

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



Research  
Consortium for  
**SHN**



WORKING PAPER

# School Meals Case Study: **France**

Prepared by the Research Consortium for School Health and  
Nutrition, an initiative of the School Meals Coalition

**Submitted by:**

Sylvie Avallone (L'Institut Agro Montpellier - UNESCO Chair in World food systems)

Céline Giner (OECD Paris)

Sophie Nicklaus (INRAE Dijon)

Nicole Darmon (INRAE Montpellier)

September 2023

# Table of Contents

Historical background.....	1
Country profile .....	1
Population and economics.....	1
Education' .....	1
Food security, nutrition and health .....	2
Design and Implementation of the school meal programmes.....	3
Description.....	3
Objectives .....	3
Coverage.....	4
Targeting of lower-income children.....	4
Implementation .....	5
Meal type.....	6
Nutritional norms .....	6
Food procurement.....	8
Legal framework and public policy evolution .....	9
Costs of implementation.....	9
Financing.....	10
Monitoring and evaluation .....	10
Lessons learned and best practices .....	11
Challenges .....	11
Acknowledgements .....	12
Related resources and data sources.....	12
Corresponding author .....	13
Required citation .....	13
Annexes.....	14

*Caveat: The Consortium's Case Studies working papers are preliminary versions of research papers that have not been published in a journal or vetted through a peer-review process. The purpose of circulation is to share existing data, facilitate comparative analysis, and stimulate collaborations. The contents or opinions expressed in the paper are the sole responsibility of the author(s) and do not necessarily reflect the views of the Research Consortium for School Health and Nutrition or the School Meals Coalition. Any errors of commission or omission are those of the authors and should not be attributed to any of the aforementioned entities.*

# Historical background

In France, education is mandatory until the age of 16<sup>1</sup>. Children have to be educated in a public (free and secular) or private school. With permission, education may also be provided in the family. This obligation applies from the age of 3, for all French or foreign children residing in France. In 1971, the French Ministry of Education issued the first circular on school catering, which marked the beginning of school meal nutrition guidelines in France<sup>2</sup>. Recommendations were formulated regarding the safety and nutritional quality of the meals served. They were regularly updated until they became compulsory, in 2011, under a legislative framework imposing a list of rules, including the number of components in a meal and the frequency of service of certain types of dishes<sup>3</sup>. More recently, criteria concerning the environmental (quality products, organic products, vegetarian meals) and social sustainability have been integrated into school meal public policies.

## Country profile

### Population and economics

Table 1: Key data concerning the French population and economic sectors.

Total population (2022) <sup>a</sup>	Total number of population aged 5 to 19	Total number of population employed in agriculture sector <sup>b</sup>	Gross Domestic Product per capita (2021) <sup>c</sup>
67,813,396	12,495,000 (18.4% of population)	389,000 (1.5% of population)	\$50,996 USD

<sup>a</sup> <https://www.insee.fr/fr/statistiques/6024136#figure1>

<sup>b</sup> <https://agriculture.gouv.fr/dossier-de-presse-recensement-agricole-2020-premiers-resultats-provisoires>

<sup>c</sup> <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=FR>

### Education<sup>4, 5</sup>

Primary school (1<sup>st</sup> level education) begins at age 3 with nursery school and continues on into elementary school from 6 to 11<sup>6</sup>. The students progress to Lower Secondary School at age 11 to Upper Secondary School at age 15 where they have the option of choosing between three baccalaureate programmes: general, technological, and vocational. The middle school ("college") is for children aged 12 to 15. Then, pupils must choose their orientation, which leads from 16 to 18 years old, either to the general and technological upper secondary school or to the professional high school. The lower secondary school and the upper secondary

<sup>1</sup> Code de l'Éducation, [https://www.legifrance.gouv.fr/codes/section\\_lc/LEGITEXT000006071191/LEGISCTA000006166564/](https://www.legifrance.gouv.fr/codes/section_lc/LEGITEXT000006071191/LEGISCTA000006166564/)

<sup>2</sup> Ministère de la santé publique et de la sécurité sociale. Circulaire du 9 juin 1971 relative à la nutrition de l'élève. JO, 223. [https://www.legifrance.gouv.fr/download/securePrint?token=\\$c0tY5qiHbisHW3qWcn2](https://www.legifrance.gouv.fr/download/securePrint?token=$c0tY5qiHbisHW3qWcn2)

<sup>3</sup> <https://www.legifrance.gouv.fr/eli/decret/2011/9/30/2011-1227/jo/texte>

<sup>4</sup> <https://www.education.gouv.fr/reperes-et-references-statistiques-2022-326939>

<sup>5</sup> <https://www.oecd-ilibrary.org/docserver/5077a968-fr.pdf?expires=1677076726&id=id&accname=ocid84004878&checksum=59BEE2CF72718597045ED7FD94F68014>

<sup>6</sup> <https://www.education.gouv.fr/le-role-des-collectivites-territoriales-dans-le-service-public-de-l-education-8138>

school correspond to secondary school (2<sup>nd</sup> level education). Schooling at the upper secondary school lasts three years. Municipalities are responsible for the premises of primary schools on their territory<sup>7</sup>, while the departments and regions are responsible for lower secondary schools and upper secondary schools of their territory, respectively. The enrolment rate in primary schools was 99% in 2017<sup>8</sup>. Girl's enrolment in secondary education was over 96% in 2018<sup>9</sup>.

*Table 2: Number of children at different levels and involved in school meals (2021 – 2022)*

Total number of students <sup>10</sup>	Total number of schools	Average class size <sup>10</sup>	Number of children regularly attending school meal
12,781,000 (Primary and secondary levels)	Primary level: 48,600 Secondary level: 10,678	Primary level: Nursery school: 22.7 Elementary school: 21.7 Secondary level: Lower secondary school: 25.8 Upper secondary school: 30.4 Vocational high school: 18.2	8.5 million children from nursery school to upper secondary school <sup>15</sup>

In priority education areas (i.e., with lower socio-economic position), the number of children per class range from 17.5 to 20.5<sup>10</sup>. In 2020, domestic spending on education reached 160.6 billion euros which corresponds to 7% of French PIB. According to the Ministry of Education, the distribution of children in the different education classes in 2021 was as follows<sup>10</sup>:

Number of children in nursery school: 2,337,400

Number of children in elementary school: 4,144,100

Number of children in lower secondary school: 3,407,500

Number of children in upper secondary school: 2,247,300

## Food security, nutrition and health

**Food insecurity:** 11.0% of the population were reported moderately or severely food insecure on average over the period 2019-2021<sup>13</sup>; 1% reported severely food insecure<sup>11</sup>.

**Stunting in children from 4 to 19 years:** 1.4%<sup>12</sup>

**Micronutrient deficiency from 5 to 19 years:** no specific data available.

**Thinness in children from 6 to 17 years:** 11%<sup>13</sup>

**Overweight in children from 6 to 17 years:** 13%<sup>13</sup>

**Obesity in children from 6 to 17 years:** 4.0%<sup>13</sup>

<sup>7</sup> <https://www.education.gouv.fr/le-role-des-collectivites-territoriales-dans-le-service-public-de-l-education-8138>

<sup>8</sup> The World Bank. <https://data.worldbank.org/indicator/SE.PRM.NENR>

<sup>9</sup> UNESCO Institute for Statistics. 2019. <http://data.uis.unesco.org/>

<sup>10</sup> <https://www.education.gouv.fr/l-education-nationale-en-chiffres-edition-2022-342412>

<sup>11</sup> SOFI (2022) <https://www.fao.org/3/cc0639en/cc0639en.pdf>

<sup>12</sup> Scherdel et al. (2015)

<sup>13</sup> Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (ANSES). Étude individuelle nationale des consommations alimentaires 3. Rapport INCA 3 (2017).

# Design and Implementation of the school meal programmes

## Description

School canteen first appeared in France in Lannion in 1844<sup>14</sup>. The aim was to show charity by offering a hot meal daily to the most deprived children. Since then, school meal programmes have been widely developed throughout the country. On a national scale, it is estimated that approximately 8.5 million children aged 3 to 17 attend school canteens at least once per week in metropolitan France<sup>15</sup>.

Meals are an opportunity for pupils to relax and communicate, and also a time for discovery and pleasure. Meals are taken in a refectory or canteen generally within the school and the furniture is adapted to promote the comfort of the pupils and limit noise. The time allocated to the lunch break must be sufficient and for the lower secondary school, this duration is regulated<sup>16</sup>. The diet of school-age children is essential for their growth, psychomotor development and learning abilities. It must be balanced, varied and spread throughout the day. Specific laws regulate the nutritional quality of school meals by imposing rules on the number of components in a meal and the frequency of service of certain types of dishes to be limited or encouraged with maximum and minimum frequencies of service (see section below Nutritional rules).

## Objectives

The fundamental mission of school meal is to meet the physiological and nutritional needs of pupils, helping to maintain their concentration and attention over the whole school day (in primary schools from 8:30 AM to 4 PM; in secondary schools from 8 AM to around 6 PM). The meals served must comply with hygiene and health safety standards, nutrition regulations and information on allergens<sup>17</sup>.

Moreover, the school meal plays a major role in meeting educational, cultural, economic and environmental challenges and establishing social norms around eating. It contributes to developing children's palates and making them aware of balanced eating habits, it teaches them conviviality and introduces them to culinary culture, and it encourages them to prevent waste and protect the environment.

School meals must be balanced, varied and age-appropriate in terms of portion sizes. The mandatory guidelines (number, type and frequencies of meal components) were intended to reduce the intake of added simple carbohydrates and fats (especially saturated fats) and to ensure adequate fibre, minerals and vitamins.

Since January 1<sup>st</sup> 2022, meals served in school canteens must include (on the basis of the financial value of purchases) at least 50% sustainable products bearing validated quality labels (with at least 20% organic); they must also reduce waste and the use of plastic, include one

---

<sup>14</sup> Nourrisson (2004).

<sup>15</sup> Anses (2021) Food consumption and nutritional intake in out-of-home restaurants in France]. Maisson-Alfort, France.

<sup>16</sup> <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000032967294>

<sup>17</sup> vademecum sur l'éducation à l'alimentation de la DGESCO <https://eduscol.education.fr/document/1857/download>

vegetarian menu per week and consumers must be better informed<sup>18,19</sup>. The aim of the latter law is to improve the quality and diversification of the products that make up the meals served to pupils and support the evolution of production systems towards greater environmental sustainability with plant based products. The implementation of these new provisions can be an opportunity for the entire educational community and the pupils to propose experiments inviting changes in daily practices, and to exemplify the link between foods and farmers. It is also an opportunity to broaden their taste experiences and their knowledge of food. Indeed, school meal comes up against the weight of established habits and a lack of curiosity about new things, or even food neophobia, leading to the rejection of proposals on the plate and often to food waste<sup>20</sup>.

## Coverage

Almost all primary school children have access to school canteens and about 65% of them attend school canteens<sup>21</sup>. This coverage increases in secondary education<sup>22</sup> to 70% for lower secondary schools and decreases to 60% for higher secondary schools<sup>23</sup>. The proportion of children who regularly eat lunch (at least four days a week) in school canteens is 10 points higher among older children (58% in primary school and 67% in secondary school)<sup>15</sup>.

Regardless of age, two-thirds of children who never eat lunch in a school do so because someone prepares the meals at home<sup>15</sup>. The other main reason for not eating lunch in the school restaurant is the proximity of the school to the home. Half of the pupils who do not eat in the canteen live within 2 kilometres of their school. Children living in rural areas are more likely to have regular school lunches, while children living in urban areas with more than 100,000 inhabitants are more likely to eat lunch at school occasionally. It is important to note that school feeding programmes do not work as well in French Guiana and Mayotte as they do in mainland France. Children can have lessons in the morning or the afternoon, so they do not have access to a school meal.

Attendance at school meals is lower for the least privileged populations in lower and upper secondary schools (particularly in priority education zones)<sup>23</sup>. Half of lower secondary school pupils who never attend school meals come from households with the lowest incomes<sup>15</sup>.

## Targeting of lower-income children

In primary education, school meals are generally provided by the municipalities and managed by the school fund, which gives its opinion on prices. The financial contribution of families is determined by the municipality. Social pricing can be used, this means that the family's financial contribution varies according to family income ("quotient familial"). The "family quotient" is a tool for social equity that makes it possible to calculate the participation families based on their income, family benefits received and the composition of the household. The

---

<sup>18</sup> Décret n° 2019-351 du 23 avril 2019 relatif à la composition des repas servis dans les restaurants collectifs en application de l'article L. 230-5-1 du code rural et de la pêche maritime.

<https://www.legifrance.gouv.fr/eli/decret/2019/4/23/AGRG1904273D/jo/texte>

<sup>19</sup> EGAlim Law n° 2018-938 du 30 octobre 2018 « pour l'équilibre des relations commerciales dans le secteur agricole et alimentaire et une alimentation saine, durable et accessible à tous:

<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000037547946&categorieLien=id>

<sup>20</sup> Nicklaus (2018).

<sup>21</sup> <https://www.cambridge.org/core/journals/public-health-nutrition/article/socioeconomic-and-demographic-variations-in-school-lunch-participation-of-french-children-aged-3-17-years/2CE4E6633CD2299B8F95643E00CD92B4>

<sup>22</sup> <https://www.insee.fr/fr/statistiques/6005356>

<sup>23</sup> CNESCO (2017)

higher the income is, the higher the price paid by the family. Families experiencing financial difficulties can contact local social workers.

This quotient is equal to the household income (monthly taxable income and family benefits, including housing allowance) divided by the number of units in the household (couple or single person = 2 shares; 0.5 share per dependent child; 0.5 additional share for the 3<sup>rd</sup> child or disabled minor).

The application of social pricing by local authorities is encouraged by the government in line with the objective of the national strategy to combat poverty<sup>24</sup> which is to guarantee access to food for all. More than 75% of municipalities with more than 10,000 inhabitants apply social pricing. In April 2019, measures were announced to provide access to school canteens at a rate of €1 for the most disadvantaged populations in municipalities with fewer than 10,000 inhabitants. The municipalities concerned receive €3 from the government if the price of meals is less than €1<sup>25</sup>. The meal price of less than or equal to 1€ is awarded to families whose quotient familial is less than or equal to 1,000€ (or equivalent in terms of income depending on the number of children). So far, only 21% of the municipalities eligible for the government complementary aid actually apply social pricing for school meals because of the high administrative cost of processing differentiated tariffs.

There are significant social disparities in school catering attendance and in families where the parent responsible for the child's education is the least educated, children attend school catering less<sup>26</sup>. Some municipalities choose not to charge families with the lowest incomes, officially or not. Families with financial difficulties can receive additional social aid via the social fund for canteens. Some other cities experiment free meal programmes for all children (e.g., Saint Denis). However, this strategy is not always sufficient to guarantee equal access to the canteen. The rate of attendance at school meals by pupils in primary schools in priority education zones is 10 to 15 points lower than that of pupils in other schools, even though the municipalities almost systematically apply social rates<sup>27</sup>. Other factors than the cost play important roles such as "the size of the sibling group, the age of the pupil, nationality, [...] or cultural distance from the institution".<sup>18</sup>

## Implementation<sup>28</sup>

The implementation of the school meal varies according to the education level and the size of the municipalities and local authorities. For primary schools, responsibility for meal lies with the municipality or the public establishment for inter-communal cooperation<sup>29</sup>. The service is usually provided by municipal staff. In 2016, the local authorities themselves were responsible for 59% of the meals served, and were directly responsible for the entire operation of the service<sup>28</sup>. Conversely, around 40% of local authorities contract to buy food and meals designed and prepared by a third party. A study of primary school canteens in the Paris region showed that the nutritional quality of meals provided by local authorities is better than that of meals provided by third parties<sup>30</sup>.

---

<sup>24</sup> <https://www.senat.fr/questions/base/2019/qSEQ190510672.html>

<sup>25</sup> <https://www.asp-public.fr/aides/cantine-a-1-euro>

<sup>26</sup> <https://www.cambridge.org/core/journals/public-health-nutrition/article/socioeconomic-and-demographic-variations-in-school-lunch-participation-of-french-children-aged-3-17-years/2CE4E6633CD2299B8F95643E00CD92B4>

<sup>27</sup> Math (2019)

<sup>28</sup> Cour des comptes, Rapport « Les services communaux de la restauration collective: une maîtrise des coûts inégale, des attentes nouvelles ». La Documentation française, février 2020, disponible sur [www.ccomptes.fr](http://www.ccomptes.fr)

<sup>29</sup> <https://www.education.gouv.fr/la-restauration-scolaire-6254>

<sup>30</sup> Chiaverina et al. (2022)

School meal is subject to very strict hygiene rules to ensure the safety of meals, based on European regulations<sup>31</sup>. Whatever the management method, it is necessary to have meal preparation equipment. Most local authorities have set up central kitchens preparing meals for several schools further distributed to the satellite restaurants of final consumption<sup>28</sup>. When meals are produced by large central kitchens, the distribution is either in hot chain (meals prepared in the morning are kept warm and served to schools) or cold chain (meals are put in trays, delivered by refrigerated lorry and reheated in schools two to four days after production). These facilities are expensive and sometimes require heavy investment to bring them up to standard.

## Meal type

Meals are served in a dedicated room, generally in a canteen within the school and children sit at tables. Meals must be structured around four or five components (starter, main course, side dish, dairy product and dessert), with the choice being between a starter and a dessert. Bread is proposed in addition.

## Nutritional norms

The nutritional recommendations of the Standing advisory group on food markets became mandatory with the publication of a decree in 2011<sup>32</sup>. Lunch generally accounts for 40% of total energy intake. The French guidelines for school meals is original and based on a frequency of presentation of dishes to be respected in a series of 20 consecutive meals to preserve a balanced diet. It incorporates 15 criteria related to the frequency of service of certain dishes (Table 2)<sup>33,34</sup>. The principles to be respected are the following:

- Integration of four or five components at each lunch, of which one must be a main (protein) dish with a side dish and a dairy product.
- respect the minimum variety requirements for the dishes served
- recommendation of portion sizes for all foods depending on the age of the children
- definition of appropriate rules for serving water, bread, salt and sauces

---

<sup>31</sup> Règlements CE n° 178/2002 et CE n°852/2004 (« paquet hygiène ») et arrêtés du 21 décembre 2009 et du 13 octobre 2013 pour la France

<sup>32</sup> <https://www.legifrance.gouv.fr/eli/decret/2011/9/30/2011-1227/jo/texte>

<sup>33</sup> <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000024614716/>

<https://www.legifrance.gouv.fr/loda/id/JORFTEXT000037547946/>

<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000044220683>

<sup>34</sup> [https://www.economie.gouv.fr/files/directions\\_services/dai/marches\\_publics/oeap/gem/nutrition/nutrition.pdf](https://www.economie.gouv.fr/files/directions_services/dai/marches_publics/oeap/gem/nutrition/nutrition.pdf)



*Table 3. Fifteen frequency rules for the catering of schoolchildren and adolescents<sup>35</sup>*

Type of dish	Component	Frequency
Starters containing more than 15% fat	Starter	4/20 max
Raw vegetables or fruit, containing at least 50% vegetables or fruit	Starter	10/20 min
Fried or pre-fried products containing more than 15% fat	Protein dish, side dish	4/20 max
Protein dishes with a protein to lipid ratio (P/L) $\leq 1$	Protein dish	2/20 max
Fish or fish preparations containing at least 70% fish, and having a P/L $\geq 2$	Protein dish	4/20 min
Unminced meat of beef, veal or lamb and offal	Protein dish	4/20 min
Ready-to-eat meat, fish and/or egg preparations or dishes containing less than 70% of the recommended portion size of meat, fish or egg	Protein dish	3/20 max
Cooked vegetables, other than dried, alone or in combination, containing at least 50% vegetables	Side dish	= 10/20
Pulses, starches or cereals, alone or in combination, containing at least 50% pulses, starches or cereals	Side dish	= 10/20
Cheese containing at least 150 mg of calcium per serving	Starter, dairy product	8/20 min
Cheeses with a calcium content of between 100 and 150 mg of calcium per serving	Starter, dairy product	4/20 min
Dairy (dairy products, fresh, dairy desserts) containing more than 100 mg of calcium and less than 5 g of fat per serving	Dairy product, dessert	6/20 min
Desserts containing more than 15% fat	Dessert	3/20 max
Products containing more than 20g of total simple sugars per serving and less than 15% of fat	Dairy product, dessert	4/20 max
Raw fruit desserts 100% raw fruit, no sugar added	Dessert	8/20 min

For example, “fried products containing more than 15% fat” should not be served more than four times in 20 consecutive meals but products with less than 15% fat can be served more often.

A simulation confirmed that following the rules leads to better nutrition<sup>35</sup>. Portion sizes are still not mandatory (except for industrial dishes), although it has been shown that its introduction can help to improve the dietary quality of food without increasing the total cost of ingredients<sup>36</sup> and decrease food waste. To reduce the environmental impact and encourage diversification of protein sources, a vegetarian meal (without meat or fish) must be served at least once a week according to the Climate and Resilience Law in 2021<sup>37</sup>.

<sup>35</sup> Vieux (2018), Dubuisson (2013)

<sup>36</sup> Vieux (2013)

<sup>37</sup> <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043956924>

One study of the nutritional quality of about 1,000 main protein dishes actually served in primary schools in France found that both vegetarian category and non-vegetarian dishes displayed adequate levels ( $\geq 5\%$  adequacy for 100 kcal) for almost all “protective” nutrients, except for the vegan ones in which key nutrients were lacking (vitamin B<sub>12</sub>, vitamin D and DHA) or were present in insufficient amounts (vitamin B<sub>2</sub> and calcium)<sup>38</sup>. Whatever the type of main protein dish included in a five-component meal (note that the regulation imposes that all meals should include a dairy component), vegetarian and vegan meals were as good in nutritional quality as non-vegetarian meals, but with much lower environmental impacts<sup>39</sup>. Thus, both greenhouse gas emissions and land use could be divided by four by switching from a meal with bovine meat to a meal without meat or fish; improvements regarding water resources depletion were lesser. It is recommended that no more than one in five vegetarian dishes should be based on industrially processed plant proteins to ensure a diverse nutritional intake.

Accordingly, an analysis of the quality of the menus currently served in the school canteen of the city of Dijon found that coverage of nutrient requirements was as good for vegetarian menus as for non-vegetarian menus<sup>40</sup>. The carbon footprint of these menus was more than twice as small as that of non-vegetarian menus, confirming that they can contribute to less environmental pressure.

## Food procurement

Procurement must include, on the basis of the financial value of purchases, at least 50% of sustainable products with certain validated quality labels, of which at least 20% from organic farming according to the EGALim law<sup>41</sup>. The link with family farmers and local products is encouraged. Many local authorities show a willingness to buy more from local producers. A compilation of data from declarative surveys is underway to monitor the percentage of food actually sourced locally<sup>42</sup>. Public procurement rules now allow criteria relating to distribution methods to be taken into account, including the environmental externalities of the product's life cycle and its inclusion in a short circuit<sup>43</sup>. However, these notions are not synonymous with local sourcing and geographical location of products.

School meals are at the forefront of the transition to more sustainable food systems but this leads to budgetary constraints, particularly for the smallest municipalities. According to the Court of Auditors, it is possible to reduce the cost of meals by pooling the purchase of raw materials for food and meals<sup>28</sup>.

---

<sup>38</sup> Poinot (2020)

<sup>39</sup> Darmon (2022)

<sup>40</sup> Dahmani (2022)

<sup>41</sup> <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000037547946>,  
[https://1648047458-files.gitbook.io/~files/v0/b/gitbook-x-prod.appspot.com/o/spaces%2F-MSCF7Mdc8yfeljMxMZr%2Fuploads%2FusLZdr8NfW9LPisD51Xy%2F2208\\_Mesures-LoiEgalim\\_BRO\\_V3.pdf?alt=media&token=beb189b1-77ae-4fba-b69d-eefd8446786f](https://1648047458-files.gitbook.io/~files/v0/b/gitbook-x-prod.appspot.com/o/spaces%2F-MSCF7Mdc8yfeljMxMZr%2Fuploads%2FusLZdr8NfW9LPisD51Xy%2F2208_Mesures-LoiEgalim_BRO_V3.pdf?alt=media&token=beb189b1-77ae-4fba-b69d-eefd8446786f)

<sup>42</sup> National Collective Catering Council, Ministry of Agriculture and Food Sovereignty, 'Ma cantine' survey <https://ma-cantine.agriculture.gouv.fr/accueil>

<sup>43</sup> <https://agriculture.gouv.fr/marches-publics-pour-la-restauration-collective-en-gestion-directe-un-guide-pratique-pour-un>

## Legal framework and public policy evolution

School meal is at the centre of multiple priorities. The first National Nutrition and Health Programme in 2001<sup>44</sup> included the publication of the circular on the composition of meals served in school canteens and the integration of the nutrition dimension into school curricula. Legislative developments in recent years have placed it at the centre of national policies in many areas among which the national nutrition policy. Laws have specified the obligations concerning the food environment for children in schools, the nutritional guidelines and environmental criteria to be included in the meal design:

- 2004 - Prohibition of vending machines for food and beverages in schools<sup>45</sup>
- 2011 - 15 mandatory frequency rules for meeting the nutrition recommendations<sup>46</sup>
- 2015 - Mandatory diagnosis of food waste for all public canteens<sup>47</sup>
- 2018 - Integration of 50% quality products and 20% organic ones with EGALim law, experimentation with a weekly vegetarian menu, substitution of reheating, cooking and service containers in 2025, more consumer information, donation agreement to an association for canteens with more than 3,000 meals/day<sup>41</sup>
- 2021 - One mandatory vegetarian meal per week with the Climate and Resilience law<sup>37</sup>
- 2025 - Official prohibition of plastic cooking and serving containers<sup>48</sup>

The evaluation of the vegetarian menu experimentation showed overall good acceptance since the first year of implementation. This evaluation contributed to the perpetuation of this offer in school catering voted in article 59 of the Climate and Resilience law.

Information and education on food and the fight against food waste are provided in schools, as part of the teaching programme or the territorial educational project. This information and education is accompanied by a survey of food waste carried out by the school catering manager.<sup>49</sup>

## Costs of implementation

The data presented here come from i) a survey of 136 schools<sup>28</sup> (Annexe 1) and interviews with canteen managers in Montpellier and Dijon. In general, meals are charged to the family with social pricing (see targeting of lower income children section).

The prices of the meals, fixed by the managing authority, cannot be higher than their cost price<sup>28</sup>. The average unit price is €2.76 with wide variations and different pricing methods (Table 3). The large differences in costs are due to varying degrees of control over the management of the service, in particular human resources.

The contribution of families to the financing of meals and associated services is often much lower than the cost price. The national average of family participation is €1.69€ per meal, i.e. 23% of the cost. The cities of Montpellier and Dijon manage their own canteen services and the price of a meal includes 59% organic and quality products in the city of Montpellier and 50% in Dijon respectively. Around 79% of school canteen partly use organic products<sup>28</sup>.

---

<sup>44</sup> <https://sante.gouv.fr/IMG/pdf/1n1.pdf> (loi n° 2004-806 du 9 août 2004, art. 30)

<sup>45</sup> Loi n° 2004-806 du 9 août 2004 relative à la politique de santé publique.

<https://www.legifrance.gouv.fr/loda/id/JORFTEXT000000787078>

<sup>46</sup> <https://www.legifrance.gouv.fr/eli/decret/2011/9/30/2011-1227/jo/texte>

<sup>47</sup> Ecological transition and green growth law

<sup>48</sup> Décret n° 2021-517 du 29 avril 2021 relatif aux objectifs de réduction, de réutilisation et de réemploi, et de recyclage des emballages en plastique à usage unique pour la période 2021-2025.

<sup>49</sup> Article L312-17-3 [https://www.legifrance.gouv.fr/codes/article\\_lc/LEGIARTI000037556996](https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000037556996)

*Table 4: Cost analysis of school meal at national level and in two municipalities*

	National survey <sup>a</sup>	Montpellier <sup>b</sup>	Dijon <sup>c</sup>
Number of children in schools		21 543	11142
Number of children eating at canteen		20 685	7 800
Average cost of a meal (€)	7.33	12.0	12.9
Cost of raw material (€)	1.40 to 2.75	1.75	1.98
Labour costs (€)		4.15	6.59
Family participation (€)	1.69	2.6 on average (0.5 to 6.55)	3.23 on average (0.5 to 7)
City budget per child and meal (€)	--	5.14	7.69
Number of teaching days per year	180	180	180
Number of school meal days per year	150-180	150	150

<sup>a</sup> Report of the Court of Auditors (2020). <sup>b</sup> Values given by the school canteen managers in Montpellier (2022). <sup>c</sup> Values given by the school canteen managers in Dijon (2020).

The cost of raw materials represents less than 20% of the total cost. The rest corresponds to the work of preparing and serving the meals, the supervision of the children during the lunch break, but also investments (buildings, equipment) and energy expenditure. In the national survey carried out<sup>28</sup>, the costs of service and supervision of canteens represented 46% of the payroll on average on the panel controlled.

## Financing

Families do not pay the full cost of the meals and the complement is given by the commune, the department and the region. The rate of unpaid school meals is around 6.4%, which by extrapolation would represent a loss of revenue of 58 million € nationally. Including unpaid bills, three quarters of the cost price of a meal is on average financed by the local authorities and the taxpayer and not by the user.

## Monitoring and evaluation

In 2019, the National Council for School Meal<sup>50</sup> has been set up by the Government to monitor the implementation of the laws. It organises consultation between stakeholders and brings together the public authorities and seven colleges of stakeholders involved. Working groups contribute to the drafting of regulatory texts, to the monitoring of the operational implementation of the laws (thanks to the "ma cantine" survey)<sup>51</sup>, and to the provision of supporting tools to stakeholders in the following areas:

- the rate of supply of quality, sustainable and organic products (Support group)
- nutritional quality and diversification of protein sources (Nutrition group)
- the fight against food waste (Waste group)
- support for the consequences of inflation in 2022 (Economic group)
- user information and plastic substitution.

The nutrition working group is currently updating the nutritional guidelines for the "school meals" section with a view to better integrating vegetarian meals into the menu cycles and

<sup>50</sup> <https://agriculture.gouv.fr/installation-du-conseil-national-de-la-restauration-collective>

<sup>51</sup> <https://ma-cantine.agriculture.gouv.fr/accueil>

ensuring greater consistency with the dietary recommendations for children (HCSP, 2020); the portion sizes for protein-based dishes are also being revised. When local authorities use a service delegation, they lose control of the meal production and it is then more difficult for them to change the meals in response to user criticism<sup>28</sup>.

## Lessons learned and best practices

- French school guidelines guarantee a high level of nutritional quality.
- Moving from four out of 20 vegetarian meals (the current minimum requirement) to 12 out of 20 (the current maximum requirement) reduces the carbon impact by at least 25% as well as other environmental impacts without reducing nutritional quality
- The one-euro meal policy needs to be further implemented for more equity. Reducing the frequency of fish or meat containing meals in the menus may allow a reduction in the price of meals while respecting religious differences
- Social pricing or free meals are not enough to increase participation of the most disadvantaged children. Other sociological factors play an important role<sup>52</sup>. For some parents who do not work, it is their social role to feed their children.
- Using the current recommended portion sizes, non-vegetarian meals provide 105% of the recommended daily allowance of protein, and vegetarian meals 75%. If only protein intake is considered, it is possible to reduce portion sizes<sup>40</sup>.
- Centralized purchasing and the fight against waste allows for better prices to finance the transition to quality products. Group purchasing also means better stock management and less waste. Indeed, producers who could supply quality products to school canteens (e.g. organic and small producers) do not yet have the necessary logistics to reach their full potential.
- The acceptability of vegetarian and non-vegetarian dishes was judged to be equivalent by the children in the city of Dijon, but recipes without any animal products were slightly less appreciated by the children<sup>53</sup>.
- Food education initiatives can be implemented in the context of school catering and could promote the appreciation of menu components less appreciated by children<sup>52</sup>. However, the conditions for their optimal implementation have yet to be defined and may represent an extra cost for the municipalities.

## Challenges

- Encourage municipalities to introduce social pricing and the one-euro meal scheme
- Increase the number of vegetarian meals served to reduce environmental impacts and support children in moving towards a lower carbon diet
- Train cooks to prepare vegetarian dishes that are appreciated by children.
- Find alternative solutions to eliminate the use of plastic containers, particularly in the organisation of the cold chain

---

<sup>52</sup> <https://www.cambridge.org/core/journals/public-health-nutrition/article/socioeconomic-and-demographic-variations-in-school-lunch-participation-of-french-children-aged-3-17-years/2CE4E6633CD2299B8F95643E00CD92B4>

<sup>53</sup> Dahmani et al. (2022c)

# Acknowledgements

The authors would like to thank the members of the French research network on school meal (Resco)<sup>54</sup> and in particular Luc Lignon, Marie Massard, Nicolas Bricas, Justine Dahmani, as well as Barbara Heude (INSERM), and the task force of the city of Dijon Franck Lehenoff, Philippe Lemanceau, Fabrice Chatel, Elise Renaud, Marjorie Mimouni.

## Related resources and data sources

- Anses (2021) Food consumption and nutritional intake in out-of-home restaurants in France]. Maison-Alfort, France. <https://www.anses.fr/fr/system/files/OQALI2018SA0291Ra.pdf>
- Balicco, A., Oleko, A., Boschat, L., Deschamps, V., Saoudi, A., Zeghnoun, A., Fillol, C. (2017). Esteban design: A cross-sectional health survey about environment, biomonitoring, physical activity and nutrition (2014–2016). *Toxicol. Anal. Clin.*, 29, 517–537.
- Chiaverina P, Raynaud E, Fillâtre M, Nicklaus S, Bellassen V (2022). The drivers of the nutritional quality and carbon footprint of school menus in the Paris area. *Journal of Agricultural & Food Industrial Organization*, online first. <https://doi.org/10.1515/jafio-2021-0051>.
- CNESCO. (2017). Enquête sur la restauration et l'architecture scolaires. Paris. Available online : [http://www.cnesco.fr/wp-content/uploads/2017/10/170929\\_Note\\_QdeVie\\_VF.pdf](http://www.cnesco.fr/wp-content/uploads/2017/10/170929_Note_QdeVie_VF.pdf).
- Dahmani J, Nicklaus S, Grenier JM, Marty L. (2022a) Nutritional quality and greenhouse gas emissions of vegetarian and non-vegetarian primary school canteen meals: a case study in France (Dijon). *Frontiers in Nutrition*, <https://www.frontiersin.org/articles/10.3389/fnut.2022.997144/full>
- Dahmani J, Nicklaus S, Marty L. (2022b). How much did you like the meal today?' Children's liking for vegetarian and non-vegetarian meals at school canteens. Presented at: 46. Annual meeting of the British feeding and drinking group (BFDG), Leeds (UK), virtual meeting.
- Dahmani J, Teil F, Pouyfaucou M, Grenier J.-M., Nicklaus S, Marty L. (2022c) Evaluation des effets d'un dispositif d'éducation au goût déployé en restauration scolaire sur le comportement alimentaire des enfants. Journées Francophones de Nutrition, Toulouse.
- Darmon N, Poinot R, Vieux F (2022). More vegetarian meals in school canteens to reconcile nutritional quality. So What, POLICY BRIEF N° 23. <https://www.chaireunesco-adm.com/23-More-vegetarian-meals-in-school-canteens-to-reconcile-nutritional-quality>
- Dubuisson, C. (2013). Restauration scolaire et alimentation des enfants et des adolescents en France: état des lieux et efficacité de la réglementation (Doctoral dissertation, AgroParisTech).
- Huc M-L, Darmon N, Poinot R. Alimentation en collectivité. (2022). Chapitre 18 In : Alimentation de l'enfant et l'adolescent, coordonné par C Dupont, N Peretti, A Briand, Elsevier Masson, 408p. collection Pedia,
- Math A (2019) L'accès à la cantine scolaire pour les enfants de familles défavorisées. Un état des lieux des enjeux et des obstacles, document de travail n° 01-2019 de l'Institut de recherches économique et social, janvier 2019.
- Nicklaus S., Monnery Patris S. (2018). Food neophobia in children and its relationships with parental feeding practices. In: *Food Neophobia: Behavioral and Biological Influences*. Woodhead Publishing, p. 255–286.
- Nourrisson D. Manger à l'école : une histoire morale. *Food & History* (2004). 2(1) : 227–40.
- Report of the Court of Auditors (2020). Les services communaux de la restauration collective: une maîtrise des coûts inégale, des attentes nouvelles. La Documentation française, février 2020, available online [www.ccomptes.fr](http://www.ccomptes.fr)
- Poinot R., Vieux F., Dubois C., Perignon M., Méjean C., Darmon N. (2020). Nutritional quality of vegetarian and non-vegetarian dishes at school: are nutrient profiling systems sufficiently informative? *Nutrients*, 12 (8), 2256.
- Poinot R, Vieux F, Maillot M, Darmon N. (2022) Number of meal components, nutritional guidelines, vegetarian meals, avoiding ruminant meat: what is the best trade-off for improving school meal sustainability? *European Journal of Nutrition*, 61(6), 3003–3018.
- Scherdel, P., Botton, J., Rolland-Cachera, M. F., Léger, J., Pelé, F., Ancel, P. Y., & Heude, B. (2015). Should the WHO growth charts be used in France? *PLoS One*, 10(3), e0120806.
- Vieux F, Dubois C, Duchêne C, Darmon N. (2018) Nutritional quality of school meals in France: Impact of guidelines and the role of protein dishes. *Nutrients*, 10 (2), 205.

---

<sup>54</sup> <https://www.chaireunesco-adm.com/Le-reseau-francais-de-recherche-RESCO>

Vieux F, Dubois C, Allegre A, Mandon L, Ciantar L, Darmon N. (2013) Dietary standards for school catering in France: serving moderate quantities to improve dietary quality without increasing cost. J Nutr Educ Behav, 45:533-539.

## Corresponding author

Sylvie Avallone, [sylvie.avallone@institut-agro.fr](mailto:sylvie.avallone@institut-agro.fr)

## Required citation

Avallone, Sylvie; Giner, Céline; Nicklaus, Sophie; Darmon, Nicole; (2023) School Meals Case Study: France [*Etude de cas sur l'alimentation scolaire: France*]. Working Paper of the Research Consortium for School Health and Nutrition. London School of Hygiene & Tropical Medicine, London. DOI: <https://doi.org/10.17037/PUBS.04671091>

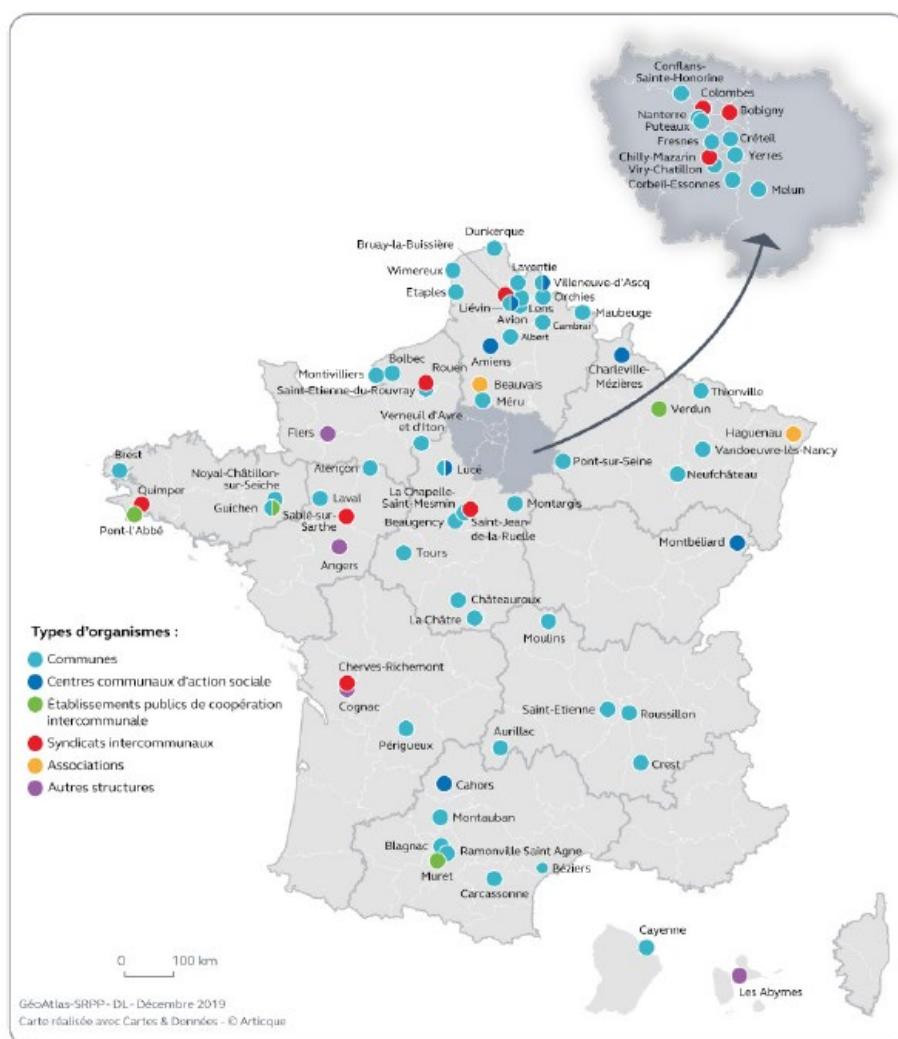


This work is licensed under a Creative Commons Attribution 4.0 International License.



# Annexes

Annexe 1. Map showing the location of the canteens surveyed in the study conducted by the Court of Audit in 2020.

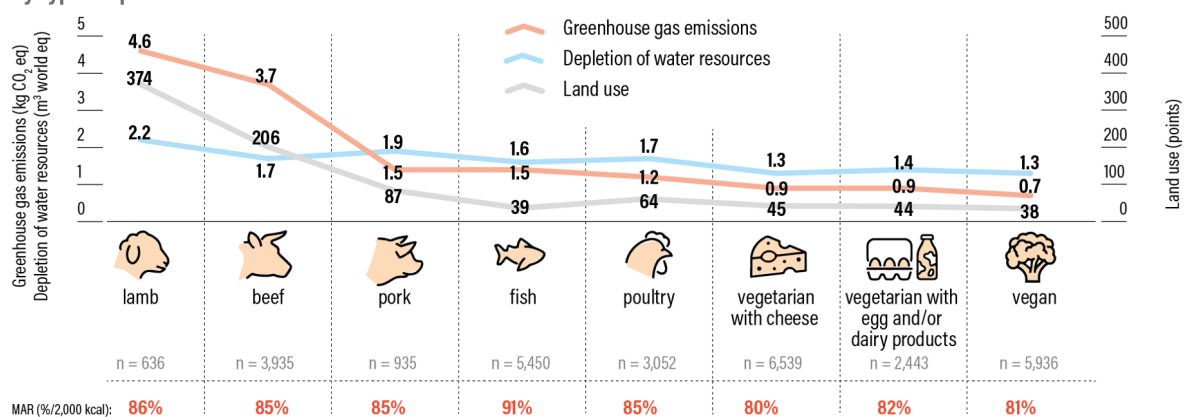


Source : Cour des comptes



## Annexe 2. Average environmental impacts and mean adequacy ratio (MAR) of a five-component meal, by type of “protein dish”.

**Figure 1.** Average environmental impacts and mean adequacy ratio (MAR) of a five-component meal, by type of “protein dish”.



A simulation study found that serving 12 vegetarian meals out of a total of 20 meals instead of 4 (i.e., or 5, the maximum and minimum allowed by current regulations, respectively) and alternating meat and fish for the 8 remaining meals (4 meat meals and 4 fish meals) would significantly reduce multiple environmental impacts (in particular greenhouse gas emissions were reduced by 25 to 50%, depending on the type of meat) without impairing nutritional quality (Poinsot, 2020). Making all 20 meals vegetarian would reduce further environmental impacts (with a 61% reduction in GHG emissions in particular) but would also reduce nutritional quality and would not comply with current regulations. Importantly, from a nutritional standpoint, it is important to remember that reducing meat consumption will only truly be beneficial if it is replaced by a diverse range of plant products with good nutritional density, a diversity that was ensured in this study through compliance with frequency rules regarding the minimum frequency services of raw and cooked vegetable and fruits (see table 2).