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# Motivations of Public Officials as Drivers of Transition to Sustainable School Food Provisioning: Insights from Avignon, France

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## Abstract

A large body of experience and expertise on the implementation of sustainable public school food procurement policies has developed in recent years. However, there has been little investigation of the values and motivations of the public officials implementing the policies. To address this gap, we examine how the city of Avignon (France) took a step toward transition to local fresh food procurement for public schools, under French government calls for sustainable food products in public canteens. Our analysis combines the Multi-Level Perspective (MLP) on sustainable transitions with the Public Service Motivation construct. Unlike other studies addressing the MLP at a macro level, we focus on individual motivations behind public action. We demonstrate that staff motivations have a major impact on how policies supporting transition to local fresh food procurement for public schools are implemented. These public officials' approach to food shows concern for the public interest regardless of financial return. It is not the rational choice (utilitarian or monetary rewards) that primarily drives the implementation of urban food policies, but normative conformity (equity, education, fairness) and affective bonding (health, environmental convictions). Interestingly, we conclude that the success of Avignon's politically-driven school food procurement policy is essentially due to the catering and procurement staff who overcame the barriers to its implementation.

**Keywords** Multi-level perspective · Public service motivation · Farm-to-school · Implementation of local food policies · Public school food procurement

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## Introduction: Transitions in the Public School Food Procurement Movement

The practice of weaving food into local policy is well underway in Europe. The re-localization of local food supply is viewed as enhancing human health through the freshness, seasonality, and “distinctive” quality of local food (Wiskerke, 2009), despite critical debate on the capacity of local food systems to curb the energy and pollution costs associated with the transportation of food (i.e. “food miles”) (Coley et al., 2009). Thus, local food policy usually views “food from somewhere” (Campbell, 2009) not as a commodity market or a commercial service, but as an investment in the health and welfare of the citizens of tomorrow. Furthermore, there is a rising awareness of the power of the public sector to enhance sustainable consumption and production practices, in particular related to food procurement and its social, economic, environmental, and health implications (Lehtinen, 2012; Løes & Nölting, 2011; Morgan & Sonnino, 2007; Rimmington et al., 2006). Indeed, public school food procurement is recognized as a driver of food and nutrition security (Filippini et al., 2018). For some children, the school lunch is the only well-balanced meal of the day (Caldeira et al., 2017). Both children’s health and environmental sustainability are relevant goals that can motivate public bodies to move toward the introduction and diversification of local or certified-origin food (Filippini et al., 2018).

In the US context, local food procurement efforts largely come under the heading of farm-to-school initiatives (Izumi et al., 2010). In European countries, public food procurement is constrained by EU law (Directive 2014/24/EU). This encourages the use of the most economically advantageous tender and enables the contracting authority to take into account other criteria than low price: quality, social, environmental, and innovative aspects, delivery conditions such as delivery date, delivery process, and delivery period. Nevertheless, an obstacle to increasing local supply may be local public managers’ difficulties interpreting the European regulations on free competition (Morgan, 2008). Several ways to promote the transition have been suggested, such as introducing seasonal products and splitting contracts into lots to encourage local producers and discourage big international companies (Nölting, 2009; Stein, 2013; Maietta & Gorgitano, 2016). Success factors are identified as the specific structures of national laws, the maturity of implementation, and the general management and organization of public canteens (Soldi, 2018).

However, identifying the objectives and the obstacles does not explain how public food procurement practices actually change. Studies inspired by the Multi-level Perspective (MLP) framework have shown that transition to sustainable agri-food systems depends on coordination between different actors and institutions (farmers, intermediaries, processors, civil society organizations, agricultural institutions, public policy-makers, etc.) having their own norms, modes of governance, scale of action, motivations, and routines (Lamine, 2015). Large-scale decisions or local initiatives can either positively influence the transition processes or produce lock-in effects that need to be overcome (Bui et al., 2016).

The role of committed local public bodies has been shown to be fundamental for the transition to sustainability. The success of “school food reform” can be attributed

to the people working to order, deliver, prepare the food and to design the menus (Morgan & Sonnino, 2008). Research shows that motivating and acknowledging kitchen and catering staff is key to success (Darly & Aubry, 2014). Recent studies on the emergence and framing of farm-to-school initiatives highlight the crucial role of individual motivations in bringing more fresh locally-produced foods into school meals (Bagdonis et al., 2009). The commitment of public procurers is acknowledged as key to sustainable public procurement behavior (Grandia et al., 2015). Research over the past 30 years on Public Service Motivation (PSM) and related constructs in public administration and in the social and behavioral sciences has supported the idea that individuals tend to act in the public domain with the aim of doing good for others and society (Perry & Wise, 1990; Perry et al., 2010).

The core of our analysis concerns changing practices and norms, or regime changes, and how a public school catering department in Avignon (France) developed strategies to successfully re-localize food procurement. Little is known about how motivations (i.e. moral approaches to satisfying human emotional and psychological needs) may underpin the actions of the public officials implementing public school food procurement re-localization policies. To address this gap, we combine the Multi-Level Perspective (MLP) concerning sociotechnical transitions with the Public Service Motivation (PSM) framework. We present this [Analytical framework](#)” and the [Methodology](#)” in the homonymous sections. [“Results”](#) section highlights how the motivations of public officials drive the school food procurement policy implementation. The [“Discussion”](#) section contextualizes these results within the local food system and explores the role of the public plate. The paper concludes with the prospect of co-construction of public actions with the actors responsible for their implementation.

## Analytical Framework

The Multi-Level Perspective is a heuristic framework that allows different levels of actions contributing to a transition process to be considered together (Geels, 2002). It works on three analytical levels: the niche level, where small networks of actors develop radical innovations or new technology on the margins of the regime (Geels & Schot, 2007) (small firms processing local products in our case); the regime level, where established practices and norms maintain existing sociotechnical systems (classical canteen food procurement systems relying on industrial catering services in our case); and the landscape level, representing the exogenous economic, political, and cultural context (the different policies framing food procurement at the EU and national levels in our case) (Geels, 2002; Rip & Kemp, 1998). The MLP as defined by Geels (2002) considers that the transition processes result from landscape-level pressure impacting the regime level, creating opportunities for radical innovations developed at the niche level, resulting in changes at the regime level (Fig. 1). We use the MLP as an analytical framework here to distinguish between the effects of the landscape level and of the niche level on the established regime of food procurement in Avignon. The MLP framework also helped us to track changes

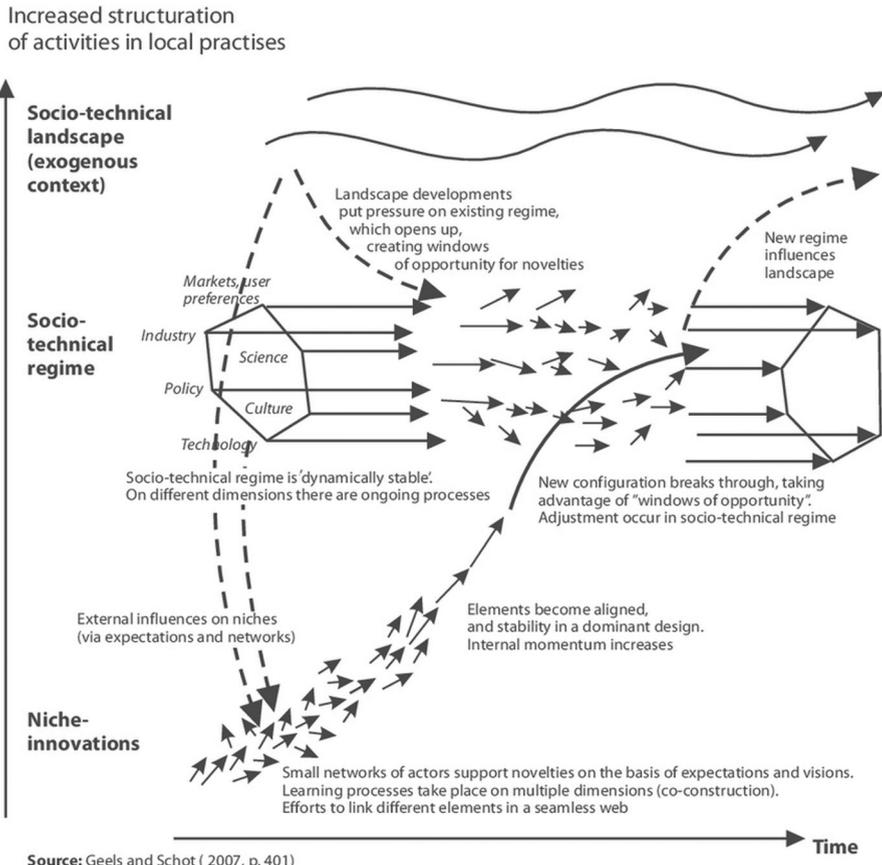


Fig. 1 Multi-level perspective on transitions (from Geels & Schot, 2007, p. 401)

that occurred during the transition process, focusing our analysis on the following components of the regime level:

- Norms (here, applicable standards and current regulations concerning hygiene, nutrition, public procurement procedure),
- Routines (Geels, 2002) (here, organizational inertia, e.g. the presentation of food, purchase ordering, type of meals served, etc.),
- Motivations (Smith et al., 2010).

The MLP literature points to motivations as components of the regime level by considering that different individual motivations can support a transition process (Geels, 2005). However, this framework views the most important triggers of change as interactions with other actors, organizational decision-making, and economic and social contexts. Consequently, the nature of motivations and the role they play in transitions are not the MLP focus. To address how both these interactions and individual motivations impact the process of transition, we combine the MLP

framework with a framework from the Public Service Motivation (PSM) literature in analyzing this case study.

According to the literature, Knoke and Wright-Isak (1982) distinguish between three categories of officials' motivations:

- “Rational choice”: self-interest leading individuals to promote policies to optimize their own interests, such as financial return.
- “Normative conformity”: based on social norms of what is proper and appropriate arising from a sense of duty to one's government and community, such as enhancing social justice.
- “Affective bonding”: individual emotional basis for commitment behavior with regard to a program—in this case sustainable public food procurement—through a genuine belief in its importance and the desire to participate. For example, a nature-loving public procurer with an environmentally-friendly lifestyle might be more committed to implementing sustainable food procurement than a procurer who does not care about nature.

Rational, affective, and normative motivations combine to influence an individual's aggregate motivation to contribute effort or resources towards collective action (i.e. a group of like-minded people who have joined forces to pursue a common goal) (Perry & Hondeghem, 2008). Individual motivations coalesce to shared motivations, and both are influenced by external factors (e.g. policies, popular framings, etc.).

Our analytical framework is summarized in Fig. 2 below, showing specific focal points of analysis in red.

## Methodology

### Research Context: Avignon's Public School Food Procurement

This paper focuses on the public procurement of food for nursery and primary schools in Avignon. For several years, the French government has spotlighted procurement in public canteens, seeking to increase the proportion of sustainable products used including local and environmentally-friendly quality products. In 2010, a national plan for nutrition (“*Plan national pour l'Alimentation*”) was established to encourage the use of local products in public and private catering. In 2012, the French government set an objective of 20% organic food in public canteens. Local procurement is also an objective: in 2013, the Ministry of the Interior announced the government's intention to enable farmers to participate in public contracts. In 2015, the French Senate defined local procurement by setting a maximum spatial distance between the site of production and the point of sale. This distance is not normative and depends on the type of food production: 30 km for fresh fruits and vegetables, 80 km for processed products. In 2016, there was a move to demand that public canteens procure at least 20% organic food products and 40% local food products, but in the end this was not adopted. In 2017, during the General Assembly on

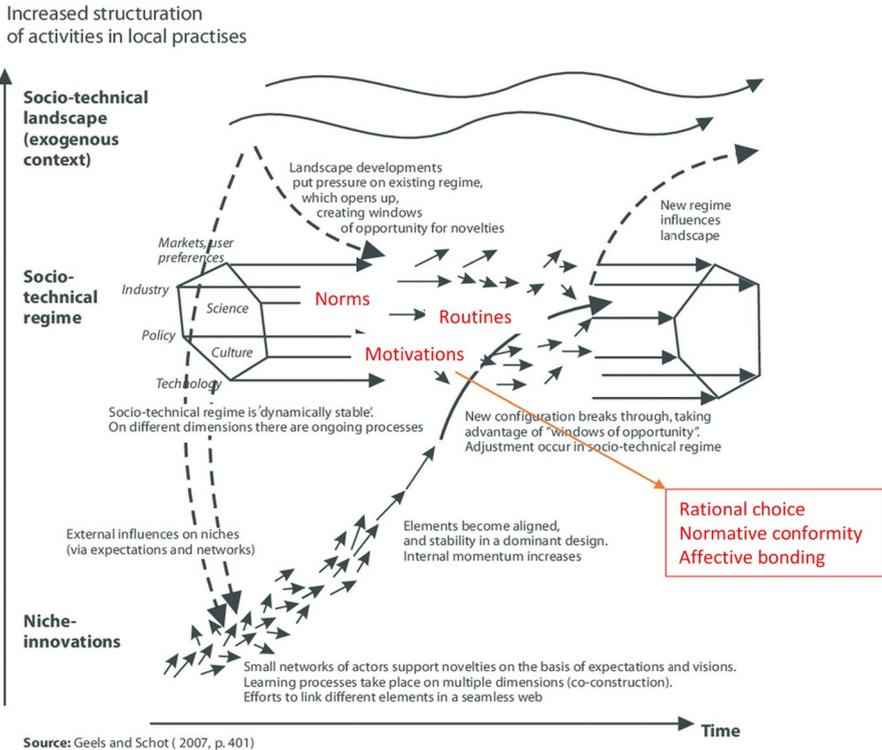


Fig. 2 Focal points of analysis based on combining MLP and PSM frameworks

Food (*Etats généraux de l'alimentation*), the French Ministry of Agriculture stated that its objective was to make public canteens use at least 50% organic products by 2022. Currently, the national Law #Egalim<sup>1</sup> on Agriculture and Food adopted by the French government on 1<sup>st</sup> November 2018 to support local products requires public canteens to use at least 50% sustainable or high-quality certified-origin food products, including 20% organic products, by 1st January 2022. In response to the French government's call for a greater proportion of sustainable high quality food products in public canteens, many municipal governments attempting to anticipate these future requirements have taken steps to increase the local and organic products used in their school canteens.<sup>2</sup>

The local government in Avignon is running an ongoing project to improve the quality of school meals by increasing the proportion of local fresh fruits and vegetables, to replace frozen and tinned foodstuffs. School food procurement, as part of the city catering service, was contracted out in 2000 to the private firm Scolarest,

<sup>1</sup> <https://agriculture.gouv.fr/egalim-ce-que-contient-la-loi-agriculture-et-alimentation>.

<sup>2</sup> In France, the public procurement of food for nursery and primary schools is the responsibility of municipal authorities.

**Table 1** Characteristics of Avignon school food catering and procurement in 2018

Item	Description of the item
Preparation of school meals	A central kitchen delivers between 4000 and 5000 lunches to 58 child-care centers and primary state schools, as well to the private homes of elderly people on request.
Cost of a meal	School meals cost parents a maximum €2.95 per meal and minimum €1.02 per meal for families with low incomes. The price paid by parents has not changed over the last 4 years, although the food alone (ingredients) costs around €2.00.
Total cost of meals	The decision to place school catering under municipal control eliminated fees and commissions charged by the food services and facilities company and enabled the total cost of meals to be reduced from 2.4 to 2 million euros, 60% funded by the city.
Schedule	Meals are served on the 4 full school days per week (Monday, Tuesday, Thursday and Friday).
Origin of school food	Roughly 18% of meal components are local, roughly 28% of meal components are organic.
Local-sourced procurement	Local fresh products are mainly fruits. Vegetables are mainly either “raw ready for use” (classed as 4th range under the public procurement code) or “cooked ready for use (5th range). There is little production of animal-source foods (ex. meat, eggs, dairy products) in the Avignon area so local sourcing is limited.
Strategy for procurement of local products	The main contract with a large food-service provider is supplemented by ad-hoc orders on the virtual intermediary platform <i>AgriLocal</i> to provide seasonal fresh products (mainly fruits and vegetables) from local suppliers without tender documents.

a branch of Sodexo, one of the biggest French food services and facilities companies. Some parents complained about the quality of meals served, although school food issues are not discussed in the school councils. In March 2014, the new mayor decided to place school catering under municipal control, fulfilling a campaign promise. The main objective was to improve the quality of the meals served to children (i.e. by introducing local fresh products) and to educate children in good eating habits, with school food considered a “service with a social function meeting needs in the public interest” (25/03/2015, Cécile Helle, Mayor of Avignon, during the municipal council session). With the return to municipal management of catering, a new head of the central kitchen and a new kitchen manager interested in working with unprocessed quality food were hired. The latter, seeking to differentiate himself from his predecessor, said “a cook is not a warmer-up”.

The characteristics of Avignon school food catering and procurement are described in Table 1.

Furthermore, a “Commission to promote good eating habits” (*Commission du “Bien-Manger”*) was created in 2014 to encourage healthy eating practices among schoolchildren through activities like pedagogic exhibitions during the school day about food sources, flexibility in menus to account for pupils’ cultural or religious preferences (e.g. pork-free menus) or specific health needs (e.g. allergies, diabetes), vegetarian meals twice a month, or a competition between schools to reduce food

waste on-site (*Les Olympiades de l'anti-gaspi*). New menus are being introduced, based on fresh and seasonal local food with reduced additives, in consultation with the Menus Committee composed of the catering department, procurement officers, councillors, representatives of parent-teacher associations and school canteens. Surprisingly, the councillor responsible for Schooling and Youth does not regularly attend the Menus Committee and the city has not appointed another specific delegate. However, the councillor responsible for Agriculture handles this subject because he has a good knowledge of locally-sourced food and the farmers producing it. In addition, it should be noted that the catering department has received no additional financial or human resources from the city specifically to facilitate the transition to locally-sourced procurement of fresh products.

### Qualitative Methodology

Our research team has been engaged in the field since 2012 in various ways which contribute to our comprehensive analysis (Katz, 1994). First, some of us were engaged in our case study in an immersive way as inhabitants of Avignon town and as parents directly concerned by food provisioning in schools (2016–2022). Second, our research team has also worked since 2012 in partnership with local stakeholders involved in urban planning linked to periurban farming management (Sanz Sanz, 2016). Consequently, our study is partly based on this accumulated knowledge of Avignon's history of agricultural and food strategies.

To investigate the process of change in food provisioning between 2015 and 2018, we combined several methods yielding different kinds of evidence (Becker, 1958) so as to cross-validate our provisional hypothesis about the role of individual motivations of public officials in the process of change (See “Appendix 1”). We consulted grey literature about the management of public food procurement in Avignon. Between 2016 and 2018, we were participant observers in two meetings of the Menus Committee and twelve meetings on locally-sourced school food procurement. In parallel, between 2017 and 2019, we conducted twenty-five semi-structured interviews with the different actors and stakeholders in public food procurement in Avignon. The aim of the interviews was to elucidate the chain of actions involved in implementing the re-localization policies for public school food procurement, from the production side (local supply) to the consumption side (central kitchen needs), through the intermediate stages (processing, packaging, storage, transport).

In 2018, we held two half-day workshops with people involved in Avignon school food preparation and supply, most of whom had previously been interviewed. The workshops were organized as focus group interviews, with small groups discussing topics selected for investigation under the guidance of a facilitator (Morgan, 1996). This allowed participants to interact with one another, favoring the emergence of views on a bottom-up basis (Fallon & Brown, 2002). The first focus group interview (16/01/2018) involved eight participants: seven members of the Menus Committee and a consultant working for the public food procurement department of a nearby city. It focused on the changes entailed in adding the criterion of proximity of origin of the ingredients of school meals to the existing criteria concerning price and

nutritional balance. During the first part of the focus group interview, participants were asked to examine two existing weekly menus (one from winter 2018, week 15–19/01/2018 and another from summer 2017, week 13–17/06/2017) and to adapt them to the requirements of re-localization. Participants had to replace the vegetables and fruits in the menu with local products according to seasonal availability.

The second focus group interview took place a week later (23/01/2018) and involved not only the members of the Menu Committee but also seven local farmers or delegates of farming cooperatives and partners in re-establishing the distribution network for local farm produce. One of the partners was the intermediary platform *Agrilocal*, created in Avignon in 2015<sup>3</sup> to connect public catering services and farmers in support of short food circuits. Another was *Local en Bocal*, a small firm also created in 2015 in Avignon, which prepares soups and fruit purées using organic and local products from a perimeter of 150 km around the factory. A third small local firm represented was *Les jardins de Solène*, created in 2017, which collects and processes downgraded vegetables from local farms to provide catering services with peeled fresh vegetables ready to cook. Discussions centered on the two menus adapted in the previous workshop in the light of the constraints of local farmers and entrepreneurs already working, or interested in working, with Avignon's public school food procurement services. This interview's objective was to identify the motivational factors enabling the transition to public school local fresh food procurement.

Both focus group interviews were filmed and participants' contributions were transcribed to enable further qualitative analysis. Focus group interview participants (n=14) answered a questionnaire-based survey including closed-ended and open-ended questions (see "Appendix 2") aimed at revealing their individual position with regard to the new policy. Statistical analyses were conducted, using keywords to code responses to open-ended questions. All interviews and transcriptions were coded according to our analysis grid combining the MLP and PSM frameworks; illustrative remarks from the transcriptions are cited below. Our analysis of the discourse of interviewees and participants covered routines, norms, and motivations concerning public food procurement, and their recent changes. We identified and coded three different motivations: rational choice (e.g. potential salary increase), normative conformity (e.g. commitment to the municipal Commission aim of promoting good eating habits, including access to fresh and healthy food), and affective bonding (e.g. environmental convictions concerning local products seen as environmentally-friendly).

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<sup>3</sup> Developed since 2012 in other parts of France, *Agrilocal* is a free website helping local farmers to directly contact public procurement services with a collective catering mission (schools, hospitals, retirement homes, etc.). The platform shows the buyer all the relevant products available locally, and each supplier has a personal farm presentation page. <https://www.agrilocal.fr/>.

## Results

“Changes at the regime level” section presents observations from applying the Multi-Level Perspective at the regime level. It identifies changes to norms and routines involved in this step toward transition to more local fresh products taken by Avignon public school food procurement between 2015 and 2018. The following-section analyzes the individual motivations of public officials as drivers of public school food procurement policy implementation, applying the Public Service Motivation framework. Table 2 summarizes the results.

### Changes at the Regime Level

Our results highlight how barriers can be overcome, shedding light on how procurement works in practice through both formal and informal procedures, and on the role of individuals in changing entrenched norms (summarized in Table 2). Norms were easily bypassed by individuals, especially public procurement norms that did not allow local food to be specified in contracts. The catering department got around the tendering system regulated by the Public Procurement Code (*Code des marchés publics*) by creating a “direct supply or no intermediaries” award combined with a “guaranteed freshness or carbon criterion” award to promote food from local crops. In addition, the ceiling price of €25,000 pre-tax per year for each purchase order lot (using a simplified competitive call without tender documents) was raised to €90,000 through a deal with the legal department of *Agrilocal*. Furthermore, the regulatory body GEM-RCN (*Groupement d’Etude des Marchés en Restauration Collective et de Nutrition*) stipulated the proportion and frequency of the different “components” of a school meal in a monthly menu (e.g. 10 out of 20 side dishes principally composed of vegetables, at least 8 desserts out of 20 fresh fruit). In terms of hygiene, sanitary standards meant that meals had to be delivered to school canteens by cold transfer the day after being cooked in the central kitchen.

Routines were easily changed, or at least challenged, as follows.

- New kitchen management effectively promoted local fresh products (enhanced capabilities). Up to 2015, routines carried on due to the previous management’s failure to promote the use of fresh products: “the problem with using fresh local produce is that the kitchen manager has to know how to make the most of it, which we didn’t until recently” (a member of the catering department during the 1st focus group interview, 16/01/2018). Through the recruitment of a new kitchen manager, the staff was encouraged to gradually use more local fresh products: “we had a long period where our kitchen manager was not a driving force” (a member of the catering department during the 1st focus group interview, 16/01/2018).
  - New recipes were chosen according to the children’s tastes. Meals cooked with fresh and seasonal products are not always appreciated by schoolchildren, who are not used to this kind of food: home meals may just be “micro-

**Table 2** Results synthesis: norms, routines, and motivations involved in a step in the transition process of Avignon public school food procurement toward more local fresh products

	Nutritional norms	Hygiene and sanitary standards	Public procurement norms
<b>NORMS</b>	<p>The GEM-RCN regulates the proportion and frequency of the different "components" of school meals per month</p>	<p>Obligatory delivery by cold liaison the day after cooking, from the central kitchen to the school canteens</p>	<p>The Public Procurement Code imposes a codified tendering system with a bidding process (contract, lots, award criteria) open to public competition. But rules do not allow local origin of food to be specified in contracts</p>
<b>ROUTINES</b>	<p><b>Enhancing</b> Lack of leadership of the kitchen manager</p> <p><b>Schoolchildren's tastes</b> Meals cooked with fresh and seasonal products are not always to the children's taste and thus not eaten</p> <p><b>Processing</b> Central kitchen does not have a raw vegetable processing area</p> <p><b>Provisioning</b> Catering department knows little about local farmers and precise availability of local products at a given time</p> <p><b>Purchasing</b> - No contract agreement, just a handshake when purchasing local produce - Tendering system requirements are tedious and alternative platform <i>Agrilocal</i> is too time-consuming</p> <p><b>Payment</b> Overly long payment terms are a disincentive to small farmers supplying the catering department</p>	<p style="text-align: center;"><b>Local adjustment (2018)</b></p> <p>↑ New kitchen manager competent to promote local fresh products</p> <p>↑ New recipes suited to the tastes of young children incorporating feedback from cafeteria assistants</p> <p>↑ External partnerships established with local firms (<i>Les Jardins de Solène</i> and <i>Local en local</i>)</p> <p>↑ Catering department estimates exact quantities of fresh vegetables needed monthly a year ahead and informs identified local producers</p> <p>↑ - Work in progress to secure local food from local suppliers and to provide them with a longer-term perspective - Organizational adjustments are being explored (e.g. framework agreement with a cascade system)</p> <p>↑ Corporate Credit Card instituted by Finance department enables payment to suppliers at the end of each month</p>	<p style="text-align: center;"><b>Affective bonding</b></p> <p>- Emotional desire to enhance children's health through good quality school meals underpinned by own experience of the children's poor home diet</p> <p>- Environmental convictions concerning local products seen as environmentally-friendly due to lower transportation-related carbon emissions</p>
<b>MOTIVATIONS of the catering department staff</b>	<p style="text-align: center;"><b>Rational choice</b></p> <p>- Not monetary rewards: cost of meals, resources allocated, and salaries remain stable</p> <p>- Not utilitarian approach: catering department staff do not have children at school in Avignon</p>	<p style="text-align: center;"><b>Normative conformity</b></p> <p>Committed to the objectives of:</p> <ul style="list-style-type: none"> <li>- the Commission to promote good eating habits: equity in access to fresh and healthy food, education on food and nutrition</li> <li>- the municipal action to develop local agriculture: fairness toward local food producers and suppliers</li> </ul>	<p style="text-align: center;"><b>Affective bonding</b></p> <p>- Emotional desire to enhance children's health through good quality school meals underpinned by own experience of the children's poor home diet</p> <p>- Environmental convictions concerning local products seen as environmentally-friendly due to lower transportation-related carbon emissions</p>

wave cooking”. The nutritionist and the central kitchen staff worked out new recipes suited to the tastes of young children, incorporating the feedback of food service assistants (e.g. adding popular processed cheese “Kiri” to the zucchini gratin, grating carrots directly in the central kitchen to preserve their organoleptic properties). This policy also reduced on-site food waste (measured daily as part of the game *Les Olympiades de l’anti-gaspi*), since the children actually eat the meals served.

- External partnerships were set up to deal with processing. Processing routines were one of the main barriers to the use of local fresh ingredients, since the central kitchen was not equipped with a vegetable processing area to pre-prepare (e.g. peel) raw vegetables before cutting them (e.g. slice, julienne). A plan to equip the kitchen in this way was examined but the cost (€700,000) and the additional labor required seemed disproportionate. Instead, new partnerships were created with local small and medium-sized firms processing local fresh vegetables and fruits (*Local en Bocal* and *Les jardins de Solène*), to circumvent the need for technical equipment and labor that raw products involve: “We are currently testing new methods of placing orders for other processed fruit and vegetables. For the moment, there is no commitment, but we are in the process of setting up contracts.” (a local firm manager during the 2nd focus group interview, 23/01/2018).
- Quantities were properly estimated and communicated to clearly-identified potential local producers (provisioning). Avignon is situated in an urban context, and the catering department in 2016 knew little about seasonality, local farmers, and which local products were available at a given time. For example, they did not know the exact quantity of fresh vegetables per month that they would need a year ahead, so they estimated them. They went to local farmers and specified their needs. For instance, they estimated the quantities of specific vegetables required per month; they tested mixed green salads to identify one the schoolchildren liked so that a local market-gardener could grow it; they tested fruit purées with *Local en bocal* to define the amount of sugar to be added. Farmers adjusted their production to meet the requirements of the catering department: “What’s enabled us to use local fruit and vegetables is that we (the catering department) have encouraged farmers upstream, and farmers who used to be very wary now come to us” (a member of the catering department during the 1st focus group interview, 16/01/2018).
- Organizational procedures on purchasing were adjusted. There is usually no contractual agreement, just a handshake and a promise by the head of the central kitchen to purchase the produce grown specifically to meet catering department needs. The local food provisioning system is mostly informal and based on mutual trust: “For the moment, farmers trust my word without a signed contract” (head of central kitchen, 09/02/2017). However, both the catering and procurement departments are seeking ways to secure local food from local suppliers while providing them with a longer-term perspective. Furthermore, tendering system requirements are tedious for farmers, while the simplified competitive call without tender documents under the platform *Agrilocal* is too time-consuming for the head of procurement, required

to advertise, monitor response, analyze tenders, communicate with farmers, and validate the purchase order. Different binding arrangements are being explored to find solutions that are simple and rapid for both sides, like a contract under a framework agreement with a cascade system, or providing farmers with a single interlocutor to centralize orders for different products.

- Payment terms were adjusted. Long provider-payment terms of 3 or 4 months discouraged small farmers from continuing to work with the catering department. The Finance Department therefore made arrangements enabling providers to be paid at the end of each month.

### **Individual Motivations of Public Officials as Drivers of Public School Food Procurement Policy Implementation**

The above findings raise the question of what may underlie such remarkable changes in routines and bypassing of stable norms. Intuitively, considering the current policy of many local governments, the municipal government should be the prominent institution in urban food and nutrition security issues (Dubbeling et al., 2017). However, in our case it was not the main driving force in the successful implementation of the public procurement policy of local food supply, because budget constraints prevented it from providing supplementary funding or human resources. Moreover, the municipal government gave no official guidelines on developing local food procurement, although the policy represented the Mayor's fulfillment of an election promise. Thus, motivations were the main driving force behind the changes in routine surrounding the local sourcing of school food.

Critically, although driven by politicians, the policy's success was due to catering staff overcoming barriers to its implementation. More than a third of focus group interview participants considered "individual motivation" to be the main driver of the project's success, before political willingness ("Appendix 3.2.7"). Furthermore, the participants' discussions revealed the trust-based partnerships existing with local farmers and entrepreneurs: "for us, local means quality food produced by nearby farmers that we trust" (a member of the catering department during a semi-structured interview, 05/12/2017). They provided a rich source of insights into the common shared motivations underpinning these business relationships and the changes in catering department routines. It was these motivations that enabled the food supply system to begin transitioning from a regime largely based on frozen and tinned "Food from Nowhere" (Campbell, 2009) to one increasingly integrating local fresh products. Considering that individual motivations of public officials are at the heart of how urban food policies are implemented, and based on the public service motivation framework (cf. "Introduction: Transitions in the public school food procurement movement" section of this paper), we looked at three kinds of motivations: rational choice, normative conformity, and affective bonding.

- (a) Rational choice (i.e. based on utilitarian or monetary rewards) in the catering department staff (i.e. the people working to order, deliver, prepare the food and to design the menus) remained stable. First, the local government decided not

to raise the cost of school meals to parents. Second, no additional resources –financial, labor, or technical– were allocated to the catering department, so the cost of preparing school meals was maintained. Third, salaries in the catering department remained unchanged even though the perceived workload increased. Fourth, most public officials have no personal interest in a utilitarian approach, not being involved in non-profit organizations promoting food or supporting campaigns on environmental issues; nor do most have children at school. This means that they are not driven by monetary or utilitarian rewards. Furthermore, price is not the only criterion considered in the tendering process: “for us, price is not the only selection criterion, it’s the quality of products” (a member of the catering department during a meeting with an organic food wholesaler, 05/12/2017). The catering department staff do not see purchasing local food products as generating any positive or negative financial return (“Appendix 3.2.10”). Nevertheless, for councillors, introducing fresh local products into school meals involves a utilitarian benefit: “For a politician, it looks good if his/her vegetables come from a local socially-aware and solidarity-based firm” (councillor, 05/12/2017).

- (b) With regard to normative conformity (i.e. based on social norms), the objectives of the “Commission to promote good eating habits” are highlighted as major concerns. Indeed, social equity and a sense of duty to offer children of low socio-economic status access to healthy food are the main motivations underpinning the actions of the catering department staff: “What (the food) we offer (to poor children) at school is light years away from what they are used to”; “We even considered giving parents a taste of the leftovers from the children’s meals” (various participants in the 2<sup>nd</sup> focus group interview, 23/01/2018). Beyond improving access to healthy food for vulnerable populations, there is a desire to improve education on food and nutrition. The catering department staff consider that the young generation’s taste is “formatted” by ultra-processed foodstuffs that always taste the same and are of low nutritional quality. They are aware of French nutritional recommendations (ex. GEM-RC norm) and know that good dietary habits in childhood reduce the risk of overweight and obesity in adulthood, which they consider the public health challenge of our time. In response, they organize different pedagogical activities and events to make schoolchildren aware of good food (e.g. a school canteen “taste week” “*La semaine du gout*”). They exhibit a sense of duty to positively influence the dietary habits of both children and parents in order to improve the health status of their community. Their leitmotiv is “raise awareness of food and nutrition issues among schoolchildren, to raise awareness among parents” (a participant in the 2nd focus group interview, 23/01/2018).

Catering department staff also explicitly express their commitment to the actions undertaken by the “Commission to promote good eating habits” to reduce on-site food waste: “We’re committed to reducing food waste [...] It needs to wind up in their stomachs and not in the litter bins” (a member of the catering department during the 2nd focus group interview, 23/01/2018). Finally, fairness toward food producers and suppliers is also mentioned as a concern, both regarding the negotiated price and the payment terms. Concerns about the business model of their partners, and a will to avoid making them wholly dependent on school food procurement, are often mentioned. They are committed to participat-

ing in the municipal action with a view to developing local agriculture (questionnaire 2.11). Words like “common ground” (*terrain d’entente*) and “arrangement” (*arrangement*) are often used to define the various existing informal partnerships based on mutual trust.

- (iii) Affective bonding (i.e. based on personal convictions and individual emotions) also underpins catering staff actions. The most frequently mentioned affective motivations are related to health, also identified by 85% of the catering department participants in focus group interviews as the main objective of a good quality diet (“Appendix 3.1.5”). The catering department staff show a real commitment to ensuring that the children’s meals are healthy, nutritious, and tasty. Because of their frequent contact with the children, they know that their home diet is poor: “Only a quarter of the children eat meals at a table at home, that’s all”, “they eat mostly ultra-processed fast food”, “the children don’t eat well at home” (various participants in 1<sup>st</sup> focus group interview, 16/01/2018). In the absence of a specific municipal programme to improve the nutritional status of children, the catering staff altruistically seeks to improve children’s health through their action in the school canteens. Actually, in the second focus group interview questionnaire, catering department staff members identify their “personal satisfaction” as the keystone of the success of the ongoing introduction of fresh, local products into school meals (average of 9 “very satisfied” on a 1 to 10 scale).

Environmental concern is identified by more than half of the catering department participants as the second affective motivation behind their actions (“Appendix 3.1.5”): “We try to work in a rational way, which means juggling what children consume with the vitamin content and with an environmental approach” (interview with a key informant, 13/10/17). Local fresh products are perceived by most participants as healthy and of higher nutritional quality (e.g. containing more vitamins than tinned food). But local products are also seen as much more environmentally-friendly than even organic non-local food products, involving lower transportation-related carbon emissions (“Appendix 3.1.6”): “Local doesn’t mean organic [...] local is our main objective [...] I can’t see the point of getting organic pears from the other side of the world” (a member of the catering department during a working session on estimated fresh vegetable needs, 14/03/2018). Moreover, the people who work in the catering department are committed to knowing where the fresh products they order come from, and to developing an “ultra-local” sourcing network: “It is not acceptable for us not to know where the products come from” (head of food procurement, 05/12/2017). The expression “it is not acceptable for us” points to the shared, emotional, and genuine conviction underpinning the action.

To conclude, the motivations of the catering department staff appear to be a strong driving force behind the changes in routines surrounding the introduction of fresh local products into school meals and the improved quality of the food served.

These results highlight the role that motivations play in the process of transition to sustainable school food provisioning.

## Discussion

### Public School Food Procurement and the Motivations of Public Officials

This study confirms the importance of public officials' beliefs and motivations when striving toward sustainable public school food procurement. Motivations rooted in affective bonding (i.e. emotional attachments) and normative conformity (i.e. social norms) have been shown in this study to lie at the heart of policy implementation. Our results are similar to the conclusions of other studies finding that procurement managers' personal commitment is crucial in overcoming obstacles to the preparation, award, and management of more sustainable and healthier food procurement contracts (Soldi, 2018; Sonnino, 2009). The successful implementation of food policies hinges on a well-trained and highly-motivated catering staff, who find recognition, worth, and value in service (Darly & Aubry, 2014). Despite the small number of comparable studies, similar findings were obtained, for instance, in a school food reform project in Gloucester, UK: "the staff needs to have "an ownership, a value, an understanding" [...] "school food reform primarily became an issue of labour" (Morgan & Sonnino, 2008, 116). Similar results were obtained in the USA by examining the perspectives of foodservice workers in the context of values-based procurement shifts, specifically to more healthful and regionally-sourced foods (Rosenthal & Caruso, 2019). Based on data from interviews with 21 cafeteria managers and 147 completed staff surveys in 23 schools collected in 2 school years (2016 and 2017), the research concludes that successful values-based procurement changes depend on cafeteria staff recognizing the importance of serving local and healthy foods (Rosenthal & Caruso, 2019). Their motivation to make new initiatives work for the good of the students is key to successful implementation of values-based purchasing initiatives, despite constraints due to the correlated more labor-intensive and complex food preparation techniques. Furthermore, the theory of public service motivation shows that staff motivated by concern for the public interest are high performers, with high levels of achievement, job commitment, and job satisfaction (Brewer & Selden, 1998). Our experience of Avignon and our 3-year immersion in the Avignon school food procurement project enabled us to thoroughly grasp the context, with the challenges and motivations it involved. This understanding informs our analysis of a step in the transition toward more local fresh products.

These findings should be of interest to urban food policymakers, planners and stakeholders. The theoretical literature has highlighted the need for multi-level governance that increases the degree of contact with the beneficiaries of policies. From a social psychology perspective, there has been a call to use co-productive arrangements among a range of parties, from "street-level bureaucrat" to elected policy-maker able to implement an effective public policy (Wirth, 1991). The economics approach has involved arguing that a policy-maker's strategy on governing environmental issues should include dialogue among stakeholders, officials, and scientists

(Dietz et al., 2003). In the policy sciences, it has been pointed out that the beneficiaries should be allowed to play a role in policy-building (Orsini & Compagnon, 2013). This multi-level governance could be achieved in transitional situations like our study case by means of training programs that enlist catering staff as front-line implementers of public school food policies.

Moreover, our results could be used to convince policy-makers of the need to provide public officials with adequate resources to implement urban food policies. Their societal relevance also extends to food producers, who could refer to them when constructing the messages they send to procurement managers. Furthermore, these findings could be used to foster parent involvement in activities promoting healthy food in the school framework. Despite the important role parents can play (Clelland et al., 2013), the parents in our study case were not involved in such activities, and the representatives of the Federation of Parent-Teacher Associations did not participate in the Menu Committee even when invited. Against this background, some studies recommend that food education campaigns be aimed not only at pupils but also at families (Morgan & Sonnino, 2008). Finally, we suggest that a territorial alliance between families, private companies, and committed local public bodies is fundamental to increase the supply of local food (Filippini et al., 2018), and more generally, to successfully implement urban food policies.

### **Contextualizing School Food Procurement Within the Local Food System**

However, even if individual-level motivations seem to be driving the success of this step in Avignon's public school food procurement transition toward more local fresh products, relying on such motivations for systems change would be unwise. There is evidence that change is very hard to sustain when individual "champions" -highly motivated by emotional attachments and social norms- leave their positions; for instance, there may be a perception of safety risks attributable to local foods (Thompson et al., 2017). Beyond individual-level motivations, changes at the landscape and niche levels are also essential in maintaining this type of change. In our Avignon case, the previous kitchen manager was not motivated to move toward more local fresh products, and it took a personnel shift to make the difference; but the catering department staff was not the only force behind the change. Since 2010, the French government has sought to increase the proportion of local and organic products in school meals through measures (cf. "Analytical framework" section of this paper) several of which affect the landscape level as defined by the MLP framework. These measures supported the public school food procurement transition process in Avignon. For example, the measure enabling local producers to participate in public tendering since 2013 allowed public procurement departments to use intermediary platforms such as *Agrilocal* as an aid to local sourcing. Moreover, the national plan for nutrition ("*Plan national pour l'Alimentation*") in force since 2010, then the *#Egalim* Law in 2018, acted as powerful drivers of municipal changes to management of food procurement. In parallel, change can also be linked to local initiatives (e.g. *Local en Bocal*, *Les jardins de Solène*) that emerged when school catering was placed under municipal control. The creation of these firms, which can be considered as radical niche innovations in the MLP framework, helped Avignon take a step in the process of public school food procurement

transition to more local fresh products. More broadly, these new local firms contributed to the Avignon-area movement to re-localize food supply at the territorial level. As another study on agri-food systems pointed out (Bui et al., 2016), when public officials share common visions or common motivations with private food sector entrepreneurs or organizations, the process of transition is smoother. Furthermore, these motivations drive stakeholders to go beyond the established norms and routines which maintain the existing local food system (Geels & Schot, 2007). It is often the combination of private initiatives with a political project that generates the change.

Nevertheless, implementing food supply re-localization policies does not simply involve broadening and deepening the norms and criteria behind food tendering and procurement processes. Midscale food chains need to be developed and this requires new forms of organization among all the stakeholders in the food chain. For instance, new viable regional market opportunities for small and medium-sized farmers (e.g. *AgriLocal*), a new tendering system and bidding process suited to them (e.g. joint standing-order contract), and new regional infrastructure/equipment (e.g. creation of small-scale pre-processing facilities) (Sanz Sanz, 2021). Furthermore, the great variety of territorial situations does not make best practices easily replicable everywhere, and it often takes years for public canteens to gradually move to more sustainable food (Caldeira et al., 2017; Soldi, 2018). Against this background, our results contribute insights into the form and nature of institutional responses to food system issues at local level, which need to be bolstered by planning and policy initiatives at regional, national, and even global levels (Pothukuchi & Kaufman, 1999). The role of public bodies is fundamental in the sharing of motivations contributing to the development of sustainable procurement strategies (Day, 2005; European Commission, 2015).

### **The Role of the Public Plate in the Implementation of Local Food Policies**

Finally, our study shows that, while until recently governments treated food as a commercial service, their policy perspective is shifting toward investment in the health and welfare of future citizens. Service provision has become a major government responsibility in many welfare states, which raises the issue of how it can legitimately be fulfilled. The state school system imported the neo-liberal values of the market to shape a “cheap food” catering culture (Morgan & Sonnino, 2008). However, school meals are now acknowledged to contribute to education regarding sustainable dietary habits, the protection of children’s health, and the orientation of the production system (Caldeira et al., 2017; Galli et al., 2014; Løes & Nölting, 2011). Thus, public school food procurement is seen as a driver of food and nutrition security, particularly concerning the alignment between local food demand and local supply that is needed to better address sustainability (Filippini et al., 2018). This is especially relevant in urban areas, which largely rely on imported food. However, we should remember that school food reform challenges the ethics of the foodscape, the “goodness” and “badness” of the various foods available to be cooked in or delivered to schools (Moragues-Faus & Morgan, 2013; Morgan, 2008), and raises questions about the role of the state and the public realm. How powerful is the public plate and what role should it play in the implementation of local food policies? What are the prospects for a transition from sustainable school food provisioning

using locally-sourced food to community food planning? What role will school food procurement play in the recently launched Farm-to-Fork Strategy that is at the heart of the European Green Deal and aims to make food systems fair, healthy, and environmentally-friendly? To address these questions, deepening and broadening our results from the Avignon school food procurement case, we plan to conduct a survey in several European cities participating in an ongoing project.

## Conclusion

Public school food procurement is considered one of the main targets of the local food policy movement. We argue in this article that the individual motivations of public officials are central to how sustainable public school food procurement policies are implemented. Our work focuses on individual motivations behind public action, thus differing from other studies on the multi-level perspective at a macro level. Conducting a 3-year immersion study of municipal re-localization of public school food procurement, we found that the changes in routines involved in this step in the transition process were largely driven by the motivations of public officials. We conclude that utilitarian or monetary rewards are not the main drivers of such policy implementation. Motivations related to *normative conformity*—equity, education, fairness—and *affective bonding*—health, environmental convictions—take precedence over them. Public officials appear to approach food with concern for the public interest regardless of financial return. The fresh, locally-sourced food policy was initiated by politicians, but its success was due to highly-motivated catering and procurement staff overcoming the barriers to implementation. In other words, political will is necessary but not sufficient to promote the transition to sustainable school food provisioning; motivation and training of public officials is essential to the policy's success.

This opens up the perspective of co-construction of public actions with the actors responsible for their implementation, as well as the beneficiaries. The long-standing interest in the modes of participation of the various actors or beneficiaries of public action (see for example Arnstein, 1969) has not been sufficiently disseminated in practice. In some countries, the result of this neglect has been challenges to the legitimacy of public action (see for example Rosanvallon, 2008 for France). Formally, the example we provide here illustrates the difficulty of implementing the co-construction of public actions. There is room for improvement in our study case, even though it involves elected officials who are open to this type of mechanism, staff who want it, and beneficiaries who are willing to participate. The work that remains to be done is therefore an internal reform of the institutions that will allow them to be adapted to this mode of decision-making—for instance, by loosening the Public Procurement Code constraints (Caldeira, 2017).

Further research in two directions will be useful. First, it would be interesting to clarify how motivations are informed by multi-level contextual issues. A broader focus could shed light on how individual motivations coalesce to shared motivations and how both are influenced by external factors (policies, popular framings, etc.). The second area that deserves more attention is the policy-making process. Future research might suggest methods of reforming institutions or decision-making so as to incorporate local stakeholders.

## Appendix 1: Methods of Investigation

Method of investigation	Date	Stakeholders involved	Description of the event
Participant observation (n = 14)	05/02/2016	Farmers, public officials (n = 6)	Working session in the Chamber of Agriculture with the farmers' association <i>En direct de nos fermes</i> and Avignon municipality
	19/01/2017	Farmers, public officials, councillors, high school teachers (n = 25)	Working session on collaboration between the Agricultural Secondary School, <i>Agrilocal</i> and Avignon municipality
	27/01/2017	Open to politicians, experts, planners, non-profits and residents (n = 35)	1st Workshop of projet de territoire <i>Vaucluse</i>
	04/04/2017	Farmers, experts, public officials, politicians (n = 23)	Seminar "Agriculture under pressure"
	07/06/2017	Open to politicians, experts, planners, non-profits and residents (n = 44)	2nd Workshop of <i>Projet de territoire Vaucluse</i>
	07/06/2017	Researchers, non-profits, politicians and public procurement officials (n = 80)	Seminar on development prospects for territorial food projects organized by the Provence-Alpes-Côte d'Azur region
	17/11/2017	Head of food procurement, head of central kitchen, councillor, organic wholesaler (n = 4)	Working session
	05/12/2017	Public officials, councillor, representative of parent-teacher associations (n = 9)	Meeting of the Menus Committee
	06/02/2018	Open-accessed to politicians, experts, planners, non-profits and residents (n = 26)	3rd Workshop of <i>projet de territoire Vaucluse</i>
	07/02/2018	Open by invitation to farmers, politicians and public procurement officers (n = 54)	4th <i>Agrilocal</i> forum
	08/02/2018	Public officials, councillor (n = 7)	Meeting of the Menus Committee
	14/03/2018	Central kitchen staff (n = 5)	Internal working session to plan frequency of inclusion of fresh vegetables and fruits in meals
	20/11/2018	Open-accessed to politicians, experts, and civil society (n = 60)	Public round table " <i>Produire et manger local, est-il encore possible? Les outils et plans d'action des pouvoirs publics</i> "
	06/12/2018	Open-accessed to politicians, experts, and civil society (n = 80)	Regional food committee
Focus group interviews (n = 2)	16/01/2018	Public officials, councillor, representative of parent-teacher associations, consultant (n = 8)	Session to examine changes entailed by adding the criterion of proximity of origin of the ingredients of school meals to the existing criteria concerning price and nutritional balance

Method of investigation	Date	Stakeholders involved	Description of the event
	23/01/2018	Public officials, councillor, representative of parent-teacher associations, local farmers and delegates of farming cooperatives, local firms (n = 15)	Discussion on the two menus adapted in the previous focus-group interview in the light of the constraints of local farmers and entrepreneurs already in or interested in a business relationship with Avignon's public school food procurement system
Long semi-structured interviews (n = 7)	16/01/2017	Councillor	
	09/02/2017	Head of central kitchen	
	07/04/2017	Head of food procurement	
	27/07/2017	Public official involved in the intermediary platform <i>Agrilocal</i>	
	03/08/2017	Public official involved in the tendering system for food procurement	
	13/10/2017	Public official involved in the nutritional composition of the school meals	
	18/06/2018	Expert on local agriculture (agronomic conditions and market opportunities)	
Short complementary semi-structured interviews (n = 18)	04/04/2017	Councillor	
	05/12/2017		
	12/12/2017		
	13/07/2017	Head of central kitchen	
	05/12/2017		
	20/11/2018		
	14/03/2018	Head of food procurement	
	22/11/2018		
	06/11/2017	Public official involved in the intermediary platform <i>Agrilocal</i>	
	17/06/2019		
	11/09/2019		
	06/11/2017	Public official involved in the tendering system for food procurement	
	13/12/2017		
	05/12/2017	Public official involved in the nutritional composition of the school meals	
	14/03/2018		
09/02/2017	Expert on local agriculture (agronomic conditions and market opportunities)		
04/04/2017			
12/09/2017			

## Appendix 2: Focus Group Interviews' Questionnaire, Distributed the 16/01/2018 and the 23/01/2018

This questionnaire contains 1 page. It will take you about 5 min to complete it. This survey is completely anonymous. Kindly answer all the questions. There are no right or wrong answers. Only your opinion counts. Thank you in advance for your contribution.

### 1. General information

- 1.1. You are:  
Head of establishment  Project Manager  Head of Firm  Farmer
- 1.2. Please indicate your role in relation to public school food procurement:  
\_\_\_\_\_
- 1.3. Do you take part in community activities related to environmental or food issues? Yes  No
- 1.4. Do you have children in school? Yes  No
- 1.5. To you, quality food is above all an issue related to (order from 1 to 5):  
society and policy  health  economy  environment  culture and identity
- 1.6. To you, eating locally grown food is above all an issue related to (order from 1 to 5):  
society and policy  health  economy  environment  culture and identity

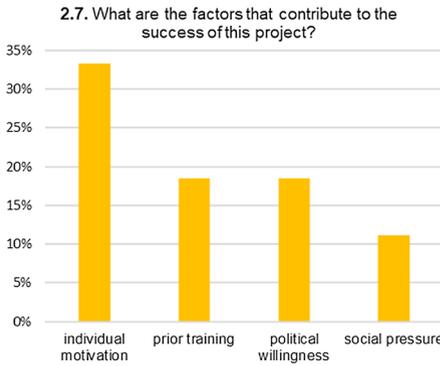
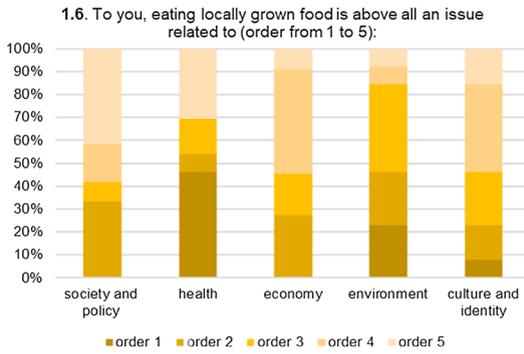
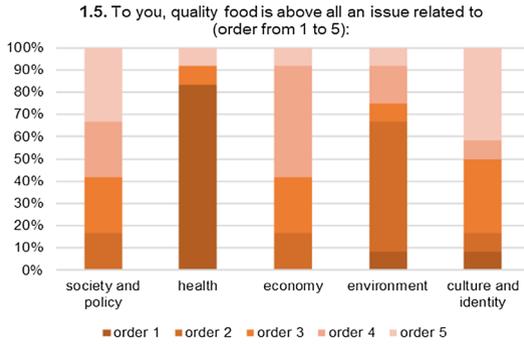
### 2. Position with regard to the project to introduce more local, fresh, and organic products into school canteen menus

- 2.1. In general, how would you rate the ease of dealing with:
- |                        |   |  |
|------------------------|---|--|
| Your counterparts :    | Easy <input type="checkbox"/> Difficult <input type="checkbox"/> No relationship <input type="checkbox"/> | For a long time <input type="checkbox"/> Recently <input type="checkbox"/> |
| Suppliers/farmers :    | Easy <input type="checkbox"/> Difficult <input type="checkbox"/> No relationship <input type="checkbox"/> | For a long time <input type="checkbox"/> Recently <input type="checkbox"/> |
| Purchasers/customers : | Easy <input type="checkbox"/> Difficult <input type="checkbox"/> No relationship <input type="checkbox"/> | For a long time <input type="checkbox"/> Recently <input type="checkbox"/> |
| School community :     | Easy <input type="checkbox"/> Difficult <input type="checkbox"/> No relationship <input type="checkbox"/> | For a long time <input type="checkbox"/> Recently <input type="checkbox"/> |
- 2.2. How do you judge the effectiveness of the external partnerships operating in this project?  
Effective  Not effective
- 2.3. How much personal satisfaction would you get from the success of this project?  
On a scale of 1 to 10 (Little) 1 2 3 4 5 6 7 8 9 10 (Great)
- 2.4. Did you modify or will you modify your professional activity because of this project?  
No  Yes, more complex (technical)  Yes, more workload (time)
- 2.5. Did you modify your consumption and eating habits at home?  
No  Yes  if "yes", please specify \_\_\_\_\_
- 2.6. Can you identify any bottlenecks that are slowing down or preventing the success of this project?  
\_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_
- 2.7. What are the factors that contribute to the success of this project?  
\_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_
- 2.8. What are the main benefits of this project for the city of Avignon?  
\_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_
- 2.9. Which other Avignon projects linked to this one do you know? \_\_\_\_\_   
\_\_\_\_\_  \_\_\_\_\_
- 2.10. Do you consider that Avignon's investment in the supply of local products is economically profitable?  
On a scale from 1 to 5 (Not profitable) 1 2 3 4 5 (Very profitable)

2.11. Do you agree or disagree with the following statements (only one answer per statement, please)?

Statements	Level of agreement				I don't know
	Strongly disagree	Somewhat disagree	Somewhat disagree	Strongly agree	
The city of Avignon is taking important action for children's nutrition					
The city of Avignon is taking important action to boost agriculture.					
The city of Avignon has many partnerships with civil society (associations and entrepreneurs).					
The city of Avignon has a strong policy of commitment to social issues					

### Appendix 3: Outstanding results of the analysis of responses to the questionnaire



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**Conflict of interest** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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