

**LET'S FOOD
EATING CITY**

SCHOOL CANTEENS SUPPORTING SUSTAINABLE TERRITORIAL FOOD SYSTEMS

COMPARATIVE ANALYSIS AND GOOD PRACTICES
JANUARY 2021

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LET'S FOOD

The Let's Food association supports territories in building sustainable and resilient food systems by relying on territorial cooperation and the exchange of good practices at local, national and international levels.

As part of the Let's Food Cities project (2017-2020), the association studied the food systems of 14 territories in France and around the world. These 14 territories form 7 duos of partner cities and already cooperating on themes other than that of sustainable food: Bordeaux / Guanajuato (Mexico), Marseille / Valparaiso (Chile), Lyon / Ho Chi Minh City (Vietnam), Paris / Tehran (Iran), Montpellier / Fès (Morocco), Grenoble / Sfax (Tunisia) and Nantes / Durban (South Africa). The 7 French cities are also signatories of the Milan Food Policy Pact, one of the main partners of the Let's Food Cities project.

From Fez to Valparaiso, from Bordeaux to Tehran, cities today face a common challenge: ensuring the food resilience of their territory. The assessment of the local food systems of these 14 territories and the multiple interviews conducted with stakeholders revealed the importance of school canteens in ensuring food security but also the environmental and economic sustainability of agriculture and the establishment of a new food governance.



COLLECTIF LES PIEDS DANS LE PLAT

The Collectif les Pieds dans le Plat is the leading national network of technical experts for bio-local collective catering. For more than 10 years, the collective has been committed to a sustainable food transition by training and supporting communities and out-of-home catering establishments. The collective re-read and completed this publication.



RISTECO - EATING CITY

The international Eating City platform, supported by the French association "Risteco - La ville qui mange", was founded in 2010. Co-funded by the Charles Léopold Mayer Foundation for Human Progress, its main objective is to stimulate dialogue and produce guidance and research for a more sustainable food system in the public sector.

The platform has an international reach and involves many young professionals and students who, thanks to Eating City, gain first-hand knowledge about sustainable food systems and how to implement them. Eating City is particularly interested in public catering.

The international platform wishes to question the functioning of collective catering systems, especially in schools: how and where food is purchased, the nature of the food provided, the design of the menu, how the food is prepared and consumed and how it can be used to produce multiple benefits for society, the economy and the environment. "Risteco - The Eating City" has supported the Let's Food Cities project since 2018.

This publication is the result of a collaboration aimed at promoting public school catering as a real tool for the development of sustainable territorial food systems around the world.

“At least 368 million children around the world eat school meals every day through school meals programs run to varying degrees by national governments. [...] School meals offer health and educational benefits that will have positive repercussions throughout life. More and more governments, whether national or local, are purchasing school canteen food from local smallholder farmers in an effort to boost local agriculture, strengthen local food systems and lift communities out of poverty. [...] Governments have identified locally produced school meals (ASPL) as a strategy to achieve the Sustainable Development Goals to end poverty (SDG1) and hunger (SDG2). The PLA also promotes quality, inclusive and equitable education (SDG4), empowerment of girls (SDG5), shared and sustainable economic growth (SDG8) and reduction of inequalities in countries (SDG10). And finally, this contributes to efforts to implement partnerships for sustainable development (SDG17).” WFP, FAO, IFAD, 2017.



SHARING SOLUTIONS: DEVELOPING SUSTAINABLE SCHOOL CANTEENS AROUND THE WORLD

School meals linked to local production are a major lever for initiating new food governance at the local level and thus co-constructing sustainable food systems at the territorial level. Following an in-depth study of the food systems of 14 territories in 8 countries, the Let's Food association, in partnership with Eating City, offers a comparative approach of school collective catering systems in order to highlight good practices with regard to the various SDGs set by the UN. These results are based on in-depth bibliographic research as well as numerous interviews with local stakeholders.

In order to accelerate the transition for all, the sharing of good associative, private and institutional practices is essential.

THE ROLE OF SCHOOL CANTEENS AROUND THE WORLD: OVERVIEW

While school is compulsory in all countries at least up to primary school, the possibility of having a meal there is not. In many countries in Latin America, Asia and the Maghreb, school meals remain food aid for the most vulnerable households, and are most often free. In Chile, Morocco or South Africa, school feeding programs are generally initiated by the State, or even accompanied by an international organization or a food aid NGO as is the case in Tunisia, in order to respond to a problem of undernutrition of children.

The development of school canteens is partly correlated with the increase in women's working hours, which has helped to increase household income. With the development of the middle classes, communities and public actors can gradually rely on co-financing from parents to pay for meals served in schools, which makes it possible to link the territory with new equipment dedicated to catering. However, if part of the cost of the meal is borne by the parents, public actors can adjust the prices in proportion to household income. Many French municipalities have thus set up this solidarity pricing system.

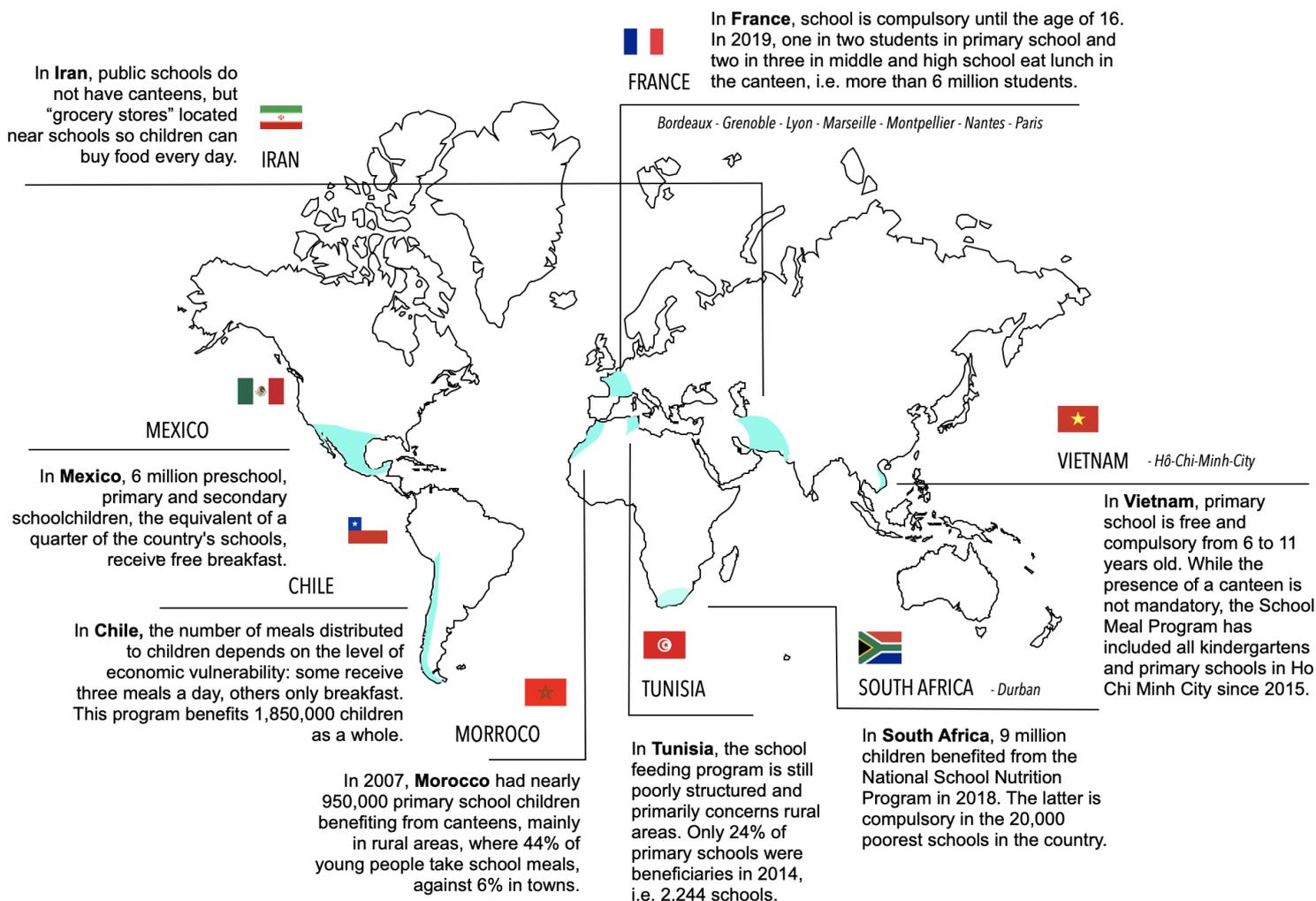


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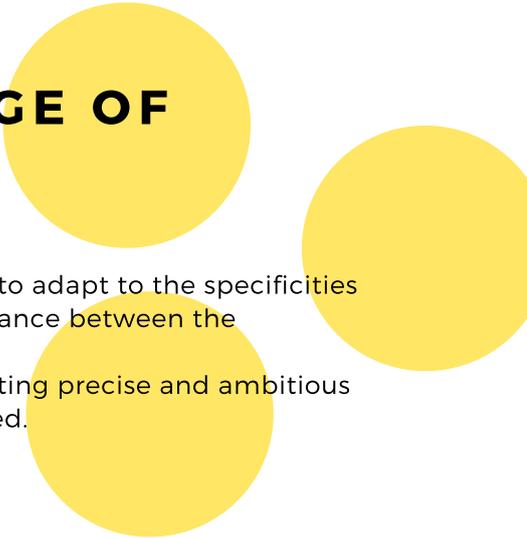
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1. WHO SHOULD BE IN CHARGE OF SCHOOL CANTEENS?



BRIEF

- Direct and local management of supply makes it possible to adapt to the specificities of the territory. The State must intervene to ensure the balance between the territories.
- Management delegated to a private company requires setting precise and ambitious criteria to ensure the nutritional quality of the meals offered.

FROM STATE TO LOCAL LEVEL

Depending on the areas studied, the actors in charge of collective school catering differ according to the degrees of decentralization and deconcentration of public administrations.

School feeding programs in Mexico, South Africa, Morocco and Tunisia are coordinated by the central government and then put in place by local administrations. In South Africa, each province receives a budget and manages the canteens in its territory (1), in Morocco the Academies of Regional Education are in charge, in Tunisia the governorates. The advantages of a local approach, in particular to adapt the measures as well as possible to the specific problems of each territory, are now widely accepted.

In the different countries studied, despite still strong centralization, responsibility for school feeding programs is gradually shifting to regional or even local players.

PRESERVING LOCAL CULINARY CULTURES IN CHILE

Chile's school meals program has been centrally managed by the National Council for School Aid and Scholarships (Junaeb) since 1964. However, there have been some changes in recent years towards a more territorial approach with new cooperations being built between the State and regions in order to preserve local culinary cultures. Measure 7 of the Obesity Plan voted in 2016 implies the obligation for School Meal Program suppliers to purchase at least 15% of their food products from local suppliers in the beneficiary region.

This action, which began to develop thanks to the agreement between JUNAEB and the Agricultural Development Institute in 2016, has made it possible to promote a public purchasing system between the State and producers or local family farmer organizations in the regions (2).

AUTONOMOUS MANAGEMENT OF ESTABLISHMENTS

In direct management, it is the establishment, the community or the State that manages the catering, the teams, the purchases and the preparation of the meals. Under delegated management, the public actor entrusts the preparation and service of meals to a private company according to imposed specifications.

In Tunisia, Morocco or Vietnam, but also in France, establishments are often responsible for purchasing, preparing and distributing meals.

In Vietnam or Tunisia, it is sometimes even the teachers who go to the market every day and cook for their students (3). The involvement of communities, especially in the financing of meals, varies from country to country. In Morocco, the Region subsidizes rural schools so that they obtain supplies to feed the children.

In France, the majority of communities directly finance schools, which are then responsible for the management of their canteen (4).

SOME COUNTRIES FAVOR DIRECT MANAGEMENT

In France, 70% of school catering is directly managed (2016) (5). Thus, the majority of schools have kitchens and pool purchases and meals are prepared locally. In the Department of Bouches-du-Rhône, each college has a kitchen (7). In Loire Atlantique, 73 out of 83 public colleges have a production unit on site for catering (6).

While it a priori favors "homemade" meals, in the absence of coordination and nutritional guidelines imposed by the State and applied in schools, the autonomous management of establishments has shown certain limits and risks of malnutrition. In Ho Chi Minh City in Vietnam, studies have shown low dietary diversity of meals offered in schools leading to nutritional deficiencies (3). Direct management by schools should be framed by national guidelines and a nutrition education program.

MANAGEMENT DELEGATED TO PRIVATE ACTORS

The arrival of private actors in school catering seems to coincide with the structuring and systematization of canteens. The collective catering market developed in the 1960s and the delegation of services to private actors became widespread in the territories. Public actors, while setting their conditions and the price of the meal, thus free themselves from the complex management of collective catering (8).

Main catering companies in the world (9):

1. Compass (UK) (turnover of € 26 billion)
2. Sodexo (France) (turnover of € 20 billion)
3. Jones Land LaSalle (USA) (turnover of € 15.1 billion)
4. Aramark (USA) (turnover of € 13.6 billion)

Main catering companies in France (10):

1. Sodexo (France) (turnover of € 308 million)
2. Elior (France) (turnover of € 291 million)
3. Compass (UK) (turnover of € 204 million €)
4. Api Restauration (France) (turnover of € 142 million)

While some countries or territories have chosen to work with collective catering companies (SRCs) for several years, others are now seeing the impacts of often low-quality food on children's health.

DISTRIBUTION OF PROCESSED PRODUCTS PARTICIPATES IN CHILD OBESITY IN CHILE

During the first 20 years of its existence, the school feeding program in Chile, which was then delegated to private companies, distributed mainly processed products with a long shelf life. While this program has reduced the prevalence of malnutrition, the omnipresence of processed products in the meals offered resulted in the explosion of childhood obesity in Chile from 7% in 1987 to 17% in 2000 (11).

Some countries or territories therefore chose to once again become the decision-makers concerning the food supply offered in school canteens or to include new conditions in calls for tenders.

THE MUNICIPALITY OF DURBAN PRODUCES AND DISTRIBUTES

The Metropolis of Durban in South Africa relies on a network of producers that it supports to feed schoolchildren. The municipality was thus able to respond on its behalf to the public market launched by the province to supply the canteens in the metropolitan area with fruit and vegetables (12) (14) (15).

Other territories are developing their calls for tenders to CRSs in order to add quality criteria. These are slowly adapting to the constraints imposed by laws and markets. In Morocco, for example, the SRC Ansamble, specialized in sustainable food, offers nutrition workshops in schools. The City of Marseille has chosen to delegate the public catering service for school canteens in primary schools (444 schools, 50,000 meals). However, in its call for tenders, it specified several criteria such as organic products, with 50% organic products served as from September 2018, 13).



2. SCHOOL CANTEENS: ENSURING FOOD AND NUTRITIONAL SECURITY FOR CHILDREN

BRIEF

- In order to ensure financial access for all, the sliding scale price allows a price adapted to all according to the parents' income.
- Schools must fully support children's food and nutrition education in educational curricula, which is essential to enable balanced development of individuals.
- Cooks must be trained so that balanced dishes are offered.

FIGHT AGAINST POVERTY

The primary objective of school canteens is to provide access to a free or reduced-cost meal to children whose economic poverty partly explains undernutrition or malnutrition. They thus play a social protection role and ensure access to food for children from disadvantaged households whose food budgets are reduced.

ENCOURAGING SCHOOLING IN MOROCCO

In Morocco, the development of school canteens is also helping to increase the enrollment of children and young people in rural areas in the face of indicators that remain worrying. The net enrollment rate is 54% (30% in rural areas, as against 47% in urban areas) in preschool and college (16).

Around the world, the crucial food security role of school canteens has recently been highlighted by the COVID 19 crisis.

In South Africa, the closure of schools in March 2020 deprived 9 million children of a free daily meal. Without this meal, it is estimated that 60 to 70% of these children are now in a situation of food vulnerability (17).

In Chile, schools also closed, leaving 1.6 million children food insecure. JUNAEB distributed the equivalent of 2 weeks of meals to program beneficiaries in the form of baskets (18).

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THE RESILIENCE OF FRENCH CITIES TO OVERCOME THE CLOSURES OF CANTEEN FACING COVID

In France, solutions had to be devised at the local level in order to offer assistance to the families of children who usually benefit from a daily subsidized meal. The City of Paris as well as the City of Marseille have thus implemented "exceptional financial assistance" ranging from 50 to 100 euros depending on the number of children for families benefiting from the lowest canteen prices (from 0.13 to 1.62 euro the meal). A total of 28,579 Parisian families, or 52,000 children, are concerned (19).

SOLIDARITY MECHANISMS: DEGRESSIVE TARIFFS

In order to make the canteen accessible to all households, France and Vietnam have implemented a progressive pricing system: the price of meals differs according to household income. In France, a bill to offer free school meals systematically was tabled in 2019 (20). The Senate finally opted for the adoption of a progressive and obligatory solidarity pricing based on household income. Since 2020, state aid to municipalities has made it possible to set up this pricing system. Consequently, the lowest income bracket benefits from a meal price less than or equal to €1. The results to date have been mixed (21).

FIGHT AGAINST MALNUTRITION

In the absence of school canteens, parents choose to prepare the meal or give the children the money to buy food. In Mexico, 60% of students often or always bring their meals from home, 41% never do so and buy snacks from grocery stores around the school. During an interview in December 2019, Rebecca Monroy, director of OUSANEG, warned about the poor quality of the snacks offered by parents: high in sugars, hydrogenated fats and calories. Among the most popular products purchased by Mexican children are crisps (43%), flavored sodas and milks (35%), fruit (33%), sandwiches (28%), quesadillas (23%)) and breads and brioches such as donuts or muffins (13%) (22).

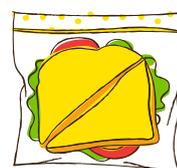
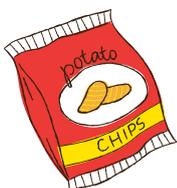
Faced with the omnipresence of advertisements and the offer of ultra-processed products, the consumption of sodas and fatty, sweet and salty products is exploding in all countries with serious consequences on the health of children. In order to fight against this scourge, Chile, Mexico and France have chosen to regulate the presence of these products in and around schools.

Mexico thus passed a law in 2014 to regulate the food and drink sold in all public and private schools in Mexico, from preschool to university. The products forbidden are: sodas, sweet milk, cakes, sweet yogurts, crisps and candies. However, a study has shown that this law is rarely respected ... especially because some schools derive an economic benefit from sales following agreements made with the sellers. Many children still buy these products every day (22).

In Chile, 60% of 10-year-olds are overweight or obese (2019). In 2016, the Ministry of Health implemented a nutrition policy recognized worldwide, based on the labeling of food products rich in calories, sugars, salt and saturated fat (4 octagonal logos) (23). As part of this policy, all products with the octagonal logo are prohibited for sale in schools. In addition, any advertisement containing, among other things, infantile characters, animations, cartoons, toys, etc. had to be withdrawn when they encouraged the marketing of products high in sugars, saturated fat, salt and calories. All the mascots of the major cereal brands widely consumed by children for breakfast have been removed from advertising visuals and products (24).

In 2019, the Mexican government implemented a similar policy aimed at making nutritional information on products easier to read while limiting access to certain products for children. Agri-food companies are being asked to change their recipes as some Chilean companies have done. However, several food industries are contesting this law, accused of being an obstacle to free competition rights and thus delaying the application of the new labeling (25).

School canteens have a key role to play in resolving the triple burden of malnutrition - namely undernutrition, unsuspected hunger and overweight - which threatens the survival, growth and development of children, young people but also economies and nations.



PROVIDING THE KEYS TO HEALTHY DIET CHOICES

Family spheres are no longer sufficient to transmit healthy eating and nutritional habits to children. The school must also offer food and nutrition education in order to enable children to integrate good eating and health habits which condition their adult state of health.

CHILE ENCOURAGES THE CONSUMPTION OF FRUIT AND VEGETABLES

In 2006, Chile voted to incorporate fresh fruit and vegetables as well as products made with whole flour in school meals. In 2019, all schools had a salad bar (26). Despite these measures, however, a 2017 study found that meals were still too high in calories for established guidelines and that childhood obesity rates continued to rise (27).

THE EDUCATIONAL PROGRAM OF THE CITY OF MONTPELLIER

The City of Montpellier in France, through the “Ma Cantine Autrement” system, has developed a comprehensive educational program for all primary schools. The theater show “Operation Broccoli” by the Minibus Company is at the heart of the system. The purpose of this show is to teach the principles of food waste and nutritional balance in a fun way. It is played every year in every school in the city. An educational booklet, composed of 6 animation sequences on agroecology and healthy and sustainable food is distributed to each child in the city. The entertainment takes place during mealtime, and the children subsequently obtain an eco-school diploma. The booklet is also a support for discussion and awareness raising for parents (28).



THE LOIRE ATLANTIQUE DEPARTMENT ENGAGES PARENTS

Some French territories wished to integrate families more into the reflection in order to perpetuate good practices beyond the canteen. In a few pilot secondary schools, the Loire Atlantique department has set up collective meetings and educational supports for students and their families to encourage a change in mentalities, facilitate the acceptance of certain products (in connection with seasonality) or potentially higher meal prices. The family sphere, also at the heart of food education, becomes part of the process (6).

SOUTH AFRICA SUPPORTS VEGETABLES IN SCHOOLS

The South African National School Nutrition Program (NSNP) also provides for the establishment of a vegetable garden in each school and recognizes its usefulness in limiting the costs of raw materials and balancing school meals. Selling part of the production generates income for schools. At the end of the week, food packages are distributed to some families. Nationally, 45% of schools where the NSNP is implemented had school vegetable gardens in 2014. These gardens are administered by one or two program officers in each province who liaise with school coordinators, teachers and gardeners. Students, teachers and parents thus acquire skills enabling them to grow their own food, thus promoting food security in communities (29).

In the Chilean Atacama region, children visit agroecological gardens set up by indigenous women. These interactions promote the transfer of local knowledge. For parents of students, JUNAEB has also posted recipes specific to each region, tested beforehand in the canteen. These recipes are all based on local and seasonal products in order to preserve certain traditional dishes (27).

TRAINING FOR KITCHEN MANAGERS IS THEREFORE ESSENTIAL

In order to enable school canteens to provide balanced meals and educate children in nutritional balance, teachers and canteen staff must be trained and informed.

In Vietnam, South Africa or even Tunisia, nutritional recommendations are little supported and disseminated by the State (3) (14). The low resources allocated to the training of actors in charge of setting up menus and preparing meals explain the nutritional insufficiencies of school meals.

In France, the lack of training is identified by local authorities as a real obstacle to offering menus that meet national requirements in terms of nutritional quality (variety, composition of meals, size of portions, and the service of water, bread, salt and sauces, etc.). The training of preparers and cooks exists but is insufficiently used for several reasons: lack of awareness, lack of funding, low availability of agents ... (30)

The same nutritional requirements apply to collective catering companies. Many efforts have been made in this direction and some companies are now using it as a differentiating argument in the face of demand from communities and schools (4).

However, the majority of SRCs have to respond to complaints from parents of students. "The black book of school canteens", a survey carried out by Sandra Franrenet, highlights the overuse of processed products in canteens. The investigation denounces the management delegated to companies seeking profitability above all.

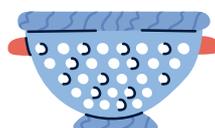
In order to serve 40,000, 50,000, 60,000 meals per day in the schools of a municipality, these companies sometimes use the food industry, and serve meals prepared in advance, often transformed so that they can be stored for several days. The requirement of a certain percentage of organic products in canteens since 2018 does not resolve nutritional imbalances because organic products can also be high in salt, sugars, fats, additives and preservatives (31).

Today, the kitchen and service staff come mainly from conventional training (CAP Cuisine, BEP hotel and catering, hotel schools) which have not always adapted to the new quality requirements of collective catering and guests. School canteen staff must be trained to cook healthy, tasty and inexpensive meals. The cook must now have the diverse skills of a gastronome and a nutritionist. Some communities are taking the lead and offering continuing training sessions to kitchen and service staff in their school canteens. The City of Grenoble, for example, has set up compulsory training for staff in healthy, balanced, seasonal and local cuisine (32).

Faced with the lack of internal knowledge and skills of local authorities on the issue, external players are developing a training offer adapted to these new requirements.

For 15 years now, **the Collectif les Pieds dans le Plat** has offered training in collective catering to cook organic, local, raw, fresh, seasonal and homemade products, all while keeping costs under control. The trainers work mainly in cooking / nutrition pairs and integrate elected officials, managers, heads of establishments and parents of pupils into their approach in cooperation with stakeholders in the sector.

The Risteco - Eating City association is developing a training center for future professionals in public catering services by integrating sustainability requirements, from cooking to drafting contracts.





3. SCHOOL CANTEENS: SUPPORTING SUSTAINABLE AND LOCAL FOOD & AGRICULTURE

“The provision of school meals in Africa was once a mechanism for 'dumping' North American and European food surpluses in the form of project food aid. This practice has been criticized for undermining local production and commerce, distorting rural markets and lowering food prices. One solution being considered in many countries is 'buy local' or 'local school meals', where sourcing from local farmers replaces imported food aid with domestic products. The model has been recognized as a 'win-win' model for farmers and schoolchildren, as it creates 'structured demand' - a guaranteed market for farmers - while also providing school children with locally preferred food products ”
World Food Program (Nobel Peace Prize 2020), 2018



BRIEF

- Direct and local management of supply by schools makes it possible to adapt to the specificities of the territory and to create jobs that cannot be relocated.
- The inclusion of quantified objectives in the law accelerates the local supply of canteens but requires funding and training to allow everyone to adapt.
- Public markets must be adapted, the lots redefined in order to allow local producers to access them.

THE SUPPLY OF LOCAL CANTEEN PRODUCTS

In recent years, school canteens have taken on an additional role in the sustainable development of territories and people. They have become a central axis in the re-territorialization of food. In France, in 2014, article 39 of the law on the future for agriculture, food and forestry introduced the notion of "territorial food projects" (PAT): developed in concert with all the stakeholders of a territory to meet the objective of structuring the local agricultural economy and implementing a territorial food system. Communities are therefore increasingly using the school catering tool (34).

Local supply of school canteens thus makes it possible to support local producers and facilitate their access to a fair market, to create new jobs and to develop a sustainable territorial economy.

Sourcing from local markets does not always mean buying from local producers. In Morocco, Tunisia and Vietnam, although the schools in charge of supplying canteens will buy basic products in local markets and souks, this is not a guarantee of local supply. The vegetables on sale in the markets often come from the city's wholesale market, which centralizes the country's production (3) (35).



DURBAN AGROECOLOGICAL POLICY IS BASED ON LOCAL CANTEEN SUPPLY

The unemployment rate in the Durban region of South Africa reached 26.1% in 2019 and 35.6% among young people aged 25-34 living in a 45% rural metropolis (36).

Agriculture is set to once again become a key sector in terms of job creation. However, small producers do not have access to markets, which are often monopolized by large producers who supply supermarkets.

The South African National School Nutrition Program does not specifically encourage sourcing from local producers. The majority of foods offered to students, especially starches and proteins, are purchased by schools from local wholesale markets or large national supermarkets. At the margin, some fruit and vegetables are bought directly from producers.

The Municipality of EtheKwini (Durban) has built a transversal approach between the services of the community and offers a stable market to local producers. The city's agroecology service trains new farmers and supports them in meeting the food needs of schools in the city. In the absence of sufficient and structured local production, most of the supply is still made via wholesale markets where national and international production intersect, but the gains for the local economy are promising. This is more than 40 million rand (equivalent to 2 million euros) spent each year by the municipality to supply 580 schools or 400,000 children. The KwaZulu-Natal region has thus reported on the economic empowerment of local communities through a number of local women's groups (109) and small businesses (1,671) that have been contracted to provide food to the National school nutrition program (12) (14).

IN FRANCE, A LAW TO PROMOTE THE LOCAL SUPPLY OF CANTEENS

In 2010 and 2014, French laws established a normative framework for the quality of the food offered to children. The two texts do not expressly constrain school canteens but encourage them to favor short circuits and organic products. In 2018, there was a move from an incentive to an obligation with the EGalim law. Article 11 stipulates that by 2022 public catering establishments must include 50% sustainable and quality products, that is to say local or organic, with a minimum of 20% organic products (37).

Faced with the obligation to introduce local products in school meals, the French territories are getting organized. Regarding the 7 partner cities of Let's Food, the share of local products in the preparation of meals varies according to political will and the agricultural diversity available on the outskirts of the city. The local offer remains a major obstacle.

French cities	Share of local products in primary schools
Lyon	55 %
Montpellier	50 %
Grenoble	50 %
Paris	42 %
Bordeaux	40 %
Nantes	30 %
Marseille	30 %

Sources: (28), (38), (39), (40), (41), (42), (43)

BRAKES AND LEVERS FOR THE LOCAL SUPPLY OF SCHOOL CANTEENS IN FRANCE

Developing the legislative framework for public procurement

In France, public catering is subject to the public procurement code: these rules are the same for all the countries of the European Union. The public procurement code imposes recourse to calls for tenders for the supply of canteens, ie competitive tendering for contracts with a value above a certain threshold (44). To date, the awarding of contracts cannot be based on criteria related to the geographical location of candidates, which are considered discriminatory because they contravene the principles of freedom of access to public procurement and equal treatment of candidates. If means exist to promote a supply of local agricultural products in collective catering (purchase over-the-counter if the amount is less than the authorized threshold, integration of criteria of quality, accessibility, freshness, knowledge of the territory in the specifications see intervention with pupils, etc.), a change in legislation in this direction could facilitate local supplies to school canteens (45) (46).

Carry out diagnoses of collective catering needs to better understand food needs

Matching the local supply with the demand for school canteens requires the coordination of many actors and the development of certain practices.

In order to know precisely the food needs of establishments in the territory, schools can carry out an in-depth diagnosis. This is support offered by metropolises to their municipalities such as in Bordeaux or Montpellier.

The Montpellier Metropolis carried out a diagnosis of all the purchases made for the collective catering of schools in the 31 municipalities. The diagnosis should make it possible to better understand the habits and the margins of progress towards a supply of organic, quality and local products.

Local producers - market gardeners, breeders or even cereal growers - who wish to respond to markets must often join forces to respond to all the foods required by public markets. Faced with this problem, the central kitchen of the City of Montpellier has chosen to separate the food batches more finely within the markets, by product or family of products (eg definition of the "Apples" and "Rice of Camargue"), in order to allow local producers to respond alone or together. There are currently 72 lots in the market offered by Montpellier (47).

THE ILE DE FRANCE REGION AND THE DEPARTMENT OF GIRONDE CHOOSE A MUTUALIZATION BETWEEN ESTABLISHMENTS

Some establishments have chosen to pool their orders in order to structure demand and increase the volumes required. This allows producers to come together to respond to the market, simplify procedures while ensuring long-term contracts and pooled logistics. Both canteens and producers can thus benefit from economies of scale. In Gironde, some colleges have organized themselves according to the principle of grouping purchases, coordinated by a college. In October 2019, the Ile de France Region launched the first regional public purchasing center. It allows local communities and high schools to buy local and quality products at more attractive conditions thanks to economies of scale (48).

Train buyers and stewards

The managers in charge of drafting contracts must be trained in order to adapt the lots and to specify certain criteria which will promote local procurement. The difficulty in adapting public markets is a major obstacle to the introduction of organic and local products in school canteens with the ignorance or insufficiency of the local offer (4). Some private players have specialized in advice to communities in order to facilitate the drafting of contracts. Recourse to AMO services would be of the order of 2/3 for public contractors and 1/3 for private contractors (4).

THE OCCITANIE REGION SUPPORTS BUYERS IN LOCAL PROCUREMENT

The Occitanie Region has developed a toolbox for the public buyers of its schools along with a simplified computer interface. These tools support them in identifying the local offer, choosing the signs to identify quality and origin, or even tips to promote actors in short and local circuits (49).

Local supply to canteens means making markets accessible to producers by separating the different lots to allow them to respond. It is essential to train managers in this direction. Canteens and local producers must come together respectively in order to benefit from economies of scale.

Diversify local production

The local supply of school canteens requires a certain reorganization and diversification of local production: the latter does not always correspond to the diversified food needs of canteens (cereals, fruit, vegetables, meat, etc.), or it is already promised to long distribution circuits (many intermediaries and various destinations, regional, national or international).

The industrialization of agriculture in the world from the 1960s led to the agricultural hyper specialization of the regions and the disappearance of the food belts that formerly supplied the urban centers. In Europe, the priority was then to ensure the food security of the various countries by centralizing the national market and then exporting the surpluses (50).

REFLECTION ON FOOD AUTONOMY IN CITIES IN FRANCE

In France, the new territorial approaches to agriculture are fairly recent: in the 2000s, short circuits developed, producers chose to reduce the number of intermediaries and re-establish direct links with consumers in order to better promote their production and their profession. Local or direct sales to consumers nevertheless require finding new outlets. The farmer must develop new skills in management, marketing, communication, sales. The emergence of new local public markets such as collective catering represents an opportunity for these producers because they offer stability and visibility in the longer term (50).

In addition, French communities are wondering about their food autonomy (very low to date) and their ability to feed their population in the event of shocks. These issues are particularly topical in the context of the COVID 19 health crisis, which puts pressure on interconnected food chains and could ultimately threaten the food security of countries.

Under the leadership of the Ministry of Agriculture, directly managed schools have built new alliances with chambers of agriculture and agricultural inter-professional groups in order to assess the food capacity of the territory.

French urban areas (ranking of the first 100)	Degree of food autonomy
Nantes	6,37 % (3e)
Lyon	2,93 % (19e)
Marseille	2,2 % (33e)
Montpellier	2,02 % (41e)
Bordeaux	1,76 % (53e)
Grenoble	1,37 % (66e)
Paris	1,27 % (69e)

Source: (51)

PROMOTING THE REGIONAL LEVEL TO STRUCTURE LOCAL SECTORS: PARIS AND THE ILE DE FRANCE REGION

While a town of 10,000 inhabitants can hope to reach 100% local products (for example, Mouans-Sartoux in the Alpes Maritimes (52)), this is more complicated for towns where the number of meals to be served a day sometimes exceeds 50,000, as is the case in the City of Marseille. It then becomes necessary to restructure certain sectors and to consider larger supply areas.

The main difficulty for the Parisian territory is to source organic and local products since only 1.6% of the useful agricultural area of Ile-de-France is cultivated organically. In order to supply school canteens, the City of Paris is supporting the structuring of sustainable and local supply chains at the regional level. It is therefore involved in the Ile-de-France Organic Cooperative, which brings together one sixth of the region's organic farmers (42).

The construction of a territorial food system or "city region food system" in parallel with the local supply of canteens then takes on its full meaning: it is necessary to think about the adequacy between an urban consumption basin and a production basin at the regional scale.

A territorial food system, or "**City region food system**" is "a complex network of actors, processes and relationships related to food production, processing, marketing and consumption that exist in a given geographic region comprising an urban center more or less concentrated and its surrounding peri-urban and rural hinterland, or a regional landscape within which flows of people, goods and ecosystem services are managed".

www.cityregionfoodsyste.ms.org, 2013

PRODUCE ON MUNICIPAL LAND IN GRENOBLE

Faced with a demand that greatly exceeds the supply, some territories are choosing to develop municipal land in order to participate in food production. The City of Grenoble, in parallel with local sourcing work from its producers and specific support for organic development, is developing self-production to control its supply. Thus, in its horticultural center of 5.5 ha, the capital of the Alps produces 2 tonnes of vegetables on 1,500 m² of organic surface (53), corresponding to 10% of the annual needs of the canteens of municipal employees (350 meals / day) (39).

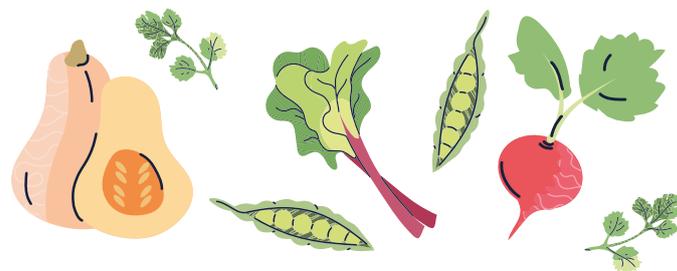
RECOVERING AN ORGANIC AND LOCAL BREAD SECTOR IN MONTPELLIER

Certain sectors have also come back to life or have been consolidated thanks to the structured and stable demand of school canteens.

Since 2016, the City of Montpellier has supported the structuring of an organic and local bread industry. The flour is cultivated in the plains of the Hérault, less than 50 km from Montpellier, then ground at the Sauret mill in Montpellier. The bread is then made by the organic and solidarity bakery "Pain et Partition" in Fabrègues. Finally, it is distributed every day in school restaurants in the City and in certain municipalities in the Metropolis. Between 1,600 and 1,700 organic loaves have been served daily in canteens since February 2016 (28).

Cooperatives: diversify and pool to provide canteens

In order to gain access to public markets, producers are encouraged to group together. In France, new cooperatives dedicated to the supply of collective catering have emerged. Some of them are grouped together in the "Eat Bio Here and Now" network. We find for example Eat Bio Sud Ouest, Eat Bio Isère or Eat Bio Provence (54).



Local authorities and agricultural players are increasing their number of meetings in order to fully understand the needs of the canteens and of producers. For example, the DRAAF Rhône-Alpes has set up "Show-room - Offer of local products" meetings for potential buyers and suppliers, in order to better understand the local offer and everyone's expectations (55).

AGRILOCAL: AN ONLINE PLATFORM TO COMBINE SUPPLY AND DEMAND

The AGRILocal platform promotes the supply of collective catering with quality local products and widely opens public catering contracts to suppliers by guaranteeing them compliance with the public procurement code. It was adopted by 33 departments in France. In the Hérault department, in 2018, 104 buyers, half of them in public catering, used Agrilocal³⁴ for their supply. 372 suppliers, including 277 farmers also supported by the Hérault Chamber of Agriculture, offer local products (56).

Develop transformation tools and create new jobs that cannot be relocated

The supply of raw products, directly from farms, created new needs in terms of equipment for school kitchens which had gradually been abandoned in favor of prepared meals, which then only needed to be reheated.

The creation of small processing tools contributes to the promotion of local and organic production by offering ready-to-eat vegetables to canteens. Moreover, they create jobs that cannot be relocated.

VEGETABLES THAT CREATE JOBS IN BORDEAUX

ESAT Pessac Magellan (Establishment and Service for Help with Work) near Bordeaux has created a vegetable cutting workshop and offers work to a dozen people with disabilities. This workshop buys organic and conventional vegetables directly from farmers or from the Loc'Halle Bio platform located on the National Interest Market (MIN) of Bordeaux Brienne. ESAT transforms vegetables into fourth range products, i.e. ready to cook (peeled, washed, cut, wrapped, whole, sliced, grated, cubed or sliced, vacuum-packed or in sachets) for central kitchens and collective catering (57).

Also in Bordeaux, the Elixir Saveurs Solidaires vegetable plant addresses the needs of collective catering while reducing food waste. The association recovers fruit and vegetables that have been discarded from traditional distribution channels due to a "non-conforming" visual appearance in order to transform them into soups and compotes and then sell them under the "Sains et saufs" brand in supermarkets and in collective catering. Elixir is a solidarity-based social utility, it employs disabled staff and allows people excluded from the labor market to reintegrate (58).

Some vegetable workshops are setting up directly on the wholesale market in order to promote ultra-short circuits. For example, at the MIN in Montpellier, Agriviva is a vegetable plant that promotes local produce from within a radius of 250 km from the processing workshop (59).

THE FAIR FOOD COMPANY IN DURBAN, SOUTH AFRICA

In Durban, the Fair Food Company is a conscious intermediary that aims to facilitate access to markets for small producers. This social enterprise has chosen to sign long-term contracts with producers in order to train them and support them towards collective structuring. It promotes local production via a vegetable plant while creating new jobs.

The vegetables are washed, peeled, cut up and then packaged in order to directly supply the canteens that are part of the National School Nutrition Program. In addition, the Fair Food Company has developed inclusive governance, which can be compared to a form of cooperative. 40% of the business is owned by farmers, and 19% by the Fair Food Company foundation. Farmers are thus involved in business decision making (60).

EXEMPLARY AND PIONEERING CANTEEN IN DORDOGNE

The first 100% organic school canteen in France was born in Marsaneix, a small town in Dordogne. The cook-trainer and co-founder of the Collectif les Pieds dans le Plat at its origin was then recruited by the Departmental Council of Dordogne (CD24) to implement the strong political will for organic-local collective catering of its president. This cooperation gave rise to the first secondary school (Belvès 2019) and then the second (Montpon 2020, providing 1050 meals / day) 100% organic in France certified Ecocert. 80% of the products are supplied by local producers using a supply platform and a logistician. A dietitian and trainer from CD24, also co-founder of the Collectif les Pieds dans le Plat, supports the massive introduction of organic and local products by planning the food needs of the territory."

CATERING COMPANIES ADAPT TO PROVIDE LOCAL

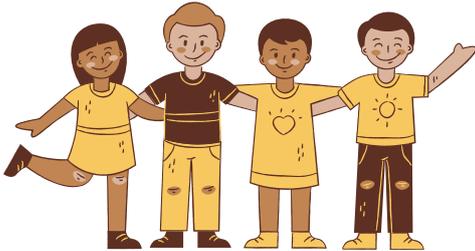
Faced with French legal obligations, the Collective Catering Companies are also adapting their offer. The City of Lyon has delegated the supply of its 126 school restaurants to the company ELIOR, which operates the central kitchen: it produces the meals and distributes them (62). The service provider is committed to supplying quality products of local origin: 25% of the products come from both organic and local sources, 55% of these products come from farms or manufacturing sites located within 200 km of Lyon (63). Another notable development: all the poultry are raised in the open air, as are the eggs offered on the menus. The vegetable workshop, a technological novelty in the Central Kitchen, allows certain fresh vegetables to be prepared (washing, peeling, slicing) (64).



4. SCHOOL CANTEENS: TRAINING THE ECO-CITIZENS OF TOMORROW

BRIEF

- Collective catering must offer children guaranteed food without pesticides in order to preserve their health and support the structuring of environmentally friendly sectors.
- School canteens must support changes in diets and dietary practices and participate in educating children towards a low-carbon diet (less meat, more legumes) and reduced food waste.



SCHOOL CANTEENS MUST INTEGRATE ENVIRONMENTAL OBJECTIVES, PARTICIPATE IN REDUCING THE IMPACT ON RESOURCES AND ENCOURAGE ECO-FRIENDLY BEHAVIOR.

Food education and the offer in school canteens help make children, students and parents aware of responsible consumption and production. These changes in practices, which must extend to the whole of society, are essential to fight against global warming.

Globally, our food system is responsible for 26% of greenhouse gas emissions (65). Livestock contributes 60% of greenhouse gases emitted by agriculture and occupies 83% of agricultural land globally, while meat provides only 18% of our calorie intake and 37% of our protein intake (66). 30% of the food produced is thrown away or wasted along the value chain (67), which represents 8% of total greenhouse gas emissions (68).

A decrease in meat consumption, especially in developed countries, would drastically reduce greenhouse gas emissions, deforestation and pressure on water resources. The World Health Organization recommends consuming 500 grams of meat per week and increasing the consumption of vegetable protein to maintain our health and reduce the negative impacts on our ecosystem (69).

The conversion to organic, diversified agriculture using few chemical inputs must be supported and accelerated. Producing more at all costs is no longer a viable solution. The FAO now asserts that it is necessary to produce better and reduce food waste at all stages of the food chain in order to feed a growing population (67).

The environmental impacts and GHG emissions vary depending on the country and the type of agriculture favored, the necessary changes are distinct. But it is now urgent that everyone on Earth adopts a responsible diet.

Our current agro-industrial food system is responsible for 26% of GHGs.

30% of the food produced on earth is thrown away each year.

The World Health Organization recommends 500 grams of meat per week and more vegetable protein.

OFFER A CHEMICAL-FREE DIET TO PRESERVE THE HEALTH OF CHILDREN, FARMERS AND THE SOIL

In most of the countries studied, environmental objectives in canteens are still poorly integrated. Organic food is little developed there and although the sectors are gradually structuring, organic is not yet a real consumer trend. It is sometimes poorly identified by consumers and producers. The so-called "organic" production is not guaranteed in many countries because the price of official certifications remains prohibitive for the majority of local producers. Other, less expensive certifications, such as the Participatory Guarantee System, need to be developed.



THE EVOLUTION OF ORGANIC AGRICULTURE AND ITS INTEGRATION INTO CANTEENS IN THE 8 STUDY TERRITORIES OF THE LET'S FOOD CITIES PROJECT

In **Iran**, there is no national certification for organic production. Farmers who wish to offer certified organic produce must apply to European certification bodies, making the certification process expensive. Only a few farms have the financial capacity to obtain the certification and sell produce on European markets (95% of organic production is exported, mainly pistachios, roses, figs, grapes, dates, wheat).

In **Mexico**, organic farming represents less than 1.7% of the country's total agricultural area. In 2014, in the state of Guanajuato, 9 companies occupy 1,200 hectares of organic land, producing mainly vegetables (broccoli, asparagus, tequila agave, etc.), which are all exported to the United States, Europe and Japan. There is no national label for organic farming, so the price of American or European certification is a real obstacle to conversion.

In 2016, the Ministry of Agriculture in **Chile** implemented a policy to support organic farming as well as a national label. However, the production meeting the specifications remains marginal and is mainly intended for export to Europe. The National Commission for Organic Agriculture also carries out consumer awareness campaigns, but so far organic produce remains difficult to identify and are therefore little consumed. As the prices of organic products are higher, their integration into school canteens would require a priori substantial aid from the State because households would not have the means to cover the additional costs. The average salary was € 12,755 / year in 2018.

Morocco's organic policy is under development, particularly through the organization FIMABIO, which brings together the main players in the sector. A Bio Maroc label was set up in 2018 but the supply remains minimal, as is the demand. Organic produce is not identified in the majority of Morocco, timidly in the coastal towns and almost non-existent in Fez (only a community of expatriates today expresses the desire to access organic products, mainly for their children). The interest of introducing organic products in canteens is not yet expressed.

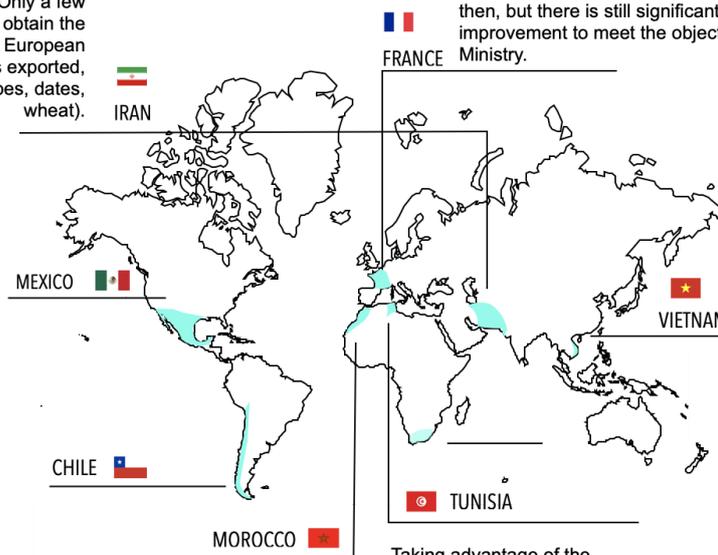
In **France**, the EGALIM law imposes a minimum of 20% of organic products in the supply of school canteens by 2022. In 2017, only 4.7% of purchases for collective school catering were organic. Much progress has been made since then, but there is still significant room for improvement to meet the objectives set by the Ministry.

In **Vietnam**, there is no national certification for organic products; farmers wishing to convert must use American or European certifiers and import organic inputs from Europe, Japan or the United States. Only a few farms across the country have successfully obtained this label. Farms producing under the "GAP (Good Agricultural Practices)" label are more numerous: the use of phytosanitary products is not prohibited but must be drastically reduced. Organic production in Vietnam is particularly complicated to set up because of soil pollution, a legacy of the war.

SOUTH AFRICA

Since 2010 the municipality of Ethekwini in **South Africa** has integrated the challenges of agroecology and the need to produce differently to preserve its territory and feed its inhabitants healthily. However, some problems remain: there is no national label for organic farming and large monoculture producers still use a lot of pesticides to this day, with the risk of contaminating surrounding crops.

Taking advantage of the equivalence of its organic certification with that of the European Union, **Tunisia** is today the leading African exporter in the sector. 306,000 ha are devoted to organic farming in the country, and 70,200 ha in the governorate of Sfax, or 11% of the area. However, these are mainly fields of olive trees and organic olive oil exported to Europe (64.3% of the area in organic farming). Tunisia is the world's largest producer of organic olive oil. Tunisia has very few organic cereals or vegetables from market gardening and the small production is intended for export. To date, the school canteen system does not take into account the organic dimension in its supplies.



Sources: (14), (15), (70), (71), (37), (72), (73), (74), (75), (76), (77)

EN FRANCE, LA LOI IMPOSE DU BIO DANS LES CANTINES

En France, comme vu précédemment, la loi EGALIM impose un minimum de 20% de produits bio dans l'approvisionnement des cantines scolaires d'ici à 2022 (37). En 2017, seuls 4,7% des achats pour la restauration collective scolaire étaient bio, des avancées ont été réalisées depuis mais les marges de progrès restent importantes pour respecter les objectifs fixés par le Ministère (78).

LABELS TO REWARD SCHOOLS

In Paris, 100% of the milk and 80% of the fruit and vegetables offered to children are organic. The City was thus awarded the Ecocert "In the kitchen" label in 2017 and in 2019 the "Victoires des Canteens Rebelles" prize by Un Plus Bio organization. In 2019, 62% of the total food and 100% of the milk served in nurseries were (79). The Nouvelle Aquitaine Region, with the ARS and INTERBIO, has set up the "Territoire BIO Engagé" label which aims to highlight the local authorities that have succeeded in achieving the recommendations of the Grenelle de l'Environnement in terms of agricultural area cultivated organically and / or to supply their catering facilities with organic products. However, this label does not ensure that organic products are only local in the awarded canteens (80).

French cities	Share of organic products in primary schools
Grenoble	50 %
Marseille	50 %
Lyon	40 %
Bordeaux	30 %
Paris	20 %
Montpellier	20 %
Nantes	18 %

Sources: (28), (38), (39), (40), (41), (42), (43)

COLLECTIVE CATERING COMPANIES OFTEN BUY IMPORTED ORGANIC PRODUCTS

The city of Lyon, under management delegated to ELIOR, is well ahead of national standards. It already served 32% of organic products in 2018 on the plates of school canteens, 40% in 2019, favoring local products, the objective being to reach 50% in 2022. For the supply of local organic products, a contract was signed with a cooperative in the west of Lyon, Bio A Pro, thus supporting the development and for some the conversion to organic farming of some 80 producers (62).

This organic / local approach is not, however, systematic. Establishments that call on companies (delegated management) sometimes more easily reach the objectives in terms of organic supply by choosing imported organic products, which goes against the logic of sustainability of the dynamic driven by the EGALIM law. These imported organic products are often less expensive because they are produced in countries where wage conditions are different.

ORGANIC FOOD, MORE EXPENSIVE? FOR SCHOOLS? FOR THE PARENTS?

The increase from 0 to 20% share of organic products in school canteens would imply an additional cost of around 68 cents per meal. Some local authorities have chosen to directly subsidize this difference so that it does not impact the final price paid by parents (81). Since 2019, the Ile-de-France Region has funded a supplement of 21 euro cents for each meal to encourage establishments to prioritize using regional organic products (82). However, according to the Un plus Bio association, the additional cost may be limited by purchasing seasonal products. Some organic products are at or near the same price as conventional in high season and if purchased directly from producers. It is also necessary to adapt the quantities served and reduce waste.

SENSITIZE CHILDREN TO LOW-CARBON DIETS

School canteens must make students, teachers and parents aware of the carbon impact of their food diet by encouraging, among other things, a lower consumption of meat and an introduction of legumes in the daily diets. These topics are particularly trending in Europe and North America where meat consumption is particularly high (for example with the “Green Monday” programme) but are not widely discussed in South America, Africa or Asia, where consumption is increasing rapidly (83).

Global meat consumption in the world continues to increase for cultural matters, reasons of related to economic issues or social status. Access to higher purchasing power leads to increased meat consumption. Even in France, where these issues are highly publicized, meat consumption has stagnated since 2008, but has not decreased (84). In some of the countries studied, such as Morocco, Mexico or Chile, there are a few vegetarian movements but these have little connection with consumers, an important first step in moving towards changing meat consumption habits in school canteens. Legumes are one of the solutions to diversify protein sources: it has many nutritional (and agronomic!) benefits. The role of legumes remains important in many countries in the world: red beans in Mexico and South Africa, soybeans in Vietnam or peas, beans and lentils in Tunisia and Morocco, unlike France where consumption has strongly decreased (only 2 kg / year / person in 2019) (85).



THE UPGRADING OF LEGUMES IN CHILE

For several years Chile has wanted to reintroduce legumes and local cereals in the meals served to schoolchildren in order to preserve the culinary heritage, in particular concerning lentils, local quinoa or even cohayuyo. However, the sectors are not structured enough to meet the volumes requested and costs remain high.

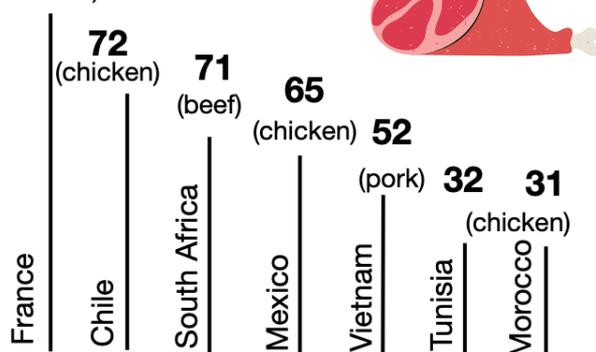
In order to increase the acceptability of these products among children, gastronomic laboratories have been set up and offer educational seminars. This project resulted in the publication of a cookbook promoting the inclusion of various local products (92).

VEGETARIAN MENUS INSCRIBED BY LAW IN FRANCE

In France, the law provides for the inclusion of at least one vegetarian menu per week in school canteens (93). Some areas go further: for more than 2 years the City of Grenoble has imposed one or two vegetarian meals per week in primary schools. Savings on meat allow you to buy more local and organic products. The cooks are trained in the cooking and special seasoning of vegetarian dishes in order to maintain gourmet and varied menus.

The City of Montpellier offers an “alternative eco-citizen” meal, a menu without animal products served twice a month. Other cities are more reluctant: in Marseille, despite requests from associations and movements of parents of pupils, no vegetarian meals are offered in schools. The municipality justifies it by advancing the fact that in certain poor neighborhoods, it is the only balanced meal that children have during the day (94).

85 kg/person/year
(beef, pork, chicken)

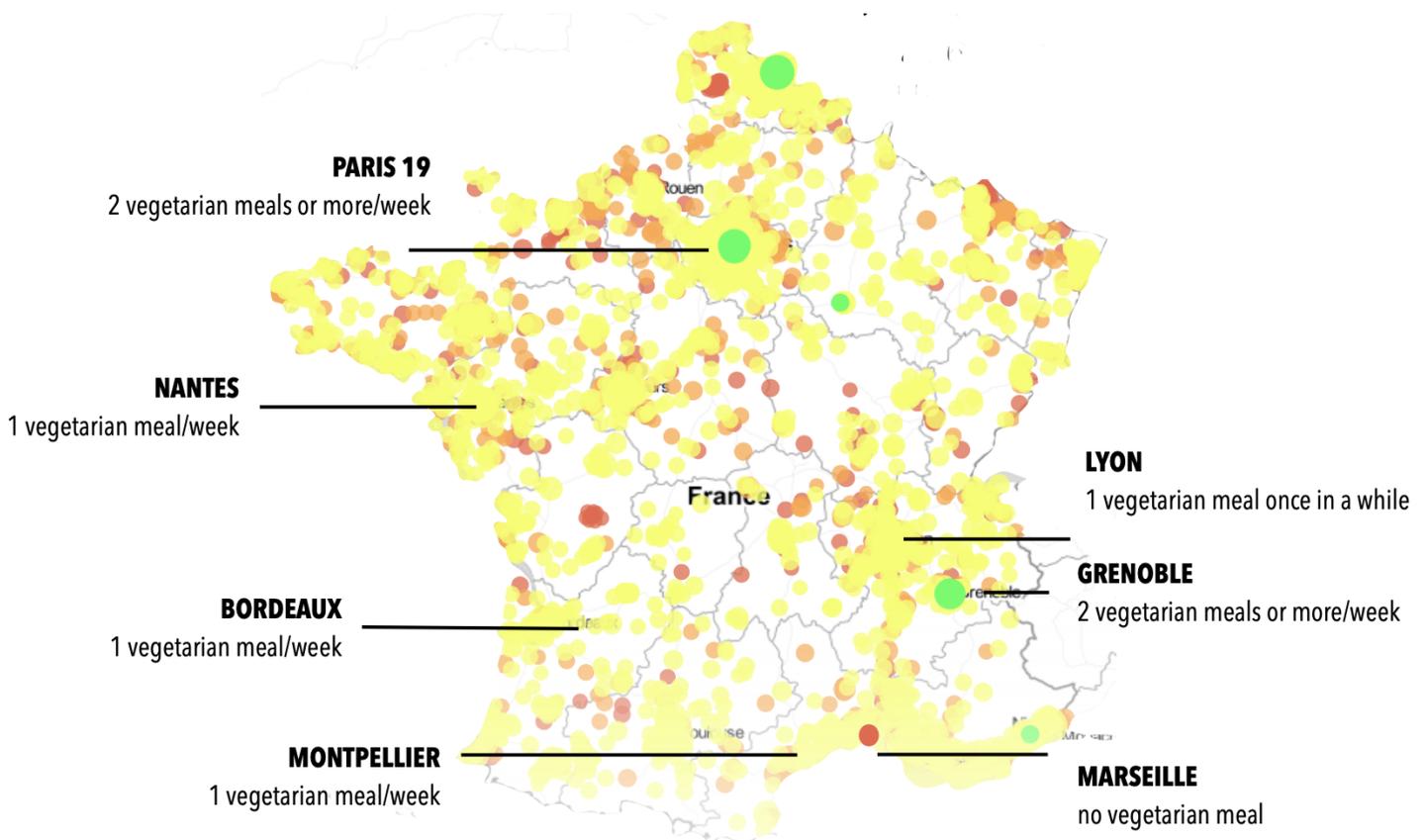


Sources: (84), (86), (87), (88), (89), (90), (91)

MAP OF MEAT CONSUMPTION IN SCHOOL CATERING CITY BY CITY, IN FRANCE (2018 _ GREENPEACE (95))

Population aged 6-11: Each bubble represents a city. The size of a bubble is proportional to the number of children between 6 and 11 years old in this city (source INSEE - 2014)

- Twice a week or more - at least two meals without meat or fish are served each week in the canteen
- Once a week - a meal without meat or fish is served each week in the canteen, or the canteen offers a daily vegetarian option
- From time to time - a meal without meat or fish is served every two weeks in the canteen, or the canteen offers a vegetarian option every other day
- Never - meals without meat or fish are almost non-existent (at best once a month, often less) and the canteen does not regularly offer a vegetarian option (at best once a week, often less)



LABELS THAT ENCOURAGE ALTERNATIVE MENUS

A 2020 INRAE study reveals that 90% of chefs and catering managers in France wish to benefit from training to create alternative menus to meat (85).

Thirteen funds from the schools of Paris, that is to say 600 canteens and nearly 110,000 daily meals, took part in the **"Mon Restau Responsable"** initiative led by the Fondation pour la Nature et l'Homme by Nicolas Hulot and the Restau'Co network. This approach offers tools to measure the carbon footprint of menus, as well as training for cooks and managers (96).

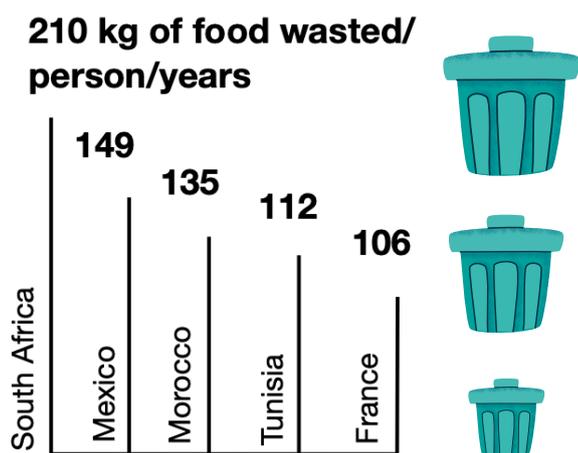
The Ecocert "in the kitchen" label also rewards collective restaurants that engage in a responsible approach (introduction of organic, local, healthy products and the fight against food waste). Level 3 label requirement involves the establishment of vegetarian or semi-alternative menus (116).

Restau'Co trains chefs in two days in recipes combining cereals, legumes and soya, for an optimal protein intake and offers a "recipe bank" (97).

RAISE AWARENESS ABOUT REDUCING FOOD WASTE AND MAKING THE MOST OUT OF LEFTOVERS

A third of our food is wasted. Food waste is a scourge that affects every country in the world today, even though 820 million people suffered from hunger in 2018, a situation which is set to worsen following the health crisis (98). The consumption stage constitutes the main item of waste in developed countries unlike in developing countries where the main losses occur at the production stage (67).

Emerging countries such as South Africa, Mexico or even Morocco and Tunisia suffer from double wastage due to consumption that is accelerating in urban centers while some agricultural areas are struggling to modernize and to put in place the necessary infrastructures to avoid losses in the fields.



Sources: (99), (100)

School canteens should also make it possible to educate children about respecting food and reducing food waste as well as sorting and even recycling waste. It is essential for children to learn these eco-citizen gestures from an early age.

Some countries have set up systems to quantify and monitor food waste in order to identify the main sources: Chile and Mexico, for example, are cooperating with the FAO on this subject, or even South Africa with the WWF association. (99). However, few study the quantities discarded specifically in school canteen and food programs (101).

In France, the ADEME estimates that a primary school with 200 students throws away around 3.4 tonnes of bio-waste per year during meals and snacks taken during a day. Collective catering in France is one of the main sources of food waste. After individuals, it represents more than 15% of food waste produced (102). Awareness and reduction of food waste in school catering have become mandatory in France since September 1, 2016 (103).

A majority of collective catering players are now implementing food waste reduction strategies at different stages:

- Valuation of the entire production (purchase of a whole animal carcass, smaller or imperfect fruit)
- Precise management of the number of meals in order to avoid overproduction (software to register children beforehand)
- Adaptation of portions to the hunger of the guests via work on the weight or on the modes of service (self-service, salad bar, sliced bread rather than individual rolls, etc.) (104) (106)
- Upgrading of products from one meal to another (for example, offering upgraded fruit in fruit salad the next day) (107)
- Sensitization of managers and cooks and provision of a guide of good practices for reducing food waste (105).
- Distribution of food surpluses to food aid associations (via the ProxiDon Platform in Lyon, for example (102)).
- Waste management: setting up sorting tables, distributing compost to local farmers, hen houses in schools or even anaerobic digestion when waste cannot be avoided (108) (109).

Regarding the reduction of energy consumption in school canteens, some areas have chosen to modernize kitchen equipment and / or optimize logistics.



5. SCHOOL CANTEENS: INITIATE A NEW FOOD GOVERNANCE AT THE LOCAL LEVEL

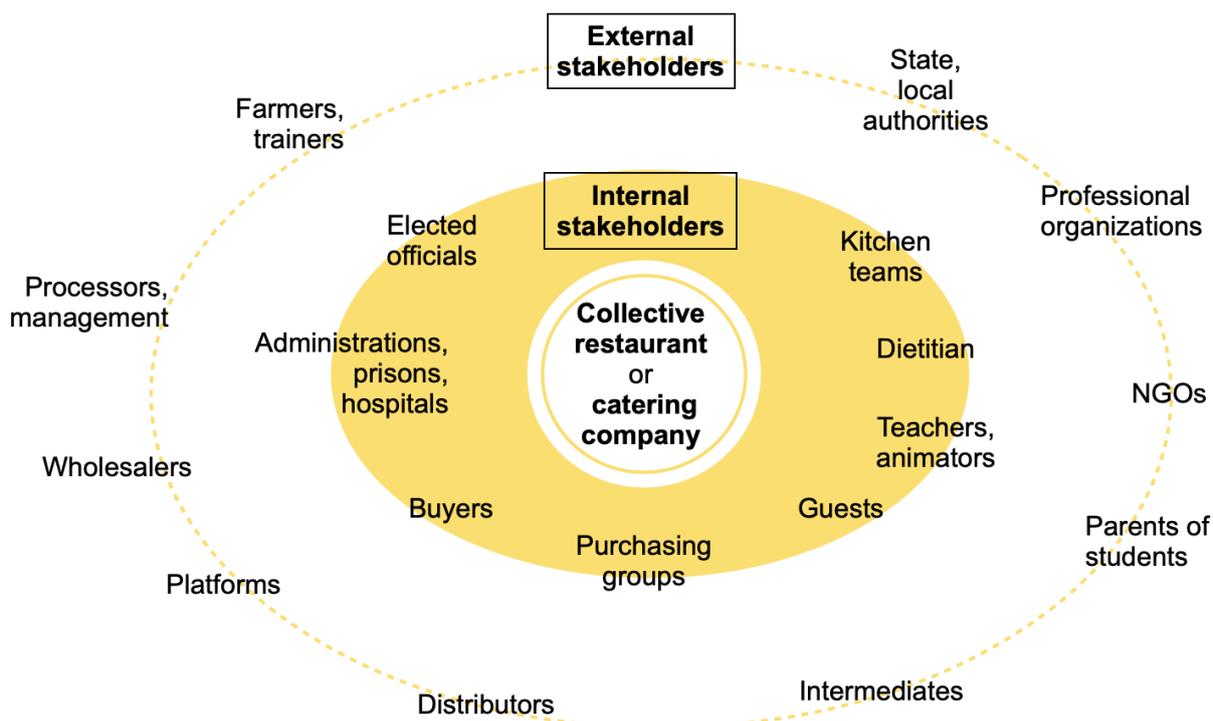
BRIEF

- The local supply of school canteens must involve the various stakeholders concerned and can constitute a first step in building sustainable and inclusive exchange bodies for the establishment of a sustainable food system at the scale of the territory.
- Communication between managers, the community, students and parents of students is essential to ensure that each person's interests and constraints are taken into account, as well as the acceptance and appropriation of new practices in school canteens.

School meals through local production is an opportunity to initiate a new food governance at the territorial level. It encourages exchanges between areas and activities in the same territory that generally know each other quite poorly: schools and producers, managers and cooperatives, etc. Due to the multitude of actors involved, the definition of common objectives as well as the time for mutual knowledge and understanding of each other's constraints and room for manoeuvre are essential to ensure cooperation and coordination, at the heart of the success of the project.



COLLECTIVE CATERING AT THE HEART OF A GLOBAL DYNAMIC (110)



ENCOURAGE PUBLIC ACTORS TO BE MORE TRANSVERSAL

In several case studies, school meal programs have helped to develop communication and cross-functionality between different ministries, education, agriculture, health and social affairs.

INTERMINISTERIAL AT THE HEART OF THE CHILEAN FOOD PROGRAM

In Chile, interdepartmental work is quite developed: the Ministry of Health, Agriculture and the Environment are working together to set up the School Meals Program. In addition, the organization around school meals has enabled the State to build new partnerships with national and local associations such as the organization for small local agriculture or the network of rural and indigenous women (RATMURI) of the Atacama region (26).

THE NEED FOR COORDINATION BETWEEN THE STATE AND THE COMMUNITIES IN SOUTH AFRICA

Some areas raise the coordination problems encountered in setting up school catering programs.

In South Africa, schools receive the basic ingredients for preparing menus. Often it is a protein (soy, chicken, beans, milk or sardines), a starch (corn porridge, bread, rice or sweet potato) and a dessert (fruit). However, the division of responsibilities between administrations complicates the implementation of the program: the quantities of food provided by the State do not always correspond to the needs of the territories. This lack of understanding reveals the need for a designated body to ensure complementary action between the actors.

This can lead to the creation of new structures and innovative governance facilitating the definition of common interests and the participation of all (12).

INITIATE LOCAL GOVERNANCE BODIES

ASSOCIATE PRODUCERS, CANTEENS AND ELECTED REPRESENTATIVES IN THE AUVERGNE-RHÔNE-ALPES REGION

In the Auvergne-Rhône-Alpes region, the ReColTer association was created to bring together collective restaurants and local producers. Its scope of intervention covers the Lyon region and the north of Isère. The association is managed by member producers, out-of-home catering managers and local elected officials. ReColTer aims to provide seasonal, local products from sustainable or organic agriculture. The association also supports the sustainability of farms through solidarity-based trade (61).

THE RESTO-CO USER COMMITTEES IN HÉRAULT

The Department of Hérault regularly organizes collective catering User Committee meetings attended by kitchen managers, managers, parents of students, class representatives, as well as administrative referents. Canteen committees are set up for parents who have the opportunity to meet the staff of a Culinary Production Unit (UPC) and to discover the product path: from field to plate. This experience makes it possible to realize the constraints that a UPC may encounter in offering quality products to schoolchildren (119).

A MULTI-ACTOR MENU IN NANTES

In Nantes, menu design also involves a variety of players. Proposed by a dietician and a chef, these menus are then approved by the catering committee, which brings together children, parents, teachers and local officials five times a year. In addition, each year, CM1 and CM2 students are asked to develop a week of menus with the dietician of the City of Nantes (112).

PILOT PROJECTS TO TEST AND THEN SPREAD

Food education measures or the introduction of organic and local products, initiatives to fight food waste generally start with a pilot project. The implementation of a pilot project makes it possible to test innovations, assess the impacts, identify the costs and adapt the action protocols in order to be able to replicate the devices.

For example, in Mexico, the introduction of hot, more nutritious breakfasts for children was first tested in a few schools in order to understand how the logistics were to be adapted. They were then integrated into all schools in the Mexican States (22).

CREATE INDICATORS TO COMMUNICATE EASILY

Some territories have constructed indicators to quantify the impact of the measures put in place in the canteens both on the nutritional status of children and in terms of benefits on the territorial economy or the preservation of local ecosystems.

THE LOCAL SUPPLY OBSERVATORY OF THE PAYS DE LA LOIRE REGION

In the Pays de la Loire region, the Observatory for local supply in collective catering was created in 2015, at the initiative of the prefect. Its objective is to measure the share of products from local supplies and to analyze the evolution of purchasing practices in collective catering. In particular, it makes it possible to assess the relevance of public policies developed by local authorities.

Each year, the DRAAF Pays de la Loire sends an online questionnaire to the 3,000 public and private catering establishments in the region. Managers are required to indicate the quantities purchased and the origin of 19 food categories. The origin must be indicated according to 3 geographical strata (France / Region and neighboring departments / Proximity (113).

INDICATORS OF MONTPELLIER

As part of the project URB (Urban-Driven Innovations for Sustainable Food Systems), coordinated by CIRAD (French Center for Research on agricultural and food issues from the South), an assessment of the impact and sustainability of the device "My Canteen differently" supported by the City of Montpellier was carried out. This participatory evaluation was used to assess not only the project's contribution to each component of a sustainable food system, but also the conditions for success, brakes and development opportunities of the device. A matrix of indicators was also identified with the aim of monitoring the impact of school meal programs (114).

COMMUNICATION TOOLS FOR PARENTS IN NANTES

The City of Nantes uses catering quality indicators to better communicate on its work with families and inform them more explicitly, clearly and continuously.

The city also wants to automate the publication of this information on the Internet. For the children, the use of more meaningful pictograms on canteen menus allows a more informed reading on product origin, organic or quality labels (115).



6. RECOMMENDATIONS FOR DEVELOPING HEALTHY AND SUSTAINABLE SCHOOL CANTEENS

1

Recognize the multi-functional role of school canteens.

School canteens play a crucial role in the development of children : they encourage schooling, they offer a low-cost meal to all children without distinction, and they raise awareness about eating practices that are both good for health and for the climate. Education as well as nutritional balance are essential for the establishment of solid, united and ecological societies. Finally, they can support the territorial agricultural economy and encourage collective decision-making.

2

Make school canteens a universal educational tool.

The school is a central institution and provides the elementary benchmarks to develop in a healthy and balanced way, to build its free will and its critical sense. Growing your food, knowing the benefits of each food on health as well as the harmful effects, discovering the impact of your food on the environment, preserving culinary know-how, enhancing the value of farmers and their production, encouraging eco-friendly citizenship: the school has the heavy task of transmitting values to ensure the involvement of all in the agroecological and food transition.

3

Systematically encourage local supply of school canteens.

Schools gain room for manoeuvre when they are under direct management and can decide on their own supplies. It may be preferable to join partners with other establishments to build markets and adapt them to the capacities of local producers. A stable and profitable market, the reorientation of production towards certain food products, the quality and preservation of culinary culture: the local supply of school canteens must make it possible to reconnect consumers to the nourishing areas of their territory.

4

Define a food project in each canteen with ambitious and quantified objectives.

School canteens are multi-functional and establishments must define a systemic food program that takes into account all stages and all axes of sustainable development. From the choice of products to the reduction of food waste, including the reorganization of kitchens, energy saving and the training of managers, each school must define ambitious objectives and monitoring indicators to make it possible to define its participation in food security objectives, preservation of the environment and territorial development. The inclusion of targets in national law is strongly recommended.

5

Involve all the players involved in school canteens and create spaces for discussion.

The reflection around a sustainable, healthy canteen supplied with local products concerns a large number of stakeholders in a more or less direct way. It is important to integrate this diversity of actors from the conceptualization of the school's food project in order to benefit from multidisciplinary expertise and feedback from field experiences. The sustainability of exchanges within a body promotes the territorial integration of the project and its success.

6

Train and support managers, cooks and parents in the development of their profession and / or practices

School canteens must now evolve rapidly to integrate new environmental and health objectives. It is essential to support the various trades that revolve around canteens in this transition in order to ensure their well-being but also an effective application of the new co-constructed orientations. The school can also choose to educate parents, discuss new regimes and new practices in order to facilitate mutual understanding and acceptance of the measures proposed, but also to ensure consistency with parental education.

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