1.2 2030 Agenda goals and the role of school canteens

The 2030 Agenda for sustainable development is an action plan for people, the planet and prosperity. Signed in 2015 by 193 countries, Italy included, it sets out 17 Sustainable Development Goals, to be achieved by the end of the decade. Much like a compass, it guides member nations out of the present development model and introduces an integrated vision of sustainability, no longer solely environmental but also economic and social.

The Sustainable Development Goals (SDGs) are closely correlated and must be pursued with a systemic approach. According to Johan Rockström of the Stockholm Resilience Centre, the SDGs are all connected, directly or indirectly, with the production of healthy and sustainable food.



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What we eat has an impact on the Earth ecosystem, with consequences on society and the economic sphere. Food therefore is not only nourishment, but the driving force for a profound change in society.

Transferring this vision to the school canteens, everything falls into place. To begin with, a properly functioning canteen reduces social inequalities (SDG 10) by fighting poverty (SDG 1), improves nutrition and food security (SDG 2), and ensures children good health and well-being (SDG 3) and quality education (SDG 4).

To introduce balanced menus with a low impact on the environment is to act on a vast scale, avoiding any waste of water resources (SDG 6), fighting global warming (SDG 13) and fostering a respectful and lasting use of sea (SDG 14) and land (SDG 15).

In short, through fair and transparent management (SDG 16), technological innovation (SDG 9) and clean energy (SDG 7), this school canteen model makes communities more inclusive (SDG 11) and ensures a responsible production and consumption model (SDG 12) by promoting respectable work for all (SDG 8) and gender equality (SDG 5). It is a complete, replicable and exportable paradigm for the attainment of the Sustainable Development Goals.

1.3 MECs and new green specifications

As explained above, an important step towards sustainable canteens in Italy was the decree on MECs, passed by the Ministry of the Environment on March 10 2020, with special reference to school and hospital catering. In its definition of the rules for calls for tenders with regard to public canteens, the Ministry acknowledges to contractors an important social function in helping to promote users health and environmental protection by supporting a more sustainable agricultural model. In parallel, it encourages the agro-industrial sector to be on the same wavelength as national and EC agri-food policies by promoting an increase in farmland given over to organic agriculture. The key features of the new MECs are: more organic, less waste and symbiosis between canteen and local territory.

The new MEC, which replace those established in 2011, set out rules to control competition procedures for tenders called by public administrations. De facto, they are a lever to obtain more sustainable services from economic operators, who undertake to work with public administrations insofar as they impose and valorize bids that reduce environmental impacts.



Applied by administrations as part of a broad vision of local territories management, the MECs will produce not only a public service with a lower ecological impact, but will also become an effective environmental policy tool.

Under this regulation, administrations are obliged to draw up new specifications incentivizing the promotion of consumption of sustainable foods, the connection of canteens with local areas, the attribution of an ethical meaning to food, and the improvement of school meals with stratagems and dietary choices that will lead to the reduction of waste. This is why a great deal of attention is attached to the quality of food, especially to the ingredients used in the preparation of dishes, which has to promote the health of children, as well as that of the environment.

The main goal of the MECs is to promote agricultural and animal husbandry production practices with a lower use of chemicals dangerous for human and environmental health, with the aim of protecting soil fertility and biodiversity. In parallel, this means preparing school meals using healthier ingredients for children, free from synthetic phytopharmaceutical residues, and meat with a more controlled use of antibiotics and hormones, or phytohormones.

These goals can be reached, in part, by responding to the demand for supplies of organic foodstuffs which, under the new MECs, increases from 50% to 100% for some specific categories, such as eggs and milk.

Thanks to the application of the new MECs, the quality of food served at schools is changing and improving, with kitchens resuming their central role. Following years in which “conventional” canteens progressively shaped themselves around an industrial model that favored the offer of processed food in schools, the new regulation sets limits on the use of pre-processed items, banning the use of V range produce and recomposed fish and meat products. This guideline intends also to reduce the quantity of refuse generated by a service largely entrusted to pre-processed products requiring packaging and plastic, and producing a large amount of waste at the processing stage.

With these limitations, which also affect the use of frozen foods, the aim is to recover the authentic food flavors, thus enabling children to educate their palates with foodstuffs unadulterated by the market and, insofar as they are fresh and seasonal, with greater nutritional properties.

The MECs also devote considerable attention to waste in canteens and envisage periodic monitoring of different types of food surplus and the implementation of users enjoyment rating surveys. These actions are needed to understand the reasons why children reject some foods and to put suitable correctives in place.

The MEC document also considers another scourge of the agricultural sector, namely the exploitation of labor and illegal recruitment, introducing two criteria that might help limit these phenomena. The first aims at promoting “due diligence” with regard to controls on the observance of human rights and decent work conditions along the supply chain. The second aims to favor the use of products of farms registered in the Quality Agricultural Labor Network, as envisaged by art. 6 of Legislative Decree no. 91/2014 and provided by the MEC adopted in 2011.

MECs provide the framework for implementation of the process set out at the global and European political level with the 2030 Agenda and the Farm to Fork program, following a pathway from which institutions cannot veer.

2. FOOD FOR THE HEALTH OF HUMANS AND THE ENVIRONMENT

The world's leading climate, health and sustainability experts are agreed that food is one of the most important factors for improving the health of human beings and the planet. The international scientific community is pressing for a change in global food policies to induce citizens to reduce their consumption of animal products to a minimum and to favor whole grains, legumes, vegetables, fruit and oil seeds. Vegetable protein sources such as legumes are seen both as an ally in ensuring human health and as a medicine for the earth.

2.1 The reduction of animal product consumption

Despite being an evolving phenomenon, high-income countries, particularly Italy, are currently facing the consequences of an unbalanced diet. Though it is the cradle of the Mediterranean diet, Italy has long replaced good table habits with a more western style of eating. Hence fewer grains, fewer legumes, less variety and fewer seasonal vegetables. What do we eat? Pasta, of course, but also any amount of meat, cheese and overprocessed products, such as bread made with excessively refined white flour, and foodstuffs rich in fat, starch, sugar and salt.



The consequences of this change in diet translate into a health problem that is not only individual but also public. The principal causes of death in Italy (and the world) are cardiovascular diseases, followed by tumors, untransmissible pathologies that could be largely avoided with lifestyle changes.

The argument applies to children too. Judging from the latest data published by the Istituto Superiore di Sanità (ISS, the Italian Higher Health Institute), 30% of Italian children between eight and nine years of age are overweight. The overweight and obesity rate in the population is not so great a problem as the fact that it also represents a risk factor for the development of other pathologies. According to the ISS survey, carried out on more than 50,000 families, one child in two does not have a proper breakfast, while one in four drinks sugary/fizzy drinks every day and consumes fruit and vegetables less than once a week. Legumes are consumed less than once a week by 38% of children and almost half of children eat sweet snack bars more than three times a week.

The Italian rate of overweight and obesity is among the most critical in Europe: worse than us only Cyprus, Greece and Spain.

2.2 Prevention begins at the table

Nutrition's role is crucial. By eating, we supply our organisms with fuel and additional reserves without which our lives would be shorter. Foods, however, are not all equivalent: some, such as legumes and whole grains, are richer in fibers and antioxidants, whereas others, such as animal proteins, are richer in saturated fats, sodium and cholesterol. This is why it is important to vary our diet as much as possible: to orient our food choices, we can follow the guidelines of the food pyramid, a tool devised by nutrition experts on the basis of scientific evidence. At the base of the pyramid are foodstuffs that ought to appear on tables every day: hence water, which reminds us to drink often, and fruit and vegetables, ideally at least 400 g and of different colors. Then come a source of carbohydrates at every meal, ideally whole grains, milk or yoghurt, nuts and oily seeds, and legumes as the main source of protein, including for children, who ought to eat them four or five times a week, as recommended by the Italian Pediatrics Association. Climbing the pyramid, we find foods that we should eat less often, such as eggs, fish, cheese, white meat, and, lastly, red meat, the consumption of which is correlated with the onset of cardiovascular diseases and tumors. The top of the pyramid refers to occasional consumption, hence to the likes of snack bars and confectionery, foods with high sugar, fat and salt content.



A 2020 study published by the *Jama Internal Medicine* journal relates meat consumption to the increased risk of developing cardiovascular diseases. These pathologies are the first cause of morbidity, invalidity and mortality in Italy, accounting for 34,8% of all deaths, the equivalent of more than one person in three. The study, which was conducted on almost 30,000 people, evidenced that two portions of red or cured meat a week are sufficient to increase both the risk of developing these pathologies and of dying. The real find of the study, however, was that, albeit not associated with an increase in mortality, white meat appears to be associated with an increase in the incidence of cases.

The recommendation to consume less processed and red meat (hence beef, pork, horse, lamb and goat) to prevent cancer dates from 2015, the year in which the International Agency for Research on Cancer (IARC) published its Monograph Volume 114. This WHO agency reviewed more than 800 scientific studies on the ratio between meat consumption and the onset of tumors, concluding that red meat is probably carcinogenic (group 2A) and processed meat–cured meats, frankfurters and other types of charcuterie–as certainly carcinogenic (group 1).

The World Cancer Research Fund (WCRF) subsequently issued ten recommendations for the prevention of tumors, half of which refer to table habits. The advice of the experts is to follow a diet rich in whole grains, vegetables, fruit and legumes, limiting the consumption of red meat, sugary drinks, alcohol, ultra-processed foods and fast food, and avoiding the consumption of charcuterie and processed meat.

Year by year, these recommendations have become the common denominator of any intervention (institutional or otherwise) aimed at improving public health.

2.3 Healthy food with a low impact on the environment

More than eight billion human beings live on earth – the number is estimated to rise to ten billion by 2050 –all entitled to a balanced diet. Yet 800 million people have nothing to eat and two billion people eat too much. Are we managing the space we have at our disposal to cultivate food properly? Is the use we make of agricultural land and water the best possible, considering that we shall have to feed two billion extra mouths in the arc of the next 30 years?

SUSTAINABLE HEALTHY DIETS

“Global food production threatens climate stability and ecosystem resilience. It constitutes the single largest driver of environmental degradation and transgression of planetary boundaries. Food is the main lever for optimizing human health and environmental sustainability on Earth,” says Johan Rockström of the Stockholm Resilience Center in Sweden and the Potsdam Institute for Climate Impact Research in Germany, one of the world’s leading experts on sustainable nutrition.

The International scientific community invites to rethink of the food system in terms of respect for the earth: there are boundaries within which the global food production should stay if the risk of irreversible and potentially catastrophic events is to be reduced. These boundaries refer to greenhouse gas emissions, water and land use, fertilizers and extinctions. Solving these problems involves shifts to a prevalently plant-based dietary patterns, dramatic reductions in food waste and major improvements on food production practices.

Global consumption of fruit, vegetables, nuts and legumes will have to double and consumption of red meat and sugar will have to halve. Plant-based foods such as fruit, vegetables, whole grains and legumes have the lowest carbon footprint of all and are also the most protective against cardiovascular disease. In contrast, animal fats and tropical oils (such as butter and palm oil), red and processed meat (cured meats, sausages and frankfurters), sweets and baked goods made from refined flour and sugar are placed at the top of the food pyramid, as their consumption is associated with a significantly increased risk of cardiovascular events. Their production is also linked to an increase in greenhouse gas emissions into the atmosphere.

The ambitious transition to healthier diets can be achieved with national and international commitment. More specifically, healthy foods must be more available, accessible and affordable than their unhealthier alternatives, and people need to be better educated about food. Schools are thus among the ideal places to lay the bases of nutrition for the future.

2.4 The role of legumes in the sustainable diet

Referring to legumes, the Scientific Dossier of Dietary Guidelines states: “The presence of biologically active compounds (fiber components, oligosaccharides, polyphenols, proteins and bioactive peptides), with described positive properties for the maintenance of the state of health and prevention of chronic degenerative diseases, adds extra nutritional value to this foodstuff: an increase in its consumption is desirable.”

But how high is current consumption? The authors cite the INRAN-SCAI study of 2009, according to which the national average stands at about 4.3 kg of legumes per capita a year. Not very much: just 82 grams or so a week and 11 a day, much lower than the recommended amounts, considering that there are no contraindications and the more we consume the better.



2.4.1. The benefits of legumes

For a better understanding of the low consideration in which legumes are held, it is necessary to cite popular beliefs, according to which complete proteins are present only in meat and a diet rich in legumes leads to anemia and other nutritional deficiencies.

Amino acids are the bricks of proteins, the matter we are built from. In origin, they are created by plants and nitrogen-fixing bacteria, and are assimilated by animals, human beings included, through food. By eating all the food groups of plant origin in the course of the day (hence cereals, legumes, fruit, vegetables and oil seeds), we assimilate all the amino acids we need, including the essential ones. The fact that legumes are poorer in some amino acids than other foods is not a problem since this deficiency is amply balanced by the rest of the food we eat in the course of the day, grains first and foremost.

The very definition of protein quality has been much questioned in recent years: the current classification is antiquated and suggests that meat is a necessary and essential food for health. This is not only untrue, but also sends out a dangerous message. Partly on account of excessive consumption of meat, chronic degenerative pathologies are the first cause of death in western countries today and global warming is provoking a climate crisis. This is why researchers at the universities of Yale and Stanford have suggested that we change our view of foods rich in proteins, partly bearing in mind their impact on health and the planet. By this logic, legumes might be defined as complete proteins, at last.

THE IMPORTANCE OF FIBERS

Legumes, in fact, are not only lacking in saturated fats and cholesterol, but are also a source of fibers, which are to be found exclusively in the plant world. Fibers help to regulate glycemia, control cholesterol, lower the risk of developing tumors and cardiovascular diseases, and ensure regular bowel movements. In recent years, the importance of fibers has acquired further popularity thanks to scientific discoveries about the gut microbiota, namely the 40 trillion microorganisms, mostly bacteria, that live in our colon. What we eat may in fact influence the composition of our microbiota, fostering the growth of some bacterial strains as opposed to others. It should be stressed that not all microorganisms are all allies of our health. A prevalence of harmful bacteria leads to dysbiosis, a condition that would appear to be associated with the development of chronic pathologies such as diabetes, cardiovascular and autoimmune diseases, and Alzheimer's disease. These microorganisms have a preference for the saturated fats present, for example, in cheese



and meat, transforming them into inflammatory and atherogenic substances, which lead to the appearance of atherosclerotic plaques. “Good” bacteria, on the other hand, transform the fibers in foods of plant origin, such as legumes, whole grains, oil seeds, fruit and vegetables, into precious short-chain fatty acids with antitumor and anti-inflammatory effects. It is often precisely the presence of gas and meteorism that put off people unused to eating legumes. This should be seen, instead, as a sign of the reawakening of a colon unused to fibers: slowly but surely, the intestine will get used to legumes—preferably hulled at first—and problems of bloating will disappear.

2.4.2. Legumes in the Earth ecosystem

The advantages of a diet richer in vegetable proteins are not limited to health.

CARBON FOOTPRINT

The concentration of CO₂ in the atmosphere is at its highest ever due to human activities that generate the gases that contribute to climate change: hence the development of the so-called greenhouse effect that captures the heat from the sun and causes global warming. The agri-food system is not only the cause of this problem, producing a third of all gases of anthropogenic origin, but will also suffer the consequences since it is at the mercy of the climate. Understanding which foods most respect the environment thus becomes a fundamental factor in building food policies that are effective in the long term.

When we speak of emissions, we refer to carbon footprint, the parameter that allows us to estimate the quantity of greenhouse gas released by a product or a process. The carbon footprint of foods varies greatly from one to another. Once it has been established that a balanced diet should always include cereals, vegetables and fruit at every meal, it appears evident that what makes the difference for the environment is choice of protein. Beef and veal have the highest carbon footprint of all with close on 60 kg of CO₂eq per kg, against 1 kg of CO₂eq per kg in the case of peas.

In general, the emissions of plant-based products are from 10 to 50 times lower than products of animal origin.

WATER FOOTPRINT

Water may cover almost 70% of our planet, but it is mostly sea water, with fresh water accounting for only 2,5% of the total. However, since 99% of fresh water is frozen in snowfields and glaciers, this means that only 1%—the equivalent of 0.007% of all the water on the planet—is left to support human activities, agriculture first and foremost, which has to feed eight billion people every day.

This is why it is important to calculate the water footprint, which measures volume in liters of water consumed and polluted to produce a goods or perform a process. The value is shown in liters.

In this case too, the water imprint of any food of animal origin is greater than that of a food of plant origin: this is because livestock farming requires an enormous quantity of feed and the disposal of tons of animal feces.

We have seen how legumes have a low carbon, water and environmental footprint, a reason for which the international scientific community recommends that everyone moves to a prevalently plant-based diet.

The cultivation of beans, soybeans and the like improves the quality of the soil, which is extremely useful since, according to FAO, one third of all land is now barren. Already in ancient times, it was customary to alternate cereal crops with soil health-promoting crops, such as alfalfa, clover and other legumes. The mechanism is to be found underground: the roots of leguminous plants live in symbiosis with nitrogen-fixing bacteria, which transform all the abundant nitrogen in the atmosphere into precious organic nitrogen, used, in turn, by plants and animals to build, among other things, protein. This is a contribution to the mitigation of climate change inasmuch as it reduces dependence on the synthetic fertilizers used to add nitrogen to the soil artificially.



As James Lomax, the United Nations Environment Program (UNEP) expert on food systems, has explained, local and national food systems must become more organized in providing consumers with diverse diets. Legumes are part of this strategy in that they help farmers diversify their risks, while increasing biodiversity and resilience.



3. CASE STUDY: QUALITÀ & SERVIZI

The evolution of Qualità & Servizi, a public company that operates in the sector of school catering, is that of the transition from an industrial model, with efficient management guided by numbers, to a virtuous model in which numbers have a meaning only if they have an ethical value. The change took place with a view to the application of the MEC, whereby school catering has been transformed into an economic, environmental and social policy tool, creating good, healthy, sustainable and educational canteens, connected to the territory whose development it promotes.

3.1 From industrial food to sustainable canteen

When the first rank of Italian school canteen menus was published by Foodinsider in 2016, the municipality of Sesto Fiorentino scored a total of 44 points. The score relegated Sesto to last place, along with another seven municipalities that failed to reach the pass mark of 50 points. The same menu was also served to the municipalities of Signa and Campi Bisenzio (a total of about 6,000 meals a day). In 2005, these three municipalities had joined the corporate structure of Qualità & Servizi, transforming it from a private company into a totally public company whose corporate purpose is the production and “provision of meals for the community, school catering in particular”.

Five years on, in 2021, Sesto Fiorentino had jumped to seventh place in the Italian school canteen menu top ten. This outstanding result is not only the fruit of drastic changes in the diet and quality of dishes and ingredients, but also of a paradigm shift in the company's policy: from the canteen that fills children up with food to the canteen that nourishes children and feeds the food community.

Until 2016, the menu consisted mainly of processed dishes that reflected poor utilization of the staff's skills and the cheapness of ingredients. Processed foods dominated: hence cheese spreads, hamburgers, ham, sausages, canned tuna, jellied meat and fish fingers.

The revolution came about when a new management team joined the company and shifted the offer from processed dishes to dishes made by cooks with local ingredients: hence fresh fish from the Tyrrhenian, local pasta, fresh eggs, meat from the Mugello district,

locally produced oil, pasta and bean of 14 different local varieties and traditional Tuscan dishes, all accompanied by educational projects and constant monitoring of the service.

This trend to progressively improve the quality of dishes has conquered another three municipalities in the proximity, with Calenzano, Carmignano and Barberino di Mugello also joining the corporate structure of Qualità & Servizi, which now serves about 9,000 meals a day.

QUALITÀ & SERVIZI

Qualità & Servizi is a public company, owned today by six municipalities on the outskirts of Florence (Sesto Fiorentino, Campi Bisenzio, Signa, Calenzano, Carmignano and Barberino di Mugello), whose purpose is the production and provision of meals for the community, especially for school catering. It was established in 1996 as a partnership between Pedus Service P. Dussmann Srl (cleaning contractors who expanded to offer catering services too) and the communal administrations of Sesto Fiorentino and Campi Bisenzio, which were joined by the Commune of Signa in 2003 and that of Campi Bisenzio in 2005. In 2006, the Municipalities cancelled their partnership with their private partner and transformed the group into a wholly owned public company. In 2019 Calenzano became part of the corporate structure, followed in 2021 by Carmignano and Barberino di Mugello, and the company now produces about 9,000 a day at its main kitchen in Calenzano and another eleven smaller ones. The company's ally in the area has always been the Slow Food Scandicci Convivium, the territorial Slow Food group of reference on the Florentine plain, which over the years has created the cultural, aggregative and value-based substratum useful for project penetration. The Slow Food Scandicci Convivium has 16 school gardens in schools in the area, which means years of assiduous dialogue with the teachers, families and pupils of the schools involved, and it also means being able to count on a body that facilitates and supports the educational action integrating a new and necessary idea of the canteen.

3.2 The drivers of change

The change of course in Qualità & Servizi's service came after parents had complained bitterly about its progressive decline, partly highlighted by the Foodinsider rank.

PARENTS AGAINST THE DECLINE IN THE SCHOOL CANTEEN SERVICE

The complaints of parents in the outer suburbs of Florence were part of a broader historical context in which social conflict generated by the decline in school canteens had spread throughout Italy. In 2014, parents organized two strikes in Bologna with a participation rate of around 90% to criticize the poor quality of food and overhigh prices. In 2015, a parents' association in Perugia took legal action and subsequently went to court against a collective catering company on account of the decline in quality of canteen food, which coincided with the outsourcing of the service.



Leading parents' protests against the deterioration of school canteens in many municipalities was the city of Turin, where families championed what they put forward as an alternative to school canteen: namely the 'meal from home', the only possible solution in places where conditions were still not ripe for a conversation designed to identify shared solutions between parents and local administrations. As had happened in Bologna, where canteen commissions were able to draw up guidelines, subsequently acknowledged by the municipality, for a new form of organization of the canteen service, and as had happened in Perugia, where the mayor intervened to moderate the conflict and involve parents in the running of the canteen service, giving them a say in the selection of suppliers and control functions.

Whereas in many towns and cities of Italy, local administrations closed ranks to defend the increasingly widespread homogenized industrial canteen model, others had entered into a conversation with the citizenry to find correctives to it.

THE RESPONSE OF MUNICIPALITIES, FROM CONVERSATION TO A NEW IDEA OF THE CANTEEN

The parents' complaints against the quality of the service offered by Qualità & Servizi placed themselves in this framework. In this case, the mayors of Sesto Fiorentino, Signa and Campi Bisenzio listened to the grievances of families and realized that it would be impossible to solve the conflict with the existing organizational model.

It was impossible to find many correctives to all the problems raised by parents and it was clear that a new school canteen model would have to be found that presupposed a change in corporate vision and culture, and capable of involving all the subjects that revolved around canteens and joining with them to set out new goals.

The drivers of change were first the parents and then the political world, thanks to the willingness of both to establish a conversation that allowed them to debate, point out and verify problems, and identify new horizons for the catering service.

A critical situation of social conflict was transformed into a development opportunity for the municipalities served by Qualità & Servizi. The new integrated vision of the school catering service, no longer seen as a cost item in the communal budget, thus became an extraordinary local policy tool.



3.3 Political will

The bad reputation Qualità & Servizi had earned itself prior to 2016 was reflected in the dilemma of the company's cooks who, faced with the discontent of the parents, were ashamed to admit who they were working for.

The mayor of Sesto Fiorentino, Lorenzo Falchi, was tasked by workers and families with the job of putting a stop to the rapid decline and to overhaul the company, in agreement with the mayors of Signa and Campi Bisenzio, also partners in Qualità & Servizi. The desire was to radically change the management of a wholly owned public company that was behaving like a private company: that is, very attentive to economic margins and accounts, and much less so to the quality of service and user approval.

The challenge was to change and build a new canteen model. No examples existed of school canteens serving thousands of meals a day that were also an expression of local culture and production. The dominant model was, and still is, that of the industrial canteen serving thousands of standard meals: plain pasta, pizza, fish fingers, lasagne, canned tuna and ham. Aside from the few virtuous exceptions that made the Foodinsider top ten, the menu was the same from North to South.

How could the transition be made from an industrial approach, whose driver was efficient organization, to canteens as engines for local development? How would it be possible to move from kitchens whose staff did little more than heat up meals to one in which the focus was on the work and dignity of the cooks? How could processes be transformed to lower their impact on the environment? How could food be valorized at both the production and the waste stages to transform it from a surplus to a resource for others?

Important as it was, this work of reorganizing the school catering service with new goals involved a number of different actors: the world of education, school teachers and managers, families, children and local producers, all subjects that represent an important part of the local community.

This new idea of collective catering was born from a new political vision of the role of the school canteen, achievable only with a new corporate management sharing this outlook and the values that underpin it, equipped with the necessary know-how and competences. The real challenge was to give shape to the model packed with values that subsequently turned out to be a concrete foretaste of the legislation that has been in force since August 2020, embodied in the MEC.

The municipalities of Sesto Fiorentino, Signa and Campi Bisenzio were merely pioneers in implementing a piece of legislation which, when comprehensively enforced, makes it possible to do precisely that: to transform a collective catering service into a social, environmental and economic policy tool by creating good, healthy, sustainable, educational canteens closely connected to their local territories.

It took three-four years to achieve concrete, measurable results thanks to careful, competent management, endowed with vision and capable of weaving in-house and external relations to achieve the most ambitious goal of all: a Food Community.

3.4 A new vision

The change in Qualità & Servizi's service coincided with the appointment as general manager of Antonio Ciappi, a gastronome professional with more than 40 years of experience of school catering world under his belt and a culture tied to Tuscan gastronomy, culinary traditions and the Slow Food values of "good, clean and fair." For Antonio Ciappi, these three key words presuppose a hierarchy: Good means "gastronomically enjoyable food that children are happy to eat, which is the preliminary to going on buying, processing and cooking." Clean and fair refer to "short-supply chain, seasonal, organic products purchased at a price sustainable for farmers, livestock breeders and fishers."

The new management, which was joined by Filippo Fossati as sole administrator in 2019, introduced a new policy, pursued with a clear strategy, hence growing in competence, recovering pride, promoting common values, and creating a food community to generate development and well-being locally.

Growing a public company fully in tune with the environment and capable of leaving a mark on local economic development meant banking on a catering model of distinction within a circular economy logic. This was the idea with which the company set out in 2017 to involve the first local producers, offering them the right price for the products and the benefit of constant supply contracts with school canteens. The development of the short supply chain also involved the promotion of traditional local dishes, hence the valorization of and support to the gastronomic culture of their places of origin.



A series of actions was planned, sustained by the investment required to change mentality and for everyone to learn to enjoy the advantages of the circular economy. The logic of the linear economy, which pursues very short-term results (in three months, six months, a year) was abandoned for a more far-sighted perspective in which it takes time to sow ideas and gather their fruits.

ANTONIO CIAPPI

In 2017 Antonio Ciappi became director of Qualità & Servizi, a publicly-owned company that supplies a school catering service. Before that, he had succeeded in connecting the canteen to the local area and gastronomic culture in Bagno a Ripoli, in the province of Florence. There, to meet the demands of parents keen to share in the quality of the produce served at the canteen, the commune had laid on a van to sell fruit, vegetables and cooked items, from pesto to polpettone (meat loaf), outside the school.

Antonio Ciappi was able to replicate the Bagno a Ripoli model in a public company like Qualità & Servizi by immediately eliminating the processed foods that had previously dominated the centralized kitchen and progressively seeking to integrate canteens with the production process in local areas.

The point of view of Lorenzo Falchi - Mayor of Sesto Fiorentino,

3.4.1 The point of view of Lorenzo Falchi - Mayor of Sesto Fiorentino

Does the canteen run directly by the municipality with Qualità & Servizi cost more than the canteen with services outsourced to an external company?

This initiative may have higher costs if we look at it solely from an economic-financial point of view. But if we look at it in more general terms, taking into account service quality, the involvement of the community and the wealth created at a local level, I'm convinced that the cost is much lower. If I organize a call for tenders with undercut prices, as so many municipalities do, the price is clearly lower but there's no involvement with the local economic fabric, no growth among local food farmers, and no rapport with producers of ingredients

in the local agrifood sector. Albeit hard to calculate in strictly economic terms, this direct relationship with the local area has an economic return, and a pretty fast one at that. Through the company we've met a number of producers, some of whom were amazed to be contacted and enabled to supply products to a company that produces sizable numbers of meals, people who would never have dreamt of putting themselves forward off their own bat.

Having formed a relationship with Qualità & Servizi, they were willing to sustain investments and improvements in the company. From the economic point of view, this means that if a local farm employs one or two extra people, this doesn't appear immediately as an asset on the municipality's balance sheet, but you will find it in the years to come when you've got more people working and a more growing economy. Looking at the medium term, this is one of the most important aspects. But if you look narrowly at immediate contingencies, you don't see these figures. I realize that a call for tenders with undercut prices can solve the problems of the municipal budget, but the problem is that it's not our job to be mere bookkeepers: it's our job to try to apply a vision for town, society and community. My vision involves supporting the good part of the local economy, the one that creates employment, and being an example in our companies. For example, if we think it's important to recognize the rights and the material and moral conditions of workers in our companies, we can't resort to temporary or underpaid jobs. In fact, in the course of the years we've promoted supplementary contracts that have improved working conditions. This has a cost, seen exclusively from the economic and financial point of view, but if we look at it in broader terms and record the medium-term effects on the community, economic ones included, I'm convinced that this is an investment that wins the municipality and the community a lot of resources.

[Excerpt from the online interview \(Italian only\)](#)



3.5 The process of change

After citizens said they had had enough of school canteens that created hostility and rejection among children and their families, a new experience began that implied cultural change. This is why the initial intervention was targeted at human resources, aiming to promote new values, acquire know-how, and develop a sense of belonging to and sharing in a new corporate mission.

This process of change began with the kitchen and cooks, the beating heart of the company, as Antonio Ciappi explains when he tells the story from his arrival onwards.

3.5.1 Interview with Antonio Ciappi: the steps of change

Where did you start changing the company?

THE COOKS' ALLIANCE

The point of departure for change was teaming with the cooks. When I arrived, they had been deprived of their trade and professional pride; the creative and participatory factor was completely lacking. All they spoke about was numbers, without putting food, children's

tastes and enjoyment at the center.

Until then everything had been managed by numbers, but it was necessary to give those numbers an ethical value. If we speak about prices, they have to respect the work of producers. If we speak about wages, they have to be incentivizing for workers, just as the price of the service also has to be sustainable. During the first year, we worked on the kitchen and the cooks to help them rediscover the enjoyment of going to work to produce good food for children. Cooks who continue to do a tough, challenging job now enjoy the gratification of children and, as a consequence, families appreciating the quality of school canteens. Constant positive feedback from families about the good work being done in the kitchens is the driving that alleviates a job that in itself is very tiring and demands attention, consistency, commitment and effort.

SLOW FOOD VALUES: GOOD, CLEAN AND FAIR

The alliance was also created with a smaller team of people who helped spread new values around which the heart of the company could be developed: the values of 'good, clean and fair, the principles of Slow Food. The team's enthusiasm at this new way of working was akin to the energy one feels when one begins a new job because it was their "first time" working close to the citizenry and to the food community, a new concept around which we have created a new vision of society.

What is the Food Community?

CHILDREN AND FAMILIES

The food community represents all those who revolve around canteens, starting with users, which means children of course, but also includes parents and grandparents, with whom it is important to establish a relationship if a project of this type is to be shared.

TEACHERS

Teachers play a very important role, which is set out in the school catering guidelines and recognized by the MEC. Their job is to do everything required to support the new menus which, unlike the previous ones, express biodiversity and reflect the local area. In this way, they prepare children to consume their meals. Teachers play an active part in the educational project underpinning school canteens. If children are forced to eat in their classrooms, as

has happened during the pandemic, conditions are more favorable for teachers since, in a context that is less noisy than that of large canteens, it is easier to carry out food education activities prior to meal consumption.

LOCAL PRODUCERS

Local food producers and farmers are not only for school canteen suppliers, but also take part in education workshops with children. Here they present and promote their products and explain the connection between the food the pupils eat at school and the area in which they live.

THE KITCHEN AND CANTEEN STAFF

In the community there are also we, the cooks, and the people whose precious job it is to distribute meals, serving it and accompanying and helping the children while they eat them.



ADMINISTRATORS

Administrators are an active part of the service. Their role is not to delegate but to control and help solve the problems that gradually emerge, as well as maintaining relations with families.

How important is gratification in the process of change?

It is necessary to believe and make sure that people believe that the service creates political consensus. This idea has been made plain by the mayor of Barberino di Mugello municipality, the last of the municipalities to enter Qualità & Servizi as a public partner last year. The transition from an outsourced service to a public company like ours was welcomed with great favor by the citizenry. The canteen commissions are also highly satisfied and declare as much in their meetings with the mayor and Qualità & Servizi's representatives. In the past, these meetings were an occasion for disagreement but now, given the praise we receive, have become very enjoyable. When the quality of the service—something that is hard and challenging to achieve—is acknowledged, the gratification makes everything less wearing and allows the kitchen staff to recharge their batteries and help keep standards high.

Why begin again from the quality of ingredients?

Practically speaking, the first intervention we made with cooks was to transform the ingredients of first courses, working product by product. After eliminating all processed products, we began cooking with fresh, local, quality products, centering all our production around our ingredients.

QUALITY DEPENDS 70% ON INGREDIENTS

The world-famous French chef Alain Ducasse argues that Italian food is the best in the world because it is based on the quality of its ingredients. The secret of good cooking, in his view, is 70% good quality products, 20% the skill of the cook and 10% preparation technique.

Putting all this together was complicated and exciting. Above all, it allowed me to crown a dream at the moment in which my career is coming to an end, besides filling me with joy because it is a motive of great satisfaction.

Was it important to introduce the sensory test to tenders?

Since the quality of ingredients is the linchpin of the quality and taste of the dishes we make, we have introduced an additional selection criterion for products at the competition phase.

Of the 80 points available for quality, 20 are assigned for a sensory test by a specialized commission.

During the product selection phase, an independent tasting commission is set up, consisting of cooks who are not members of the tender judging commission. They undergo a blind test in which they taste products and fill in a scorecard based on the four senses (sight, touch, smell and taste). At the end of the tasting, they complete the card with a comment on the quality of the product tasted.

This process makes it possible to select products on the basis of the real as opposed to the descriptive quality of the product.

How has the quality of ingredients changed menus?

EGGS

The first product we began to work on was eggs. Before there were the famous frittatas made with pasteurized eggs, which the children nicknamed 'spongebobs' on account of their sponginess. They met with little approval and generated considerable waste.

What I asked cooks to do was to stop making frittatas with pasteurized eggs and start making them with fresh eggs, even if, practically, this meant making an extra effort.

The will to change and improve the climate in the company made cooks an active part of the process, prepared to break 15,000 fresh organic eggs every time frittatas appear on the menu. The result is frittatas with better flavor and texture, which the children enjoy more and which generate much less waste.

CAMPANILE OIL

With the exception of Campi Bisenzio, which sits on plainland and has no olive groves, we have added local oil, which we have decided to call “olio del campanile” (the campanile being the town’s symbol, its bell tower) to the menus of each municipality. This means keeping a balance between the price we pay and the quality standard of the meal. The price we pay for the oil we buy incorporates the amount due to producers, about €10-11 /l, much more than the one collective catering generally pays for oils it uses in canteens. But for us this product has a value in terms of identity because it is the food that best represents typical local production.

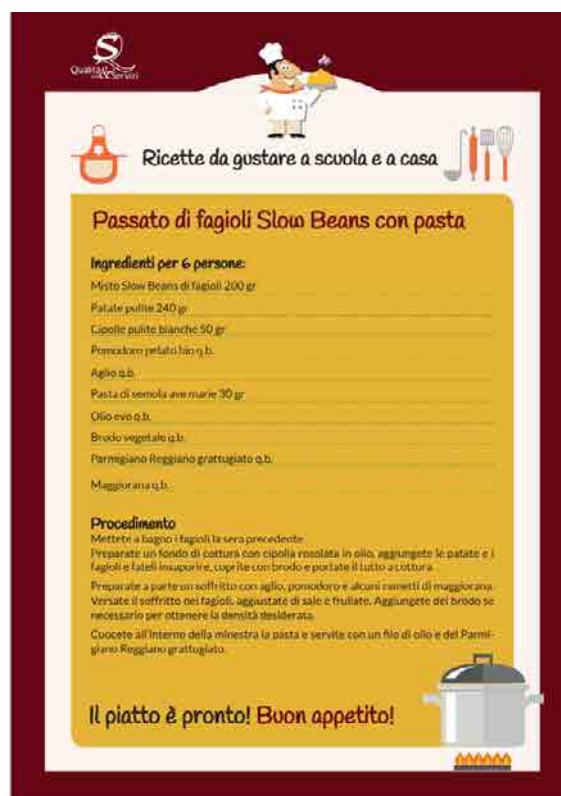


LEGUMES

At first, we bought legumes from single local producers, then we began relying on the "L'unitaria" farmers' consortium in Lucca, a local cooperative with a long tradition of fine Tuscan legume production. We chose this cooperative because it offers an outstanding biodiversity of legumes: the symbol of its production is the Slow Beans mixture featuring 14 types of legumes, which we have decided to use in our school canteens.



Slow Beans soup



Slow Beans bean sauce recipe for families

The price we pay for the product is fivefold that of the legumes standardly used in school canteens, which are generally imported from Canada.

It is precisely because we are relying on local quality that we have chosen such a rich mixture of legumes, a true embodiment of our desire to promote biodiversity and reward it by paying the right price to farmers. The quality of the pasta and bean made with the Slow Beans mixture is outstanding and the children's consumption of it has exceeded all expectations.

BREAD

The bread is made with flour cultivated on the plain around Florence by Società Bellavista, one of Qualità & Servizi's first local suppliers. We asked them to convert a portion of their production to make use of heirloom grains. Hence the bread is no longer made with conventional grain but with the finest heirloom varieties. The company responded to Qualità & Servizi's requests, converting some of its Bologna grain to Verna, one of the oldest local varieties. The Verna grain is stone-ground at the old Paciscopi mill in Montespertoli according to criteria that preserve its nutritional properties, transforming it into type-2 flour. The flour is taken to the traditional bakery in Sesto Fiorentino, which produces sourdough bread. The result is a product which, albeit not completely white, the children enjoy eating. In addition to being a bread that is good for their intestinal flora, it is also good for the local area since the heirloom grains are cultivated with techniques that protect soil fertility.



Bread served in canteens made with type-2 Verna heirloom wheat

VEGETABLES

Another problem we have worked on is vegetables since the cooks complained that they were unable to bring children eat them. They were referring to frozen and IV or V range vegetables. We began by working with fresh vegetables, first and foremost our local producer's sliced baby carrots which, albeit IV range, maintain the moisture that enables the palate to recognize their real carrot flavor, and at the same time, preserve their nutritional properties. Children began to recognize quality and shape their palates around authentic foods, unadulterated by the market.

3.6 Education as a lever for cultural change

Change was seen as a constant process of renewal, boosted every year by new planning initiatives and never ceasing to work on training for everyone. In liaison with cooks, a continuous training scheme was organized to keep interest alive in testing new food preparation techniques and new ingredients. In liaison with the teaching staff, annual educational activities were designed to help build the food community.

“MANI IN PASTA” project, food education workshop in schools:

AY 2017-2018: held 10 workshops (about 250 children participated in the workshops)

AY 2018-2019: held 24 workshops (about 520 children participated in the workshops)

AY 2019-2020: held 15 workshops (about 340 children participated in the workshops)





2019: four “FOOD FOR CHANGE” meetings: the food we consume influences climate change: conscious choices at the table may make the difference and offer an important contribution to the protection of our planet. Four open community events were organized in the municipalities of Campi Bisenzio, Signa, Calenzano and Sesto Fiorentino. Here, the poster for the event at Campi Bisenzio.



2020: Webinar “FOOD FOR CHANGE 2nd edition: meat and legumes, let’s speak about them together!”

- School year 2021-2022: Teacher training course on “IN THE CANTEEN TO EDUCATE” (involving Campi Bisenzio’s three comprehensive schools and about 50 teachers)
- Slow Food three-year educational project, “Ti vOlio bene”, on extra virgin olive oil

School year 2018-2021: 20 hours of training for each school year for a total of 60 hours of training over the three years Training project attended by 14 teachers with 13 classes involved.

School year 2021-2024: scheduled 20 hours of training for each school year for a total of 60 hours training over the three years. Training project attended by 23 teachers with 13 classes involved

- Slow Food three-year educational project, “Orto in condotta”
2018-2021: 5 school gardens, project attended by 27 teachers, 11 classes involved
2021-2024: scheduled planting of 16 school gardens. Project attended by 107 teachers.



3.7 Actions in progress and scheduled

The actions undertaken over four years by the new corporate management are part of a process that seeks to gain Carbon Footprint ISO 14064:2019 certification as a company with a low carbon footprint.

Insofar as some goals are ongoing, areas of invention have been and are those set out by the MEC, namely:

Eliminating plastic

- Elimination of plastic
- Introduction of ceramic ware
- Elimination of plastic food packaging
- Introduction of returnable containers for ingredient deliveries
- Diet boxes made of washable material
- Elimination of plastic bottles

Development of short chain and 0-km supplies

- Introduction of 73% local products
- Introduction of 83% short supply chain
- Incentivizing of local products for canteens

Sustainable menu

- Reduction of meat in menus
- Introduction of fresh eggs to improve flavor
- Introduction of food with low environmental impact: local legumes, millet, heirloom grains, Slow Food Presidia

- Promotion of development of organics locally
- Building of a fruit and vegetable workshop to avoid IV and V range packaged goods (scheduled for the new venue)

Waste reduction

- Introduction of fruit in snacks between meals
- Monitoring system and waste analysis
- Waste salvaging at all schools to produce compost for local farmers
- Recovery of edible waste for disadvantaged communities, equipping schools with blast chillers

Education

- Food and environmental education activities in schools
- Constant training activities for training staff

Clean energy

- Realizzazione di un impianto fotovoltaico (in programma nella nuova sede)

Electrical transport

- Building of a photovoltaic power plant (scheduled for the new venue)

Detergenti non inquinanti

- Use of ecolabel detergents

Reduction of water consumption

- Consumption reduction plan
- Water drainage management: the possibility of using an aquifer that passes under the kitchen and drainage treatment is currently being evaluated (planned for the new venue)

3.8 The bond with the local territory

A bond with the local area is one of the main goals of the public company's "new deal" and it is being forged with the progressive involvement of local producers in calls for tenders. The procedure implemented is that of inviting producers, some of whom had already put themselves forward as canteen suppliers, to organize themselves into networks in order to compete in calls for tenders and be assigned supply contracts. Many of them have joined together to support each other and respond to supply demands in cases in which one of them is devoid of sufficient products. One of these producers, Leonardo Toti, coordinates the farmers' network and has set up an official Associazione Temporanea di Imprese (ATI. Temporary Business Association). In this way, farmers have begun to cooperate to ensure supplies of fresh seasonal produce to Qualità & Servizi.

By getting involved, some local producers who would never have imagined working with school canteens have been able to structure and organize themselves to ensure the supplies requested. This has meant using new resources on farms, scheduling crops according to the school calendar—in some cases transforming conventional into organic cultivation—and also increasing the area of land given over to the cultivation of new ingredients on the menus. Conversation with Qualità & Servizi has influenced and extended eco-friendly production: hence more organic cultivation and more sustainable crops such as legumes, millet and heirloom grains.



3.8.1 Interview with Leonardo Toti - local agricultural producer

I began working as a supplier for the school canteen in Bagno a Ripoli. Then I got myself organized and joined a temporary business association to become a Qualità & Servizi supplier. This was necessary to serve the canteen efficiently and take part in the tenders published on the association's website. First there were four of us, then eight, all producers coordinating our own activities.

Our supplies are coordinated according to menus, so we know in advance what's necessary and when, and in this way, we can coordinate ourselves. If I know they need cauliflowers on January 31, for example, I pick them two days before and pack it in crates, which belong to us. They are emptied on delivery to Qualità & Servizi, then we bring them home again. We don't use any plastic.

Ninety percent of my produce goes to the school canteen and I've organized for this by planning to have products always available from September to June.

Business has tripled, even though I am talking about low numbers. The most important thing that has happened in the last few years has been our gradual adoption of organics. First, we introduced certified integrated pest control, which is halfway between conventional and organic. Then, seeing how the Tuscan Regional Authority is increasingly promoting an organic culture, in May 2021 I moved on to certified organic agriculture. I felt that I had to, especially as I'm a Qualità & Servizi supplier. I was forced to increase the size of my growing land to meet Qualità & Servizi's production requirements.

HOW TO MANAGE OVERPRODUCTION

The interesting thing about working with this public company is the versatility of the menus, which makes it possible to meet production needs. On one occasion, for example, we had some cauliflowers that were spoiling, on another we had an overproduction of cardoons. In both cases, there was the risk of having to throw everything away. I asked Qualità & Servizi if they could make a variation to the dishes on the menu to avoid that. And they did. In this way, thanks to the versatile organization and communication and liaison between company and producers, we lost nothing.

3.9 Figures before and after In Qualità & Servizi menus

	2015/16 figures	2021/22 figures
Cereal varieties	3	7
Meat-based dishes	13	5
Preserved meats	2	0
Legumes as chief protein source	0	2
Total servings of legumes during week	3	5
Foods with low environmental impact *	1 legumes	4 local legumes, local millet, local heirloom grains, sorghum
Potatoes	4	4
Eggs	Pasteurized	Fresh organic
Fish	3 Fish fingers, tuna, haddock cutlet	0 Cod fillets, Lunigiana River Taverone trout, Orbetello gray mullet fillet
Sweets	4 Yogurt, jam tart, cream pudding, muffin	2 Apple cake, Monte Amiata yogurt
Local produce	No data	73%
Organic products	25%	60%
Frozen vegetables	7	5
Electrical vehicles for meal transport	0%	100%
Traditional local dishes	1	6

* * By foods with low environmental impact, we refer to foods that by their very nature require a limited use of water and fertilizers, have low gas emission and, insofar as they protect soil fertility, have a beneficial function for the terrain.

3.10 The 'Bio diversamente Piana' Food Community

In 2021 the Tuscany Regional Authority announced a competition for the funding of existing food communities and for others that were about to be established. After consulting its mayors-cum-owners, Qualità & Servizi decided to apply to establish a Food Community in the local area within its competence. This initiative was an opportunity for testing and evaluating the territory's interest for topics that affect Food Communities and identify subjects with which to form a network.

The Food Community was formed with the participation of about 15 businesses, some of which farms, plus the five Qualità & Servizi municipal authorities, the University of Florence Faculty of Agriculture and Urban Planning, CNR (National Research Council) and a number of local associations, such as Slow Food, WWF, Caritas and Joint Purchasing Groups, and now constitutes an active food policy network.

The aim of the Food Community of which Qualità & Servizi is a member is to make a study of biodiversity on the Florence Plain, or Piana, drawing an accurate picture of the local situation and then carrying out initiatives to identify farmers interested in relaunching forgotten crops or using growing methods inspired by agroecology. Local school and farmers' markets will also be involved in these initiatives.

The novelty of the Food Community of which Qualità & Servizi is a member is that school canteens are active subjects in its food policies. Since they are run directly by local administrations, they are able to play this role, which also includes promoting and driving the network. For the other partners, who are well acquainted with Qualità & Servizi locally, its presence in the Food Community is a guarantee of concrete immediate action options.

WHAT FOOD COMMUNITIES ARE

On December 1st 2015, the Italian Parliament passed Law no. 194 making “provisions for the protection and valorization of agricultural and food biodiversity” and promoted “without new or increased burdens on public finance, the institution of Food Communities and agricultural and food biodiversity”.

This law makes it possible to stipulate an agreement for the setting up of Food Communities among subjects in a local area that lay a role in agricultural production, education, research, civil society, catering, business, small and medium craft agricultural and food processing companies, and public bodies.

The agreement is made between subjects whose common interest is to recover crops and agricultural and food knowledge, to create short supply chains within local circuits, to spread crop growing techniques with low environmental impacts, to set up school, social and urban gardens, to promote environmental education and to rehabilitate degraded areas and unused agricultural land.

3.11 The advantages of a new canteen model

BETTER IN-HOUSE CLIMATE

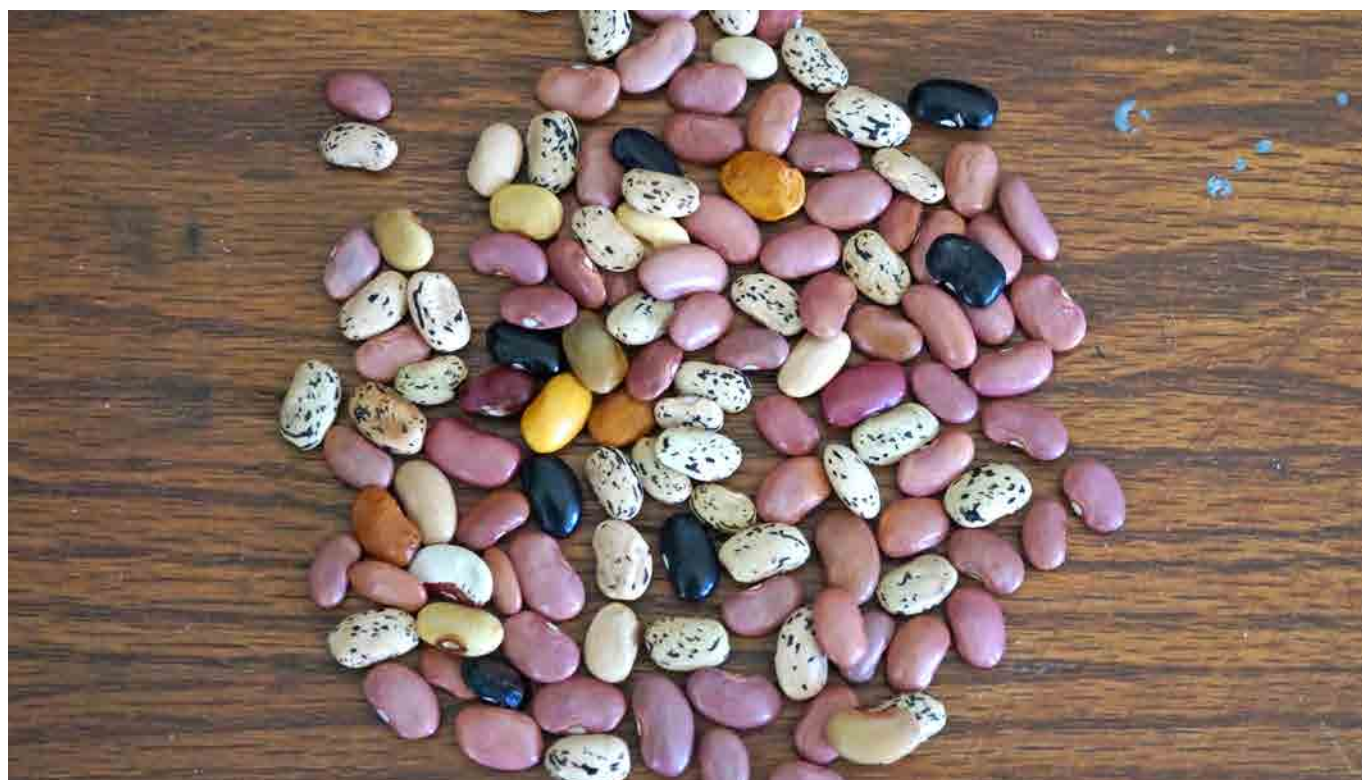
The change process has been received positively by all members of the school community. The first to perceive a new in-house climate were cooks and the kitchen staff, who welcomed the “new deal,” even if it did involve them rethinking their professional role and the work involved. Changing to the preparation of dishes with primary ingredients meant recognizing their merits and taking the extra work into account, but also of having the satisfaction of positive feedback from schools and families.

USER APPROVAL

The most satisfied of all were parents, who were introduced to new dishes made with largely local quality ingredients that helped improve their children's taste and raised their approval rate. The educational process set in motion by the new menus was carried forward by teachers and school managers, who were tasked with supporting change and conveying the educational importance of school meals. This synergy between school, kitchen and parents favorable to the ongoing revolution made it possible to consolidate results and support a constant improvement process that sustains itself with the positive feedback it receives.

SUSTAINABLE DEVELOPMENT OF THE TERRITORY

For their part, the municipalities have overseen the transition with considerable courage, supporting and investing in a school catering service that has become a tool for land management, productive community development and a circular economy that adds an ethical value to food in all its phases, from production to consumption to the recovery of surpluses for charitable organizations.



CONSENSUS

Local administrations and producers are the ones receiving the most positive feedback on sustainable school canteens, which reflect the local area with the recipes and ingredients used in their menus. This link with local producers and the approval expressed by parents with regard to the new school diet have increased political consensus for the administrators in their respective municipalities. This trend first emerged in the municipal elections and was amply consolidated in the recent mayoral elections.

2018 MAYORAL ELECTIONS

Emiliano Fossi, mayor of Campo Bisenzio, re-elected with 54% preferential votes

2021 MAYORAL ELECTIONS

Lorenzo Falchi, mayor of Sesto Fiorentino, re-elected with 70.38% preferential votes

Edoardo Prestanti, mayor of Carignano, re-elected with 71.6% preferential votes

PROTECTION OF THE TERRITORY

Thanks to all the actions undertaken that follow and exceed MEC guidelines, the most important advantage is that for the environment: hence the promotion of biodiversity and sustainable crops, the elimination of plastic, the reduction of the offer of foods with a high environmental impact, the recycling of surplus and waste, the reduction of CO2 emissions into the atmosphere with electrical vans and, above all, the raising of the community's awareness of sustainable and responsible consumption, hence of the impact food choices have on the environment.

3.11.1 Interview with Filippo Fossati - Sole Administrator at Qualità&Servizi

Direct message to mayors: what is the advantage of in-house management of school canteens?

To mayors I would say: "Realize that families spend four to five euros every day to pay for school meals. They give them to you every day [the municipality editor's note] so that you can guarantee a service that is dear to the hearts of parents. It is one of your most sensitive services: giving their children something to eat every day. Did you ever wonder where this money goes to? This money is collected by the municipality, and it goes to the people who manage the catering service. Most of it goes to bolster international ingredient distribution platforms. Most of it goes away from your territory to a market that ensures neither quality nor salubrity nor any contact with your places of production. So, every day you take the money and you throw away most of it. Is there any sense in this?

If, instead, you take back your school catering service, keeping within the rules, you can build networks in which the producers in your local area become reference persons for the feeding of children in your own municipality. In this way, you create a community and a circularity that goes from producer to school to children and to families to enrich the local territory. The money you used to throw away not only remains in the area of your pertinence, it also becomes a lever for achieving goals like the growth of the local agricultural fabric.

This, as we know, has a thousand and one advantages for a municipality, because it means growing an important economy for the future. In Italy, a territory safety is the regrowth of well-kept, healthy farming land, because it saves the landscape and protects it from environmental disasters, and gives an airing to increasingly congested towns and cities. An economic advantage, but also an advantage for urban and rural areas. Production has to be of high quality because you control it and forge agreements with others—it's all a question of cooperation.

So, you only allow into the canteen the foods of producers who pledge to do a good job and supply good produce for the territory and for health. And so primary ingredients can get to schools and ensure totally improved quality. If you run the canteen, you can invest in people and human resources.

Now that we have invested in workers, here in the company we have a sense of our mission, which is moving insofar as they feel they are part of a project that they experience first-hand and that is vital for everyone. They are now proud to do their jobs in our company. As the reputation of the company has changed, so the reputation of the people who work here has changed.

[Excerpt from the online interview \(Italian only\)](#)

3.12 Future prospects

The future of Qualità & Servizi is packed with innovations and new prospects, unthinkable until a few years ago. They will ensure the development of an organization that will boost the company's role in the local area, its focus being increasingly to bring benefits to the communities concerned, in cultural, economic and environmental terms. To make the idea of community service materialize, while maintaining economic sustainability, the company aims to become a benefit corporation, aspiring to a more advanced paradigm, which includes making a positive impact on society and the environment among its main objectives.

Qualità & Servizi's project for a new headquarters in the Parco della Piana, a nature park in Sesto Fiorentino, is part of this new dimension. It involves not only a move to another larger building, but also the opportunity to make the Green Public Procurement concept materialize in full. It comprises a new modern plant, designed with renewable energy sources according to the principles of green building, and is, above all, situated at the entrance to the park. This is a symbolic venue in the Florence green belt, where it is possible to amplify all the elements that help add value to everything that has been developed in recent years in terms of education, training and food quality, and to do so in symbiosis with the territory.

The project includes many new spaces for developing knowledge and relating to the identity and resources of the local area.

The project includes:

- A hub for the transfer of ingredients from “field” to kitchen, complete with a warehouse and a fruit and vegetable cutting area
- A plant for the transformation of discards and waste into high-quality compost to be allocated to the farmers who supply Qualità & Servizi as a fertilizer
- A cooking center for some of the produce
- A fully-equipped cookery lab for workshops with visitors
- A kitchen and a dining room for visitors, friends, workers and university students
- A products selling point
- Bioactive educational gardens
- An educational farm with animals
- A school equipped for educational activities with computers, a display of objects and artworks, and modular spaces for teaching groups and training agencies
- Guided itineraries in the agricultural park through farming-related nature areas



The aim is to cater for school parties visiting for workshop activities and learning experiences, consolidating the link between local food products, cooks and the dishes the children eat at school. This food journey will teach them to recognize the merits of the people who work in the field and in kitchens, developing their knowledge and sense of responsibility as consumers.

Judging from the formal documents signed at the start of 2022, another prospect that appears to be taking shape is the municipality of Florence's integration into Qualità & Servizi. This choice, which could become a real factor of change in the local area development model, will involve creating the premises for consolidating small local farms and businesses, whose job it will be to help supply the primary ingredients for more than 20,000 meals, the equivalent of 17 tons a day. The fact that the Municipality of Florence views Qualità & Servizi as a model to aspire to is a source of great pride for the company and a further incentive to continue in this direction.

4. RECOMMENDATIONS FOR MUNICIPALITIES

The key elements for the reorganization of school canteens as social, economic and environmental policy tools are:

- restoration of the service governance
- education and training of all the actors involved
- application of legislation as an opportunity for sustainable development
- connection with the territory, and the conquest of a good reputation that often translates into political consensus.

These are courses of action that allow us to view canteens with new eyes and to measure the advantages they produce with new indicators that also take into account the social and environmental value they make it possible to develop.

4.1 Canteens as local area policy tools

Over the last decade, on account of the complexity inherent in a service that requires nutritional, managerial, and legal skills as well as the ability to converse with users, local administrations have seen school canteens more as a management problem than as an opportunity. In most cases, this complexity has caused municipalities to delegate the service to market operators specialized in collective catering, often losing control of it.

Taking back the reins of such a sensitive service with such great potential in terms of local policies requires great commitment on administrations side, a capacity to see beyond mere numbers, and the building of know-how. The key points to build on embrace diverse ambits and also require different languages for constant conversation with all the stakeholders in school canteens.

In the reorganization of such service, there should be some hinge points such as governance, territory, education and training, legislation and reputation that translates into political consensus.

GOVERNANCE

In its daily mapping of Italian school canteens and their evolution, Foodinsider has identified the characteristics shared by the best practices of the top ten school menus. The analysis covers a sample that represents almost a third of Italian school catering. The minimum common denominator that emerges in the best canteens is the governance of the service. Models may vary, from in-house at Qualità & Servizi, to outsourcing in the municipality of Fano (number one in the top ten in 2021), to hybrid in Cremona (number one in the top ten in 2020), but what ensures the quality and sustainability of canteens is direct and competent control by the municipality, with constant monitoring of the quality and consumption of meals. Systematic control by local administrations allows to gain awareness of the real quality of the service, parametrizing it to specification requirements and, if necessary, making continuous adjustments and correctives to keep the standard of the service high.

TERRITORY

The ecological transition promoted through the application of the MEC to the school catering service thus becomes an opportunity for administrations to improve quality, transforming canteen into effective social, environmental and also economic tools. Connecting canteens with their local territory, whose agricultural production may be planned in harmony with the school calendar, means ensuring more wealth for the local community, more employment, more economic security and more sustainable development in a mutual exchange with schools and the communities involved.

EDUCATION AND TRAINING

Governance is backed up by constant training and education courses. These were begun in Cremona back in 2007 with the publication of the WCRF's recommendations, which induced the administration to rethink canteens as places for the promotion of children's health with healthy food and tasty dishes. The training of cooks and teachers is the link in the chain that makes it possible to build value around catering services. Education, which involves all the actors rotating around them, creates a culture of food that sets in motion health and sustainability projects able to deeply root specific values inside communities.

LEGISLATION

Local administrations operate in contexts characterized by the need to pursue the 2030 Agenda goals and respond to the Farm to Fork strategy, an integral part of the European Commission's Green Deal to make the food system sustainable. The new goals set by the European Community and the legislative framework within which school catering operates in Italy require officials and all those who rotate around the service to consolidate their qualifications and know-how. If all stakeholders acquire more qualifications and awareness of the service's extraordinary potential, it will be possible to create synergies and see the school catering service as a tool to promote the sustainable growth of the local area, improving the well-being of the community and environmental protection. With no qualifications, especially with regard to the adoption of the MEC and benchmark models, the risk will be to limit the aims of the service simply to the consumption of meals during schooltime, thus wasting opportunities for local development and impact on the community involved.

CONSENSUS

Food quality and recipe variety ensure high consumption rates and user approval and, as a consequence, raise the reputation of the service, on which a municipality credibility often depends. "Feeding" schoolchildren is a political act which has a positive fallout in terms of consensus, if the quality of the canteen is high.

The fame of their "canteens of excellence" has become a banner and a source of pride for administrations that have invested in the service, as it has also for their municipalities, their cooks and their citizenry. As has been the case of Qualità & Servizi, gratification may trigger a virtuous circuit to fuel the continuous growth of ideas and projects that is being recorded in new initiatives that amplify the impact of canteens on territories.

The positive example of Qualità & Servizi canteens is not an exceptional, unique one-off, but rather a catering model that can be built by applying legislation to achieve Green Public Procurement goals.

4.2 Sustainable value indicators

To relieve school catering of the job of merely “filling up” schoolchildren, it is worth identifying new parameters to recognize its merit and develop policies to reward it.

Canteens have more value if they invest more human resources in their kitchens and suppliers' farms, if they incentivize the conversion of land to the growing of sustainable crops for ingredients for meals (e.g. more organic products, more heirloom grains, more millet), and also if they incentivize the consumption of local products on menus. It is necessary for them to take the recommendations implicit in Green Public Procurement, in the Farm to Fork strategy and the MEC guidelines, and implement them to adapt school catering to the 2030 Agenda goals.

Adopting new parameters to measure quality makes it possible to acknowledge a value to canteen and set a clearer pathway for municipalities to embark on progressive change and identify the various steps for growth.

In this way, canteens are no longer regarded only as a cost item in municipalities' budgets, but rather as an investment in local areas and the future of the new generations.

5. CONCLUSIONS

Conditions and tools do exist for an ecological conversion of school canteen. The basic reason for starting a revolution lies in the urgent need for a change that can no longer be put off. Political decision-makers—hence municipalities too—have the right and responsibility to undertake all actions that may help soften the effects of climate change. Public catering is in a position to do this job and local administrations have the chance to accept a challenge that could translate into a political opportunity.

5.1 Ecological conversion through food

Faced with the climate crisis to which the international political sphere responds by attempting to keep the increase in the average global temperature below 1.5°C, as envisaged by the Paris agreement, and reach the European target of climate neutrality by 2050, it is necessary to make an across-the-board paradigm shift in the short term. We do not need a reassuring ecological transition, but rather an urgent ecological conversion, which implies a rethink of new economic and energy models, and above all a different food system.

SCHOOL AS THE IDEAL PLACE TO PROMOTE GOOD, CLEAN AND FAIR FOOD

School canteens can play an important role in this paradigm shift, which is first and foremost a change in vision and culture, insofar as they use good, healthy and sustainable food to convey messages and values that reach families, and may succeed in making the whole community more responsible in its food choices. Education on healthy and sustainable eating is fundamental for the building of Food Communities around canteens, which may become instrumental in ecological conversion. A community that welcomes menus that have less of an impact on the environment and even adopts them in private homes creates a fundamental alliance between school and family.

THE RESPONSIBILITY AND ACTION OF INSTITUTIONS

Institutions, regional authorities, municipalities and local health authorities have an increasingly important role because they can contribute with appropriate political choices to the adoption of a school catering model that pollutes less, and may set in motion sustainable change on local areas and their cultures.

LEGISLATION EXISTS AND SHOULD BE APPLIED

The Italian Constitution “protects the environment, biodiversity and ecosystems in the interest of future generations” and with the MEC, the Ministry of the Environment dictates the need for a new “green” deal for public collective catering. Italian legislation thus accompanies ecological transition in the country, but it is often drawn up without envisaging checks and balances and sanctions, while the slowness of its application sometimes makes it ineffective. It is necessary to inform, raise awareness and spread knowledge of new models to adopt—like that of Qualità & Servizi, which demonstrates how the application of the MECs can bring about this paradigm shift—to drive other administrations to make the urgently needed change of pace that will spell benefits for both local areas and the political world.

WHAT IS AT STAKE: THE FUTURE OF THE NEW GENERATIONS

Changes are not painless: they demand more effort, more competence, and more resources. But aware of this urgent need, many citizens are asking for them and are prepared to undertake the tough work of conversion. After all, it is the future of their children that is at stake.



BIBLIOGRAPHY

- International Agency for Research on Cancer IARC Working Group (2015) Volume 114: Consumption of red meat and processed meat.
- Zhong, V.W. et al. (2020) Associations of Processed Meat, Unprocessed Red Meat, Poultry, or Fish Intake With Incident Cardiovascular Disease and All-Cause Mortality. *JAMA Intern Med.*,180(4):503-512.
- ISS (2019) OKkio alla salute
- Shukla, P.R. et al. (2019) IPCC, 2019: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems.
- Willet, W. et al. (2019) Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *Lancet*, 393(10170):447-492.
- Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. *Science*, 360(6392), 987-992.
- Antonelli, M. & Greco, F. (2014) Water Footprint of Italy - Report WWF Italy
- Sun Z. et al. (2022) Dietary change in high-income nations alone can lead to substantial double climate dividend. *Nature Food*, 3,29–37.
- CREA, Linee Guida per una sana alimentazione (2018)
- Leclercq, C. et al. (2009) The Italian National Food Consumption Survey INRAN-SCAI 2005-06: main results in terms of food consumption
- Katz, D.L. et al. (2019) Perspective: The Public Health Case for Modernizing the Definition of Protein Quality. *Adv Nutr.*,10(5):755-764.
- Nachvak, S.M. et al. (2019) Soy, Soy Isoflavones, and Protein Intake in Relation to Mortality from All Causes, Cancers, and Cardiovascular Diseases: A Systematic Review and Dose-Response Meta-Analysis of Prospective Cohort Studies. *J Acad Nutr Diet.*, 119(9):1483-1500.
- FAO, IFAD, UNICEF, WFP and WHO.(2020) The State of Food Security and Nutrition in the World 2020.Transforming food systems for affordable healthy diets. Rome, FAO.

