

Organic Food for Youth in Public Settings: Potentials and Challenges. Preliminary Recommendations from a European Study

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Editors: Carola Strassner, UAS Münster, Germany; Anne-Kristin Løes, Bioforsk, Norway; Benjamin Nölting, Berlin Institute of Technology, Germany; Niels Heine Kristensen, AAU, Denmark

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This project is one of the eight research pilot projects selected in 2007 for transnational funding by the partners of the CORE Organic ERA-net project. The pilot projects, which are running in the period 2007 – 2010, are:

AGTEC-Org	AGronomical and TEChnological methods to improve ORGanic wheat quality: agtec.coreportal.org
ANIPLAN	Minimising medicine use in organic dairy herds through animal health and welfare planning: aniplan.coreportal.org
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COREPIG	Prevention of selected diseases and parasites inorganic pig herds – by means of a HACCP based management and surveillance programme: corepig.coreportal.org
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QACCP	Quality analysis of critical control points within the whole food chain and their impact on food quality, safety and health: qaccp.coreportal.org

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Editors:

Carola Strassner; University of Applied Sciences, Münster (UASM), Germany, strassner@fh-muenster.de
Anne-Kristin Løes; Bioforsk Organic Food and Farming, Tingvoll, Norway, anne-kristin.loes@bioforsk.no
Benjamin Nölting, Berlin Institute of Technology, Germany, noelting@ztg.tu-berlin.de
Niels Heine Kristensen, Aalborg University, Copenhagen Institute of Technology, Denmark, nhk@plan.aau.dk

2010, International Centre for Research in Organic Food Systems (ICROFS), P.O. Box 50, Blichers Allé 20, DK-8830 Tjele, Denmark, Phone: +45 89 99 16 75, Fax: +45 89 99 16 73. Email: icrofs@icrofs.org

Photos: Cover page motifs from left to right

Kirsty McKinnon, pupils from 5th class, Norway (2008)

Gun Roos, Kitchen setting in Milano, Italy (2008)

Roberto Spigarolo, iPOPY researchers in Loiano, Italy (2008)

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Kristensen, Niels Heine¹; Hansen, Mette W¹; Nielsen, Thorkild²

¹ Aalborg University – Copenhagen Institute of Technology, Ballerup, Denmark,

² Technical University of Denmark, Lyngby, Denmark

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Spigarolo; Roberto¹, Sarti; Marco Valerio¹; Nölting, Benjamin²

¹ DiProVe (Department of Food Crops) – University of Milan, Italy,

² Centre for Technology and Society of the Berlin Institute of Technology, Germany

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¹ University of Helsinki, Ruralia Institute, Mikkeli, Finland,

² SIFO – National institute for Consumer Research, Oslo, Norway

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Food, People & Design, Department of Development and Planning, Aalborg University Copenhagen, Denmark.

Preface

This report contains presentations from the four explorative work packages in iPOPY. The iPOPY project – *innovative Public Organic food Procurement for Youth* – is one of eight transnational research programs initiated by the 11 European countries participating in the CORE Organic I funding body network. iPOPY aims at increasing the consumption of organic food among young people, especially in school meal settings but also elsewhere, e.g. at music festivals. We work towards this goal by studying how organic food as well as the organic concept in general has been introduced in public food serving settings in various countries, and what may be the most promising approaches. Italy, Finland, Denmark, Norway and Germany are the countries being studied. The iPOPY work packages explore policy issues, supply chain organization and the impact of certification, the users' perceptions and participation in the food system, and the health impacts of organic food implementation.

By June 2010, iPOPY will be completed. Hence, this report is linked to the last iPOPY seminar arranged during the BioFach Trade Fair in Nuremberg, Germany. We arranged similar seminars also in 2008 and 2009. These seminars presented the situation with respect to organic school meals in many different European countries (2008) and in more detail in iPOPY countries as well as some relevant cases (2009). Proceedings are available from the 2009 seminar (Nölting et al 2009), and all presentations from the 2008 seminar are found on the iPOPY website, www.ipopy.coreportal.org.

In the seminar in 2010, we will draw a link from iPOPY results to the municipality of Nuremberg, which has ambitious aims as to becoming an Organic Model City (BioModellstadt). This includes far reaching goals for the share of organic and regional food served in public schools and kindergartens. Further, the project results will be linked to the general situation for school meals in Europe. For this presentation, no written paper is available, but we will present the slides on the website. From the project we present preliminary recommendations and conclusions from the four explorative work packages.

Being the leader of the iPOPY project, it is my pleasure and my challenge to bring these conclusions together and synthesize final recommendations, which focus on school meal systems. In short; these systems are complex constellations composed of heterogeneous elements and are very specific, context- and path-dependent. Any intervention has to take into consideration several perspectives which can be divided roughly into a supply side and a demand side, both including political, economical, environmental, social, cultural, and health aspects. Organic food is an important option to make school meal systems more sustainable. In school meal settings, organic food can be linked up with several aspects such as health, environment and fairness. Hence, we suggest to link organic school meals systematically with the broader goal of sustainable nutrition for youth. Furthermore, we suggest embedding organic food in a whole school approach which strives for coherence of the school's policies and practices. This should include all stakeholders of the food chain – organic producers, caterers, school administration, teachers and pupils in a participatory and action-oriented approach. The (revised) curriculum for food education, the pupils' concept of health, the health and food policy of the school, and the physical and social environment of the school are further important factors in a whole school approach.

I welcome the seminar participants as well as the readers who could not attend the seminar in Nuremberg on February 20th, 2010 to enjoy the papers presented here.

Tingvoll, February 2010



Anne-Kristin Løes

Senior researcher and the project leader of iPOPY

Organic products in Nuremberg schools: Setting a precedent in 2010

Dr. Klemens Gsell, 3. Mayor of Nuremberg, responsible for schools
bm-schule@stadt.nuernberg.de

The Nuremberg background

On 23.07.2003 the town council of Nuremberg took the unanimous decision that 10 % of the provided food in all municipal institutions and at municipal subsidiaries were to be purchased from organic farming or from organic certified production by 2008.

On 15.10.2008 this decision was renewed and expanded upon:

Goals until 2014 10% organically farmed area, 25% organic products and regional products in every municipal institution, at events and specialty markets, but particularly 50% at schools and nursery schools as well as at receptions and farmers' markets of the city of Nuremberg.

A highlight: organic bread box events 2005 - 2009

- Since 2005 the organic bread box event takes place at Nuremberg and at other local authorities of the metropolitan area. Just around 5.000 boxes had been distributed for free to first graders in the first year, and the numbers have increased continuously.
- On 24th September 2009 a new organic bread box filled with delicious provisions for the school break was offered again to every first grader. All in all, 10,000 organic bread boxes were distributed to 413 school classes of 145 schools in the region. So every first grader in Nuremberg, Fürth, Erlangen, Ansbach, Lauf, Herzogenaurach, Schwabach, Altdorf and Feuchtwangen as well as in the whole rural district Roth got an organic bread box filled with healthy organic products for free.
- The organic bread box event was made possible by 22 sponsors from the organic sector and the region, the Organic Model City of Nuremberg (Biomodellstadt), the mayors and district administrators of the cities and rural districts as well as many volunteers. More than 60,000 Euros were sponsored in the form of services, tangible means and funds.
- The organic bread box event took place for the fifth time. In the last 5 years, 46,000 children starting school in the metropolitan area received the organic bread box. Nuremberg is the second city after Berlin to implement the organic bread box event. Today there are more than 20 organic bread box initiatives in Germany and around one quarter of all first graders are given the box.

Further events and workshops

In the past years a number of events and workshops took place to create a higher awareness about organic food amongst schools, teachers, educators, caretakers, parents and pupils. These events (e.g. several cooking workshops at the Johannes-Scharrer Grammar School, exhibition truck of the Federal Program for Organic Farming in the Vocational School Centre Bayreuther Straße) were visited by a total of around 1,000 participants.

In occasion of the Agenda Meeting of the Environmental Pedagogic Centre in the Hummelsteiner Park, which unfortunately no longer exists, all in all 16 events for children and their parents and grandparents took place in 2005 and 2006. In March 2007 Environmental Agency (Umweltamt) and the Pedagogic Institute (Pädagogisches Institut) of Nuremberg carried out two organic days for school classes at the seminar house Hummelsteiner Park. The school classes had won these at a painting competition connected to the organic bread box event. In 2007 the pedagogic institute offered an advanced training for teachers at an organic farm.

In February 2005 a large-scaled informational meeting for pupils and particularly for the Nuremberg nurseries took place in the assembly hall of the Ledebour School, at which the television cook Ralf Zacherl prepared delicious organic food. The popularity was accordingly high; around 200 children and 40 educators visited this cooking event.

From March 26 until April 26 2006 the Organic Model City of Nuremberg and the regional Agenda 21 network organised ten so called „Send your Senses to School“ for after-school care classes of the grades 1-6 in the greater Nuremberg area. At different stations the children could check basic flavours and the difference between fresh and convenience products, feel, hear and smell fruits and assign fruits or vegetables to their season. Altogether 418 children took part. Furthermore, 59 tutors, educators as well as many highly motivated parents attended to this event. Thus, additionally, multiplication was also highly successful.

Organic foods for school lunch and snacks in the tuckshop

An important aim of the organic metropolis is to offer organic products permanently in as many schools and day-care centres as possible. In 2008 there were about 70 establishments (according to catering firms) that were delivered with organic foods from a total of around 490 public and private establishments for children and teenagers such as day-care centres, nurseries and schools. The rate represented 14 % in 2008. An own survey of school meal organisation shows that 9 of 75 primary and junior high schools offered organic foods. This rate represents 12 %. On an individual school level the amount of organic produce fluctuates between 10% and 100 %.

Due to changes in school-related tenders 4 Nuremberg Grammar Schools now offer one organic lunch. The canteen of the Johannes-Scharrer Grammar School, which is one of these, also offers breakfast.

It is planned to determine proportion of schools with organic produce for the year 2010 also, and to increase this by 2014.

Preferably natural, manufactured with care and foods low in contaminants, thus organic products, have become a cornerstone for good school achievements and a modern school. The city of Nuremberg has identified this at an early stage and is on its way to take on a leadership role in this field.

(translated from German by members of the iPOPY editorial committee)

innovative Public Organic food Procurement for Youth (iPOPY)

Lessons learned from implementing organic into European school meals – policy implications

Kristensen, Niels Heine¹; Hansen, Mette W¹; Nielsen, Thorkild²

¹ Aalborg University – Copenhagen Institute of Technology, Ballerup, Denmark, nhk@plan.aau.dk & mwh@plan.aau.dk

² Technical University of Denmark, Lyngby, Denmark, thon@man.dtu.dk

Abstract

The introduction of organic food offers new dimensions to school meals, and schools offer new dimensions to organic food – when tackled properly. In this paper we will present findings from the iPOPY research project that is funded by the ERA-Net, CORE-Organic-I funding body network. It is based on studies of school food policies in Denmark, Finland, Italy and Norway. The embedded food traditions and cultures have had different attention in these countries, why also food related consumption, institutions and markets are quite heterogeneous and dynamic. Whereas school food services are relatively widely embedded in the school systems in Finland and Italy, the Danish and Norwegian school food is predominantly defined by the packed lunch brought from home when it comes to organic food the pattern is different. To analyse the strategies used in these countries we have selected a number of cases where in-depth studies have been conducted. The concept of embedding has been used in these studies and it has been informed by policy and actor network theories. The results of this analysis show a complexity in implementing organic food in existing school food aims, in embedding school food policies and in comprising also aims and policies for organic food purchasing in these. The variety amongst the analysed countries in strategies and success is identified, covering both structural and stakeholder related findings. A major finding is pointing at the challenge of “multi-embedding” processes when including organic food in school meal procurement.

1. Introduction

The daily meal for school children is a subject that has a considerable public attention in many countries these years. The discussions are often related to the considerations of how to secure pupils a healthy and genuine and tasty meal. The concept of “a proper meal” tends to become an obligatory passage point for this attention, which also qualifies to bridge to other agendas such as food culture, tackling poor or no lunch for school children, etc. (Morgan & Sonino 2008). Especially the upcoming obesity and overweight problems among children has caught attention. On the national level, different policies, cultures and traditions determine the frame for developing school food systems as we will see in this study of four different countries and a number of different local school food schemes within these countries. Also on the local or regional administrative level many different aims and systems occur.

In some countries there has in recent years been a focus on organic school food, and this topic has been the basis for the iPOPY research project. This paper present a part of the research conducted in the iPOPY project where the focus has been on the character and implications of various organic school food systems, and the embedding of organic food in these systems by analysing various factors in (e.g. economic, structural, regulatory, cultural). In this paper it is mainly the policy- and embedding aspects of the organic school food, which are presented but the research project have four other approaches regarding organic school food: the supply chain aspects in relation to organic food supply for school food systems, the pedagogical and learning ability aspects of eating organic school food, and the health aspects of organic school food.¹

One important dimension in the examination of school food systems is that educational institutions are regarded as key carriers of cultural values and therefore local, regional, national and international decision makers get involved in school policies. Agendas raised in modern society are therefore also often addressing the school setting - the health and obesity discussions are two recent examples. The food consumed at school therefore also has a more symbolic meaning than merely the material and nutritional dimension.

¹ See more description of the iPOPY research project at <http://ipopy.coreportal.org/>

2. Methods

Four countries have been examined in relation to selected organic school food systems – Italy, Finland, Norway and Denmark. Data have been collected for this study through national data reports that have been conducted by all national partners in the iPOPYP project on the basis of tailored data collection and reporting guidelines (Kristensen et al 2007) mapping and analysing the state-of-art of organic school food schemes in Denmark, Finland, Italy and Norway (Nielsen et al 2009). These data reports have been complementary with qualitative case studies in ten selected municipalities with experiences in organic school food, and carried out in by individual face-to-face interviews, observations, telephone interviews and literature (including internet) studies. Also research interviews have informed this qualitative data collection. The informants have been key persons in school administration, (food) procurement, strategic departments and in central administrations in municipalities, regions, provinces and states. Informants also represent some of the local institutions and food manufacturing and distribution. The ongoing project will by these data and aspirations inform a final comprehensive analysis on POP policies, that will be published as an outcome of this research.

When studying the POP policies in different school food systems in a number of countries it is obvious that there are different structures and contexts, but also different actors and processes when it comes to the visions and implementation of these into reality. The policy approach to the embedding of organic food in school meal schemes is based on an analytical understanding of the stakeholder roles in transforming systems.

The theoretical-analytical concept of embeddedness is central in these studies but will not be further unfolded and elaborated here. This theoretical-analytical concept has been shaped through more than five decades. Initiated in studies on how economic attitudes and practices is being social embedded have been fairly discussed, and Polanyi (1944) and later Granovetter (1985) have been known as some of the initial key theorists for understanding how economic practices have become embedded in social practices. In modern society meal in public schools seem to become employed through many economic, social and re-structuring process. In this paper we will primarily draw on newer theories on embedding processes as they have been developed further. Amongst these is also the concept of structuration (Giddens 1984) helpful in unfolding the role of different institutions and agencies as it offers relevant perspectives in relation to analysing the development and growth of school meal practices and the development and expansion of the use of organic food in school meals (Sonnino 2007). Policies and strategies for school food reflect differences in complexity and dynamism in these years in many countries. In this context the concept of embeddedness will be suggested to describe to what extent the school food systems in the four countries is reflected in the regulatory and public policies, the economic and the civil society levels and administrative practice.

3. Results and discussions of food systems and agents

The study has uncovered some major characteristics in the school meal systems. Besides these similarities there are also some differences between these countries. These will be presented in the following.

In Italy (Bocchi et al 2008) the school food is the responsibility of the municipality and since Italy has more than 800 municipalities there are many different systems. There has in recent years been a national focus on quality aspects of the school food, and organic products have had national attention. The food is partly paid by the parents and partly supported by the municipality or the region/state. There is a graduated payment according to the income of the parents. The Italian school food is prepared in municipal and private central kitchens or locally at the schools as the dominating ways. The focus of the iPOPYP research project has mainly been on cases in Northern Italy and Rome where some interesting development trends have been available for the study. In Milan the school food system has an increasing focus on price, which decreases the quality and share of organic products, while Rome has a very high attention on organic and local products that increases the expenses for the municipality quite dramatically.

In Finland the school food is free of charge for all pupils, as it is fully financed through the tax-payment (Mikkola 2008). The system has a top-down approach where especially health and nutritional aspects dominate the way the actors consider the food. The menus are planned according to the 'plate model' (Tikkanen 2009) as the dominating approach towards the planning of the food, where the plate should be filled with about 50% potatoes or rice, 25% fish or meat and 25% vegetables. The food is often prepared in a municipal kitchen although major external suppliers are also increasingly on the market due to a sometimes cheaper tender offer than the municipal kitchens. In Finland there is reported very little attention on organic foods.

In Norway, school food is generally not very high on the national agenda, although one of the parties participating in the actual government, which has been governing since 2005, fronted a free, warm meal for all pupils very high when they were first elected (Løes et al 2008). Trondheim municipality has a goal to increase organic school food, and our studies show that such an ambition is hampered by a range of challenges. In Norway, the packed lunch is extended by subscription schemes for milk and fruit, which is served in the schools. Parents pay a major part of the costs of the milk scheme. Only a few municipalities offer organic school milk, and due to very high premium prices the consumption of organic school milk is rapidly decreasing. As especially teen-agers tend to eat little fruit and vegetables and leave the packed lunch at home, schools with a lower secondary level (class 8-10) get the fruit for free, paid by the government. Elsewhere the parents pay for the fruit.

Denmark has the same traditions as Norway, which means that there are almost no schools with canteen facilities (Hansen et al 2008). At the same time there has been some political attention towards school food, and especially in the municipalities near Copenhagen also towards organic school food since the mid 90'ies when the state introduced subsidies for use of organic foods in public institutions (kindergartens, elderly homes, schools etc). The discrepancy between the dominant lunch package culture and the wish for more school food served at the schools has been giving some challenges for the schools. The system in Denmark is based on parent payments. For some municipalities there are different kinds of municipal support to the canteens.

To sum up, in *Italy*, the full warm meal system is well established. The operational management of the school meal procurement is decentralized and organized at the local municipal level. In *Finland*, the warm meal system is well established and has a long history just as in *Italy*, but the school meal system is much more centralized. Important decisions about the regulatory framework such as nutritional recommendations, in-house food safety control, or mandatory vocational curriculum for the employees are taken at the national level. In general, *Finland* can be characterized as having a scientific management approach, where *Italy* tends to have strong elements of an artisan approach. In *Denmark*, the additional food and meal system is negotiated at the moment; rather many local initiatives try to extend the school food procurement into the direction of full warm meals. In *Norway*, food procurement is mainly restricted to milk and fruit schemes.

In both Italy (Bocchi et al 2008) and Finland (Mikkola 2008), school food is an important part of the school day (Nielsen et al., 2009). Usually a warm meal is served in a canteen for almost all pupils. Contrary to this, Norway (Løes et al 2008) and Denmark (Hansen et al 2008) are dominated by a system where lunch packages are brought from home and often eaten in the classroom. Additionally there is often a small stall or booth where it is possible to buy supplement snacks or drinks. In Denmark, some municipalities (primarily the bigger of these) are introducing prepared warm school meals but it is not yet the dominating picture throughout the country. In Norway there are almost only systems with lunch packages in the primary and lower secondary schools, and some more canteens in the higher secondary schools.

3.1 Stakeholders and strategies involved

The major actors in the school meal systems are confronted with market issues, regulatory issues and civil society issues. These will be identified country wise in the following, as we here have relative different roles for the dominating actor groups.

Normally in most European countries equipment and education is tax financed, but in our study we find that when introducing food service systems to public schools, an economic public controversy is introduced to the schools. Finland is one of the exceptions here. This controversy is especially found where user payment is practiced, in Italy and Denmark but also relevant for the Norwegian milk and fruit schemes. The controversy is related to the relation between the price and the quality. One of the elements in this is related to the fact that if the food is too expensive the sale will drop. If the quality in the other hand is too low, or the food is not popular among the pupils, the sale will also drop. In *Denmark*, there is an expectation that the price per meal cannot be above 3 € if a certain level of sale is to be expected. In Italy, the user payment has quite different expressions since Rome has chosen to fix the price on 2 €. Currently, Rome municipality has to pay 3 € for each meal just in order to cover the food expenses. In Milan on the other hand the parents pay almost all the expenses, so the costs per meal are about 5 €. The focus on reducing costs has diminished the organic share and the quality of the food. In Finland school food is an integrated part of being in school and the expenses are covered by the state.

The regulatory issue shows some differences in the way that the systems are organized. In Italy and especially in Finland there is a top-down approach towards the implementation of school meals. This means

that the state level for Finland and the municipal level for Italy have the major decision-making power. In Denmark and Norway to some extent, there is at the same time a political wish of school meals for all pupils, but also an ideology of the free choice for everyone, which makes the decision-making power more diffuse and decentralized. This combined with the strong culture of lunch packages makes it difficult to introduce the meals at the schools. Interestingly these differences also relate to some different reactions at the civil society actor level, that is parents and other civil society actor groups related to school meals. At the school level, the roles of the school head masters and teachers are generally defined via a top-down hierarchy in Italy and Finland and here there is not room for a lot of reaction from school employees or pupils. In Norway and Denmark on the other hand these actors can play a very important positive or negative role regarding the implementation and support to the system. The Danish cases show that the attitudes among teachers, school head masters and pupils means a lot in relation to the success of a school meal system.

The differences between the systems may also be explained through the civil society actors' commitment. In Italy and Finland there is an expectation from the parents that their children will get a proper meal at school, but it seems as if there is not much activism or involvement among the parents in relation to school meals – especially in Finland. Our studies show that Italian parents are rarely aware of the organic share of the products used in the school meals. However, there is a canteen commission at almost all schools and here parents can be heard in relation to the school food. The School commissions mostly deal with the food quality on a basic level.

In Finland there are almost no parental voices in relation to for example the quality or to the organic share of products. Most parents seem to be satisfied with the possibility of their children getting a warm meal at the school, and it seems as if the system is generally supported by parents.

In Denmark and Norway there are some private organizations and some politicians supporting the introduction of school food, and also a quite lively debate about food for children. This may be connected to the less embedded school food systems in these countries which makes debate more obvious and maybe more necessary. An exception though is the Norwegian organization for all Norwegian parents of school children. They have not expressed any public opinion about school meals. This confirms the overall picture of Norway as a country where the lunch package still is most dominating and accepted cultural norm. However, this organization is generally not a very active civil actor in the Norwegian society. Pupils' parents is a rapidly changing group with highly diverse opinions and it is a challenging task to act on behalf of such a group of people, in spite of the many interests they should have in common (Mari Gret et al 2010).

3.2 Embedding organic food in the school meals

In the former description it seems as if the two top-down managed systems in Italy and Finland naturally are the most embedded systems. Especially in Finland there is a very articulated, law-based and institutionalised system with the major focus on nutrition and scientific management aligning a so-called 'plate-model' for the content of the school meals. The school food is free in the sense that it is paid by the public school budget. The price focus is kept via public tenders, and quite important as for example organic food is almost absent. In Italy there is a quite complex system of regulatory units on the four levels: state, province, region and municipality. There are differences from place to place how much the school food is prioritised, but on the regional level as in some regions of Northern Italy, organic and local food is important issues and much creativity has been in place to assure the organic and local food is served to pupils.

On the other hand the involvement of parents and other civil actors are seemingly more reduced in these countries. Organic food can therefore be characterized as relatively weak embedded in the Finnish institutions, whereas in Italy the indications of embeddedness is established through manifest laws and regulations – which all though seem weak implemented on the some regulatory levels (and without sanction), on the distribution of the economy (support), on the share of organic products and on the regional origin.

We find that if the degree of embeddedness of the systems is connected to the lack of public support on one or more of these indicators of embeddedness, or to whether the local public decision makers may prefer some other priorities than what is stated from the higher political and regulatory levels. The embeddedness of organic food in schools in Denmark and Norway is obviously quite weak at the regulatory level. But in both countries there has been a political wish both nationally and locally in relation to organic school food, hence when it comes to the practical actions it has been very hard to fulfil these statement due to different aspects – among others the lack of key-actors to carry the message and unresolved economic aspects has played an important role.

In relation to the aspect of embeddedness of the systems it is clear that the more formalized, politically prioritised and economically supported systems, the more embedded systems, in terms of how many children use them and how developed the structures are around the food (canteen facilities, coordinated with learning activities etc.).

In relation to the aspect of embeddedness of the systems it is clear that the more formalized, politically prioritised and economically supported systems, the more embedded systems, in terms of how many children use them and how developed the structures are around the food (canteen facilities etc.). On the other hand these top-down regulated systems may lose the civil embeddedness (legitimacy) and the parents may feel decoupled from the decisions. In that sense the systems may become socially disembodied. In the less well developed school food systems in Norway and Denmark, the few initiatives that are taken to introduce organic food in schools and school meals in general are suffering from a lack of regulatory embeddedness as well as other types of embeddedness. Structures to support a school food system such as kitchens and canteen facilities and personnel is generally not available, and there is a lack of economical support. On the other hand the involvement of the civil actors may be easier because the systems are yet so immature due to this lack of regulatory embeddedness.

4. Conclusions and recommendations

The research project iPOPY has analysed the policy processes of the organic school food systems in the four countries Italy, Finland, Norway and Denmark. Here we have presented some of these findings related to an analysis of deeper or weaker embeddedness. The overall conclusions on this study is that organic food have a huge potential in school meals but it is challenged by: "double-embedding" processes in Denmark and Norway; "single-embedding" processes in Italy and by scattered embedding processes in Finland.

It is clear from the studies in this part of the iPOPY project that the complexity of school food systems, where different countries have various approaches, and many actors are involved, that a fruitful discussion to address obesity and health problems among children should build on some analytical understanding of the many different aspects and cultural meanings of a given area, in this case the school meals.

On this basis our study we have derived some tentative recommendations. These vary from more general to more concrete and they will be further qualified in the final publication of the findings in the iPOPY project.

- a. Embedding organic food in public school meals is not done by a simple product replacement. It is necessary to address also legal issues, price premium issues, structural issues, sourcing issues, social issues, etc
- b. Taking the development of the "whole school approach" and the curricula of the schools into consideration for embedding organic food in these approaches which strives for coherence of the school's policies and practices
- c. Successful embedding of organic food has to be careful synchronised with other agendas on the local, municipal, (provincial), regional and state level, and also European conditions and policies must be taken into consideration.
- d. Establishing a transition process tailored the relevant social actor networks is crucial to a successful embedding process. For example high level decision makers can facilitate the process by eliminating barriers (economic, formal, legal, bureaucratic etc).
- e. Involving the most relevant user groups in the schools (pupils, parents, school personnel, municipal administrative staff) at relevant stages of the development and operation of organic school meal schemes have a positive and proactive effect on the embedding of organic food in school meals. Engaging for example parent groups can establish a very important local ownership. Also the teachers commitment can be activated through careful coordination with home economics and many other classes/teachers.
- f. Systematic regulatory efforts can be very helpful as shown in Italy. The assessment of the implementation should also be carefully planned into this effort, using relevant constructive instruments to support the progress of implementation and the building of commitment.
- g. School external agendas can be supportive to include in the embedding task. For example can close cooperation or partnerships with local organic producers support both cultural, social and other inclusive embeddings.

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Providing organic food for millions of Italian pupils

How do we make it?

Spigarolo, Roberto¹; Sarti, Marco Valerio¹; Nölting, Benjamin²

¹ DiProVe (Department of Food Crops) – University of Milan, Italy, Roberto.Spigarolo@unimi.it,
marco.sarti@unimi.it

² Centre for Technology and Society of the Berlin Institute of Technology, Germany,
noelting@ztg.tu-berlin.de

Abstract

Italy has successfully improved the quality of school meals over the last decade. Actors from policy and public administration put emphasis especially on the quality of the used products; they should whenever possible come from controlled and certified production. In this paper the focus is on organic products.

This paper analyses three crucial aspects of the procurement of high quality school food: a) strengths and weaknesses of organic supply chains in the perspective of producers and caterers; b) call for tenders being used as a key instrument by municipalities, being in charge of school food procurement, in order to influence the quality of school food; and c) best practice cases of municipal school food systems which combine supply chains on the one hand and municipalities and their activities on the other hand.

The preliminary results suggest that an integrated approach is needed for high quality school meals. Various stakeholders should be brought together, to discuss their demands and increase the understanding between the different fields of school meal procurement, in order to serve tasty, organic meals.

1. Introduction: Challenges of a quality revolution for school food

Italy has a long tradition of school food procurement. Today, more than 750 million school meals are served every year in public schools, about 4.3 million per day (Bocchi et al. 2008). In the early 1990s some municipalities and public administrations started a “school food revolution” (Morgan & Sonnino 2008). Their goal was to increase the quality of the school meals. This ambition is illustrated by the slogan “Turning the school canteens into restaurants for kids” that was coined by the project “The taste of quality at school” carried out ten years ago by the municipalities of Milan, Genoa and Cesena.

Two aspects were of special importance for this quality revolution:

a) The quality of the products used for school food should be improved. Products from conventional agriculture should be replaced by products whose production process is controlled and certified (*filiera controllata*, “controlled chain products”). This category includes organic products, certified typical or local products (labelled as Protected Designation of Origin/PDO and Protected Geographical Indication/PGI), products from sustainable/integrated agriculture (integrated production methods with reduced amount of pesticides and fertilisers), and fair-trade products (Spigarolo 2006).

b) Particular attention was paid to the nutritional balance of the menus. The ingredients and their weight is controlled by the Health Authorities on the basis of national guidelines (LARN = *Livelli di Assunzione Raccomandata di Nutrienti*; recommended intake levels of nutrients).

School meal procurement is a difficult task (Morgan & Sonnino 2008) or, as we call it in the iPOPY project, a complex constellation (Nölting et al. 2009). Thus, improving the quality of school meals requires the involvement of many actors and demands technical, logistical, organisational, financial, political, administrative, and cultural changes. In spite of these challenges, Italy performs very well in comparison to other European countries: It serves school food of high quality especially with regard to the ingredients included in the meals (Nielsen et al. 2009).

How did Italian decision makers, stakeholders, and users manage to improve the school meal systems? This paper presents first results derived from the analyses of the Italian group of the European research project “innovative Public Organic food Procurement for Youth” (iPOPY). It concentrates on the use of *organic*

products in school food because organic food is an important option to provide a sustainable nutrition to young people due to the environmentally friendly form of agriculture producing healthy and tasty food.

The iPOPY project defines public organic food procurement for youth as

“all activities with regard to procurement in public food services for children and young people up to 25 years in schools and other public institutions for youth, such as day-care centres, universities, hospitals, and military facilities. The meal system is organised and its costs are carried, at least partially, by the public institution in question. Youth, or their parents, may need to pay for the food, at least in part. The food contains organic products conforming to EU-Regulations on organic production.” (Nölting et al. 2009, p. 11)

Local actors such as organic pioneers, producer cooperatives, municipal administrations etc. were the pioneers starting to use organic food in Italian school meals. From the mid 1990s, policy got involved in organic agriculture and promoted organic food for school canteens at the regional and national level. Between 1999 and 2002, regional laws (mainly in Northern Italy) were decreed fostering the use of organic products in public food procurement. In the following years, several regions produced guidelines for the management of school canteens recommending the use of organic food and other food from controlled production. As a consequence, the number of organic school meals has risen from 24,000 daily in 1996 to 924,000 in 2007. Data from 2005/06 shows that more than 94 % of the school canteens used organic products at least once a week and that 76 % by weight of all the products came from a “controlled chain”: organic agriculture 40 %, sustainable/integrated agriculture 18 %, typical local products (PDO and PGI) 14 %, and fair trade 4 %. Only 24 % came from conventional agriculture (Spigarolo 2006).

This paper presents first findings from the empirical research that was carried since 2008 in the iPOPY project. The Italian group of iPOPY analyses main constraints as well as success factors for public organic food procurement for youth in schools. This paper focuses on the supply and provision side of the school meal system. It includes three parts and topics that are crucial for high quality school food procurement in Italy:

- Strengths and weaknesses of organic supply chains;
- Call for tenders as a key instrument for municipalities to regulate the quality of school food;
- Best practice cases of municipal school food systems which combine supply chains with municipal activities successfully.

2. Methods

The data presented in this paper derives from several surveys and empirical research conducted by the iPOPY group in Italy.

First, information about the supply side of organic school food was collected by two questionnaires that were submitted to 50 caterers and 50 organic producers from all over Italy in spring 2008. We asked about the costs of the food and the meals, the supply of organic products, and main problems that must be faced when implementing high quality meal services, as well as the participants' personal opinions about these topics. Further, they were asked about preferred organic certification systems for school meal systems. On the basis of this material, in-depth expert interviews with decision makers from producers' and caterers' organizations were carried out in order to characterize the problems and to suggest solutions, using the terms from SWOT analysis, strengths, weaknesses, opportunities and threats (Bocchi et al. 2009a).

Second, calls for tenders for school meal catering are a key instrument for municipalities to influence the quality of the food and the school food service in general. Tender documents are crucial to bring the policies of the municipalities to the point and to put them into practice. On the basis of the call for tenders the contract is closed with the company which wins the bidding. The Italian part of the iPOPY project collected public calls for tender from 96 municipalities from all over Italy in 2009. Relatively more municipalities were chosen from those regions that have a higher share of quality products in their school meals, e.g. in northern and central regions. For the first time, calls for tender were analysed systematically in such a quantity. The analysis focussed on three aspects:

- Procurement policies: What products and what type of requirements are required (compulsory quality requirements)?
- Choice between possible caterers: How is the price weighted in comparison to quality aspects?
- Differentiation of quality aspects that are not mandatory (non compulsory quality requirements): How does the call for tender specifies and weights non-compulsory quality requirements?

Third, best practice cases of five municipalities with different size have been analysed in depth: Rome, Turin, Sesto San Giovanni, Piacenza, and Argelato. For this purpose, a check list was developed to analyse the school meal system in each municipality as a whole. The check list contains quality requirements of the municipality such as the wanted percentage or type of organic products, the organisation of the supply chains (short chain or long chain), the number of suppliers as well as the organisation of the school meal services. Relevant data was collected by expert interviews with managers of the school meals systems, representatives of the administration as well as from catering firms. Further, documents such as calls for tenders, guidelines, political declarations etc. were included. The case studies highlight the weaknesses and strengths of each municipal school meal system.

3. Results

3.1 Strengths and weaknesses of the supply for organic school food

50 organic producers and 50 caterers were asked about their opinions about main constraints for using organic products in public procurement for school meals. In the view of producers, the main constraints seem to be of economical and logistical nature (cf. Fig. 1), whereas caterers perceive the availability of organic products as an important problem (cf. Fig. 2) (Bocchi et al. 2009a).

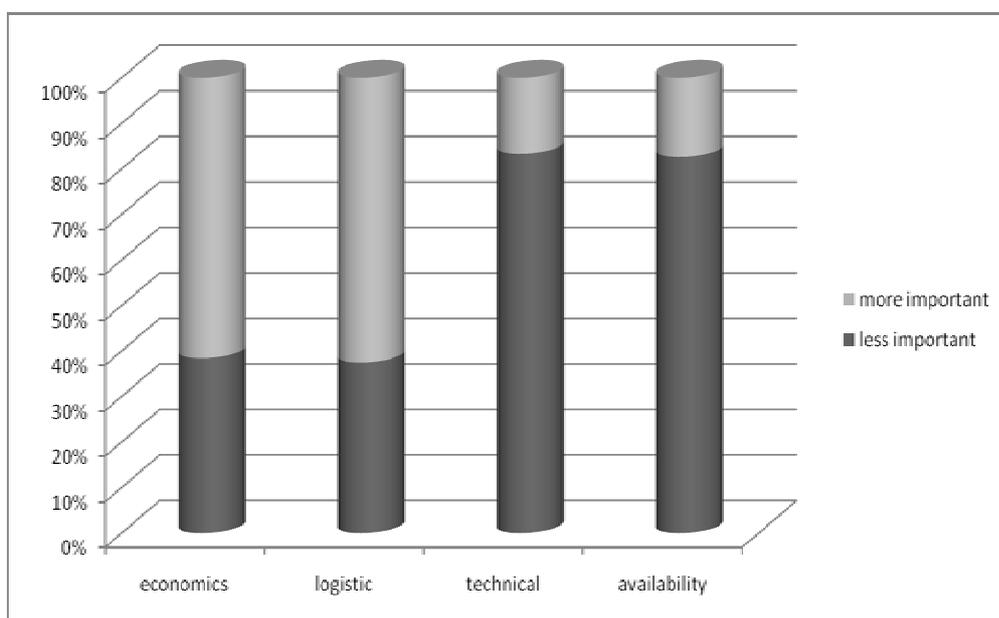


Figure 1: Producers' opinions about constraints for public organic school food procurement. Results from a survey among 50 organic producers in Italy 2008

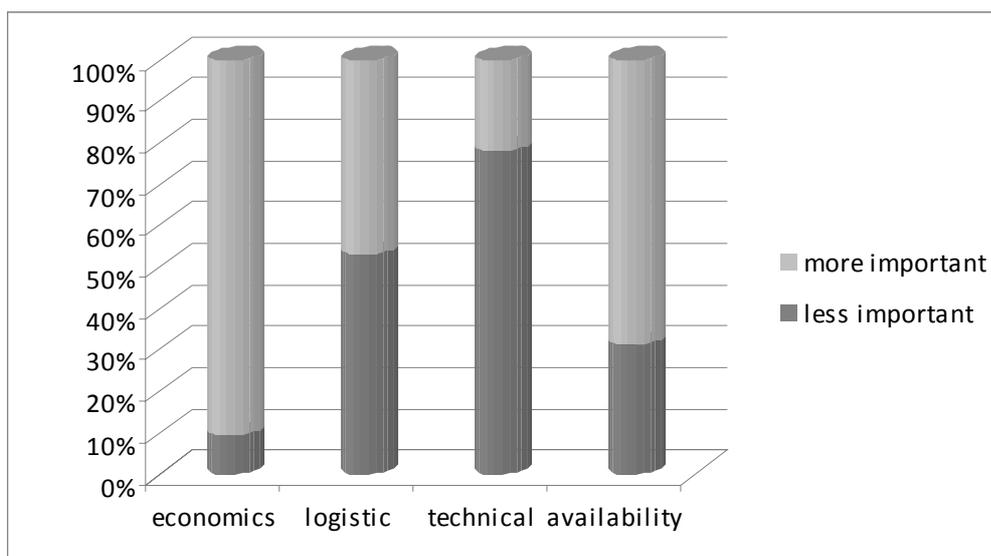


Figure 2: Caterers' opinions about constraints for public organic school food procurement. Results from a survey among 50 caterers in Italy 2008

On average, the producers estimated the additional costs for organic food to be 20% for cereals, fruits and vegetables and 30% or more for meat and meat by-products. Contrary to this, the caterers estimated the additional costs to be significantly higher, ranging from 25% premium prices for cereals up to nearly 50% for meat and by-products.

On the basis of this survey data, eleven expert interviews were carried out in order to analyse strengths, weaknesses, opportunities and threats of public organic food procurement in Italy. The interviewed experts were decision makers in various fields of school meal systems, such as the presidents of the main organizations of organic farmers, the top managers of large school catering companies and the managers of the school meal system of the municipalities.

Most experts agreed that a higher public awareness about environmental issues and food safety fosters public organic food procurement in schools, and hence may be regarded as strengths in the SWOT analysis (Fig. 3). Organic producers considered the increasing attention for local production as strength, whereas caterers highlighted the relationship between health, well-being and organic food.

Both producers and caterers agreed that lacking knowledge about organic food chains for public catering is a weakness of organic school food procurement. More specifically, producers criticised the lack of organisation in organic supply chains, whereas the caterers were more concerned about the premium price for organic products, a discontinuous availability of organic products and an unstable quality.

When considering opportunities, the producers pointed to the regional laws about school meals, which promote organic and other quality food as well as food education. Moreover, public health authorities, as well as and some canteen commissions (*Commissione Mensa*) demand dietary changes towards more healthy menus to prevent endemic illnesses caused by malnutrition such as obesity and cardio-vascular problems. The school canteen commissions are found in 80% of the Italian schools, and are composed by parents and teachers to discuss and maintain the quality of the school meal system.

The most important threat, according to the producers, is the scarcity of public funding. The regional laws are only guidelines to promote public organic procurement, but do not finance it. Further, their implementation is not satisfying, especially with regard to the catering contracts. According to the caterers, reduced family incomes are an important threat.



opinion of the producers (in red) – opinion of the caterers (in blue) – shared opinions (in green)

Figure 3: SWOT analysis of supply chains of public organic school food procurement

Summarising this SWOT analysis, higher prices for organic products are obviously only one of several restrictions for public organic food procurement. Problems with the specific supply chains for school catering seem to be even more important. A closer cooperation between producers, caterers and municipal school meal managers is needed in order to spread information about possibilities and specific requirements in this

field, to improve knowledge on all sides, and to equilibrate demand and supply. Important drivers for encouraging the procurement of quality food, including organic products, are the regional laws. Seven regions have actually stated such laws, and four more have developed guidelines in that field.

Another important topic with regard to public organic supply chains is the question of organic certification for canteens and restaurants which is still lacking in Italy. Certification is an important option to make the use of organic products visible for users and to guarantee the organic quality of the used ingredients. In the questionnaire, producers and caterers were asked about their preferred type of certification. Producers opted mostly "to certify the canteens" and "to certify the ingredients", while caterers preferred "to certify the meal" and "to certify the ingredients" (Bocchi 2009a).

In 2009, a working group was stated in Italy in order to discuss and experiment certification schemes for organic canteens, in which FederBio (the Italian Federation of Organic Farmers and Organic Certification Bodies) and Accredia (the Italian national accreditation body for the accreditation of testing laboratories and for certification and inspection bodies) are involved. In October 2009 this group has prepared a draft which was sent to the Ministry of Agriculture, Food and Forestry.

3.2 The analysis of municipal calls for tenders for school meal services

As stated by Morgan and Sonnino (2008), the potential of sustainable public procurement has not been tapped yet. They refer especially to the case of school meal procurement as a missed opportunity, so far. However, they claim that Italy is a pioneer in using calls for tenders as a means to improve meal quality instead of pushing a race to the (quality) bottom by just focussing on the lowest price. The latter option, according to Morgan and Sonnino, is also due to EU-Regulations on public procurement favouring the lowest price because it is often very difficult to define the wanted food quality precisely enough for a contract based on the call for tenders. This may impede more sustainable choices that might in the short run be more expensive.

The analysis of the calls for tenders of about 100 Italian municipalities may reveal whether and how these documents are an effective steering instrument to achieve high quality school meals, e.g. with a high share of organic products, certified typical products etc. In this paper we present preliminary results of this analysis focussing on 24 calls for tenders from the Emilia Romagna region.

3.2.1 Analysis of the procurement policies

In the first step, procurement policies were analysed, identifying all quality products required in the contract as compulsory. Quality products were differentiated into five quality types:

- a) organic products;
- b) short chain products, defined as products from neighbouring areas;
- c) typical products (PDO, PGI);
- d) products from sustainable/integrated agriculture;
- e) fair trade products.

The requirements for these quality types were identified in five product groups: fruits & vegetables; dairy products, meat & by-products; cereals & pulses; and other products.

The analysis shows that a high number of fruits and vegetables were required in organic quality. Table 2 gives an example how quality requirements were identified for the product group of fruits and vegetables. On average, (partially) organic products were demanded in nearly 50% of the tenders. Contrary to this, requirements for fruits and vegetables from short chains, typical products, sustainable agriculture and fair trade were rarely found.

Nominations	Requirements of the products				
	Organic	Short chain	Typical	Sustain.agr	Fair Trade
potatoes	17	3	0	2	0
mushrooms	11	3	0	2	0
leeks	11	3	0	2	0
parsley	11	3	0	2	0
spinach	11	3	0	2	0
onions	12	3	0	2	0
garlic	12	3	0	2	0
carrots	19	3	0	2	0
cabbages	12	3	0	2	0
savoy cabbages	12	3	0	2	0
fennels	12	3	0	2	0
celery	12	3	0	2	0
salads	18	3	0	2	0
cauliflower	12	3	0	2	0
frozen vegetables	3	3	0	2	0
apples	18	3	0	2	0
pears	16	3	0	2	0
oranges	17	3	0	2	0
lemons	12	3	0	2	0
tangerines	12	3	0	2	0
bananas	16	3	0	2	4
peaches	12	3	0	2	0
plums	12	3	0	2	0
cherries	12	3	0	2	0
strawberries	12	3	0	2	0
kiwi	12	3	0	2	0
apricots	12	3	0	2	0
Total nominations	348	81	0	54	4

Table 1: Compulsory quality requirements for fruits and vegetables in organic, short chain, typical, sustainable/integrated and fair trade quality found in 24 calls for tenders of the Emilia Romagna region

In the category *milk and dairy products*, especially milk and yoghurt were required in organic quality, whereas cheese was especially required as typical product (PDO and PGI). In the category *meat and byproducts*, only few products were required as organic, but again products from short chains and typical products (PDO and PGI) were important. In a few cases it was required that the animals should be raised in Italy. In the category *cereals and pulses* a lot of organic products were required. We counted altogether 121 nominations (= specified products). Organic rice, pasta, barley, and bread were mentioned most frequently. Interestingly enough, in this product group no requirements were made for typical, short chain, sustainable/integrated or fair trade products. In the group *other products*, peeled tomatoes and tomato sauce were the most commonly required products in organic quality, but also biscuits and olive oil were mentioned (1/3 of the cases). Altogether we counted 54 nominations in this group.

To sum up, many products were required in organic quality in the analysed tenders, especially fruits and vegetables, milk and yoghurt, cereals and pulses (including pasta) as well as canned tomatoes, biscuits and olive oil. On the contrary, meat and by-products were rarely demanded in organic quality. These requirements mirror well the availability of organic products in the mentioned categories in the Italian supply chains for out of home catering. Moreover, local products (short chain) are demanded relatively often in comparison to an earlier survey carried out only four years ago (Spigarolo 2006). At that time local products were hardly mentioned at all. Now, they are a compulsory requirement in some cases and fairly often demanded as a non-compulsory option.

3.2.2 Weighing price and quality in the calls for tender

A crucial point in public procurement is a good balance between low price and high quality. Therefore, a call for tender should assign points or scores to different aspects or parts of the bidding in order to assess the different biddings and their advantages and disadvantages in a transparent manner. E.g. a call for tender may assign certain number of points to the price, to the share of organic products, to the share of typical

products, to improvements of the technical infrastructure of the canteens and kitchens etc. that may sum up to a score of 100 points at the maximum. By assigning these scores to each offer, the offer with the highest score gets the contract.

The score can be divided into two general categories: price and quality aspects. A joint initiative of EFFAT (European Federation of Food, Agriculture and Tourism Trade Unions - www.effat.org) and of FERCO (European Federation of Contract Catering Organizations - www.ferco-catering.org) has developed a guide for the "economically most advantageous" offer in contract catering. This guide shall assist public and private purchasers of catering services in organizing a well structured tendering process. It is a voluntary standard. According to this guide, tenders may assign scores for price and quality aspects of the bidding in about equal shares. That means that the price decides only to about 50 % on who wins the tender. The score for quality aspects allows the caterers to demonstrate their ability to organize and plan the meal service of high quality.

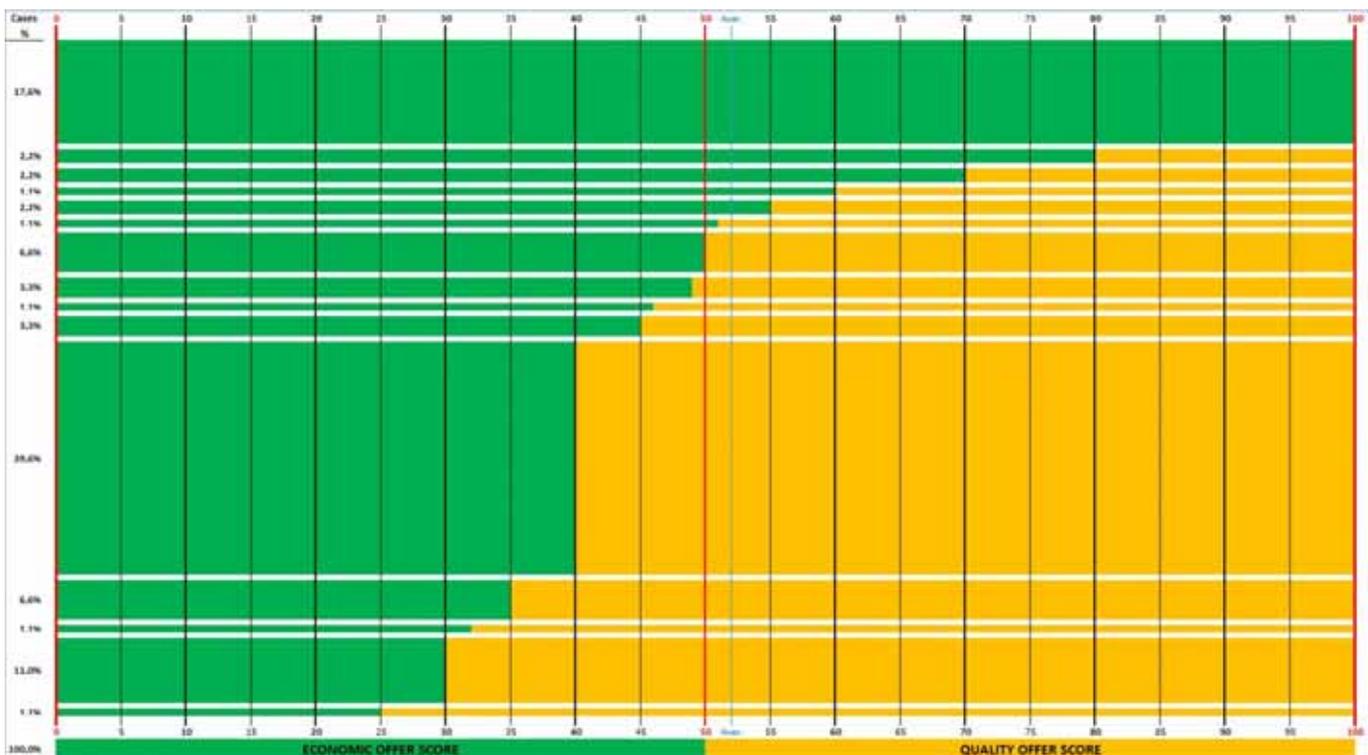


Figure 4: Shares between the weighting of price and quality in 96 calls for tenders for school meal catering in Italy, 2009

The analysis of 96 Italian calls reveals that in the vast majority of the cases, at least some scores were assigned to quality aspects of the offer at different shares (Fig. 4). Only 16 tenders devoted scores exclusively to the price of the offer. On average, 52 % of the scores were devoted to the price and 48 % of the scores to various quality aspects. However, it should be mentioned that some quality requirements may have been mandatory in the call for tenders as shown in 3.2.1. Thus, quality aspects are often integrated in the call for tender even though there is not always a score for quality aspects.

This result shows that mandatory and non-mandatory quality aspects are part of the calls for tenders. This finding underlines that it is possible to define quality aspects and integrate them into calls for tenders. However, not all tendering processes are sufficiently clear about the wanted quality. This is reflected in the next section.

3.2.3 Differentiation and evaluation of quality aspects in the calls for tenders

In the calls for tenders, we identified a large variety of voluntary quality aspects that could win scores in the bidding process. These very heterogeneous parameters can be divided into two categories: quality aspects and other aspects.

Quality aspects (non-compulsory quality requirements) influence directly the quality of the food and the meal service. We differentiated five specific categories for quality aspects:

- a) Food quality aspects: Organic products offered by the companies in addition to those required as compulsory; typical products (PDO or PGI) offered by the companies in addition to those required as compulsory; integrated/sustainable agriculture products; fair-trade products
- b) Aspects related to the supply chain: Short chain products (from neighbouring areas)
- c) Certifications: ISO 9001, ISO 14001 and others
- d) Aspects related to food education: general food education programs offered by the companies, specific education programs about organic products and production
- e) Aspects related to the quality of the school meal system: Staff training; improvements of school canteen structure

The second category includes all other aspects that are not directly connected to the above mentioned quality aspects, such as hygienic issues (that are compulsory anyway), number of employees, professional skills of the employees etc. In this category we considered aspects such as:

- hygienic issues related to food safety: HACCP self-control method that is mandatory by law
- the number of employees resp. number of meals ratio, that is related to the employment contract
- the commitment of companies to carry out nutritional education activities with students which is the responsibility of the teachers and is not the core business of catering companies

In the analysis, we counted the scores devoted to each of the above explained categories in every call for tenders and compared how they were weighted in relation to another. Interestingly, we found out that 27 % of the scores are devoted to quality aspects and 73 % to other aspects (cf. Fig. 5).

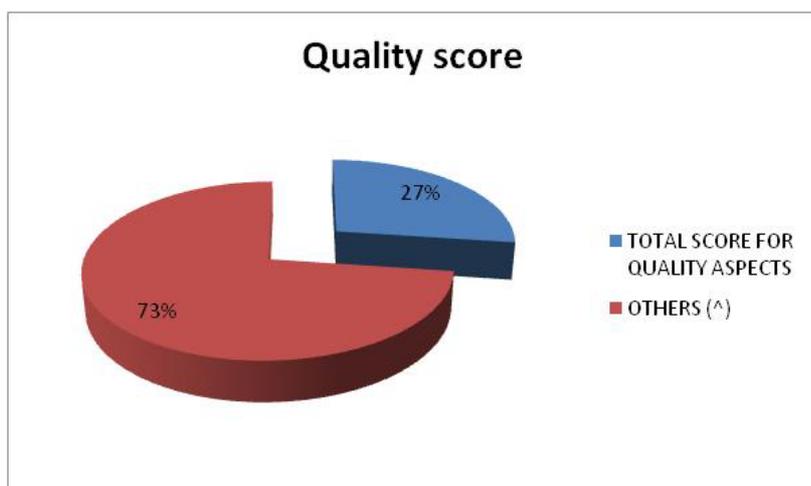


Figure 5: Differentiation of the non-mandatory scores into quality aspects and other aspects

We interpret these findings as follows: The calls for tenders often devote scores to categories that are not directly related to the quality of the food and the meal service but are either compulsory by law or by employment contracts or they are not in the responsibility of the catering companies. In our opinion, such scores may be confusing and hamper the concentration on food quality aspects.

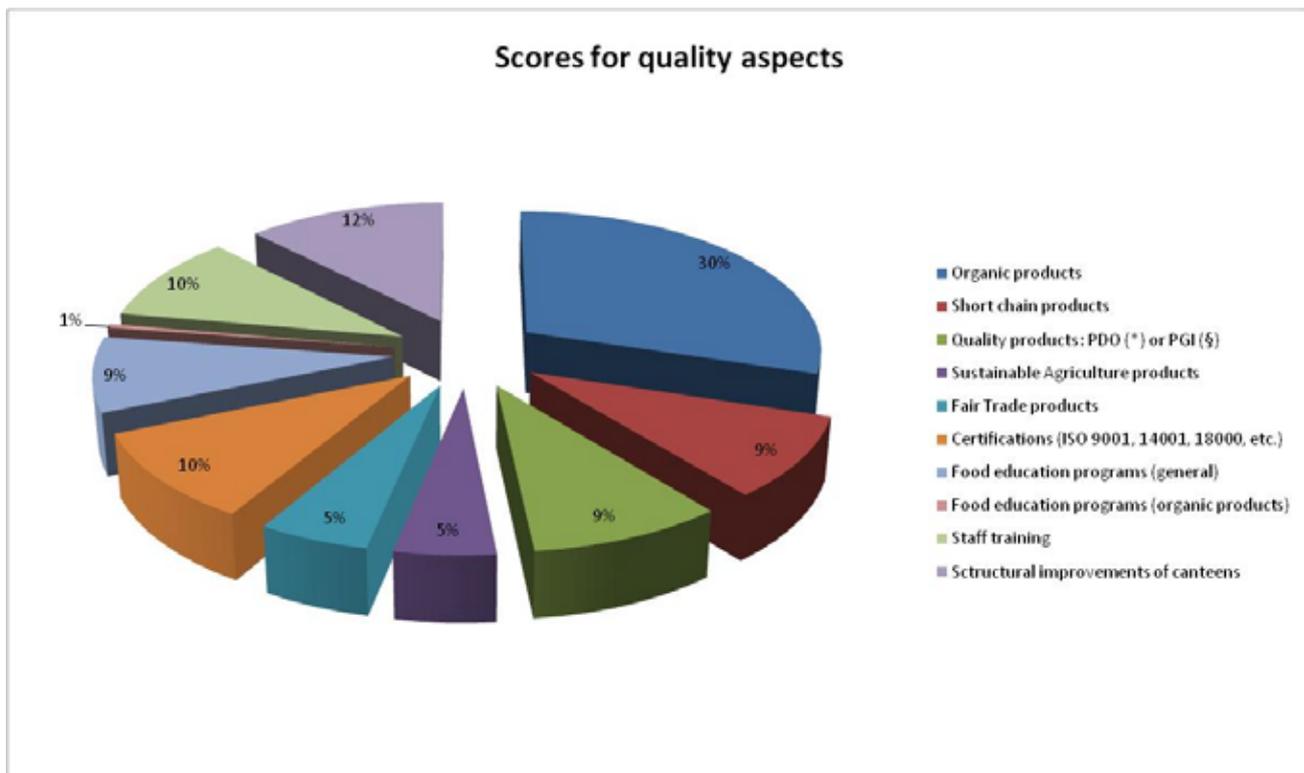


Figure 6: Specification of the quality aspects in the call for tenders

Regarding the above defined non-compulsory quality aspects in detail we identified a broad use of such categories in the analyses 96 calls of tenders (cf. Fig.6). The most important category were scores for additional organic products beyond the required ones, which on average was weighted with 30% of the total score for quality aspects. The average scores for short chain products, typical products (PDO, PGI), certifications, food education programs, staff training and structural improvement of canteens were weighted about 10 %, whereas integrated/sustainable agricultural products and fair-trade products were weighted about 5 %.

3.3 Five best practice cases of the Italian school meal system

The aim of the case studies was to identify the main features of successful school meal systems and to analyse their strengths and weaknesses. Cities and municipalities of different sizes and structure were chosen in order to reflect the diversity of school meal settings: Rome, Turin, Sesto San Giovanni, Piacenza and Argelato (cf. Table 2).

As in all Italian cities, these municipalities are responsible for school meals offered to children who have a full time presence at school during the day. In all five cases food is not conceived as a physiologic need but it is considered as a cultural and social expression. These considerations are very important to understand the philosophy that inspires political guidelines for food catering in school canteens.

Rome is the capital of Italy and the biggest city with about 2.5 million inhabitants, located in the Lazio region in the central part of Italy. Rome serves about 150,000 meals daily in 710 schools. The kitchens for preparing the meals are located at the schools. Over the last years the municipality of Rome developed a policy aimed at increasing the quality of school meal service, implementing the procurement of organic (70 % organic; no organic: cheese, milk and meat that are however typical and quality certified) and local products. In this case "local products" means from Lazio and the other regions of central Italy due to the sheer quantity of the needed products.

Turin is a city of about 950,000 inhabitants, located in the Piemonte region in northern Italy. The city serves 55,000 school meals a day. The meals are prepared in a mixed system that combines centralised and decentralised kitchen structures. There are centres for food preparation that distribute prepared food to some schools as warm meals and to other school as chilled meals which are reheated in the decentralised school kitchens. Further, there are autonomous school kitchens that prepare meals on their own. The municipality's policy for school meals promotes the procurement of high quality products and promotes self-service in the school canteens. The self-service system was introduced in Turin for the first time in Italy. The

reason for it was to reduce the amount of left-over food, which may be substantial when all pupils are served portions of equal size which is the common model in Italy.

Sesto San Giovanni is a city of about 100,000 inhabitants, located in the Lombardy region in northern Italy. A centre for food preparation delivers warm/cold food and meals to 6,000 pupils resp. 41 school canteens. The municipality fosters the procurement of high quality products, in particular organic food that has a share of 80 % of the total food. Other products are mainly of typical and/or certified quality. Moreover, it pays great attention to the cooperation with the company that manages the school catering system in order to organise also the service and the educational activities in close relationship with the caterer and supply chain actors.

Piacenza is a city of about 95,000 inhabitants in the Emilia Romagna region in northern Italy. It serves 5,000 school meals daily. A centre of food preparation distributes chilled food to the kitchens at the schools which reheat the meals, and also prepare some fresh food. Piacenza promotes the procurement of organic and local products, coming from the farms of its province. Farming and food production have a long tradition in this area and are valued as an integral part of the regional identity. Finally, students are involved in educative projects about healthy nutrition.

Argelato is a small city of about 8,500 inhabitants, located near Bologna in the Emilia Romagna region. It serves 800 meals per day to four schools. The food is prepared in a central kitchen. Argelato strives for high quality school meals. Remarkably, it has reached 100% procurement with organic products. This was made possible amongst others through a close relationship with local producers. Moreover, it organised educational projects about healthy nutrition and environment.

<i>City</i>	Rome	Turin	Sesto San Giovanni	Piacenza	Argelato
<i>Meals per day (average)</i>	150,000	55,000	6,000	5,000	800
<i>Number of schools</i>	710	285	41	34	4
<i>Main structure of school meal system</i>	kitchens are situated at the school	mixed system: centre of food distributing warm/cold meals; kitchens situated at the school self service system	centre of food preparation and distribution to the school by warm/cold keeping system	centre of food preparation and distribution to the schools as cool & chill system school kitchens reheat and serve the meal	centre of food preparation and distribution to the schools by warm/cold keeping system

Table 2: Overview over the five municipalities and there school meal systems.

In all five cases, municipalities, sometimes stimulated by regional laws, decided to increase the quality of their school meal system. Often, they started with the procurement of organic food and other quality products from “controlled chains”. A strength of nearly all cases is the high quality of the raw material. All municipalities promoted the increased use of quality products. Often, they are engaged in promoting local or regional supply chains in order to create transparent supply chains and markets for local producers.

Further, the analysis reveals that there are several valid models of successful school meal systems. Each municipality was able to developed particularly good practices which are well adapted to its size, structure, and context. As a consequence, effective school meal structures may well be established in very different settings.

A more detailed analysis shows the following features:

Rome is an interesting model for big cities, which combines the exploitation of local and quality products with the food education programs (cf. also Morgan/Sonnino 2008). The municipality of Rome pays great attention to the relationship with the producers and with the users. It produced guidelines about catering system organization and started learning processes between regional producers, caterers and the administration in charge. Finally, Rome promoted food education in line with its promotion of regional and organic school food, produced educational material and started projects with students about healthy eating. A drawback of its school meal structure that is based on a kitchen in every school is the high costs.

Turin has developed as one of the first cities in Italy a self-service for pupils. Turin has developed for the first time in Italy a self-service system with the aim to reduce the waste. Its school meal system combines the high quality of the food products with low costs due to the centralized cooking centres. However, quality products are not always available in big quantities at low price.

Sesto San Giovanni has developed an interesting model for medium to small size towns in Italy. Its policy combines the high quality of the food products with an effectively organised school meal system.

A specific advantage of the school meal system in Piacenza is the organisation of short or local supply chains. Local farmers built up a consortium named BIOPIACE which is the main supplier of the catering company being in charge of the school meals. BIOPIACE provides fruits, vegetables, biscuits, milk, and cheese in organic quality as well as meat (not organic). The close relationship between the caterer and the consortium was an important reason to get the contract. The increasing number of local (organic) farmers in the consortium allowed for a progressive reduction of the costs of procurement. Moreover, the organization of the meal preparation is very innovative. The caterer uses a central food preparation unit in Piacenza (that belongs to the municipality) where the meals are prepared and to a small part precooked. The prepared food is brought to 27 school kitchens where the meals are finally cooked and served. Seven other school serve warm meals brought from the central preparation unit (Bocchi et al. 2009b). This organization, however, is very costly for the municipality.

Argelato is a pioneer with regard to 100 % organic school meals. Due to the single central kitchen and the low number of meals, its school meal system has no high costs.

A weakness of nearly all cases is the availability of regional and/or organic products as well as relatively high costs. In some municipalities the high number of meals seems to be a problem: for guaranteeing the availability of the wanted quality products, some municipalities accept long supply chains which may also include long distance transportation.

Summarising the results of the case studies, we recommend taking a leaf from the model that is most similar to the particular context. The model of Piacenza is probably not suitable for a great city and model of Rome is not applicable to a small town vice versa. However, some points are highly relevant in all cases or a majority of them: the political initiative of the municipality, public funding, precisely formulated and demanding call for tenders, a close cooperation with local producers and caterers, support for establishing new local supply chains for quality products, initiating learning processes between caterers, producers and administration.

4. Conclusion and Preliminary Recommendations

Bringing together results from different angles of the procurement side of school meals, some points can be highlighted here:

- An important driver for pushing the quality of school food further are the regional laws that promote the procurement of quality foods, including organic food.
- Most producers and caterers still work from their point of view and are embedded in their specific and separate logic. Knowledge about restrictions and needs of the “other side” is rare. A closer relationship and better integrated supply chains from the producer to the kitchen is needed. This exchange can be promoted by a local authorities or non-governmental organisations which can invite all the actors of the school meal system – producers, caterers, and schools – to a round table. An integration supported by shared and clear agreements, like the cooperation of the stakeholders in Piacenza, can overcome these constraints.
- Carefully formulated calls for tenders are an important instrument to foster high quality food in the school meal systems. The analysis of the calls for tenders identified components that an effective tender should include: Specific quality requirements for used products, a balance between price and quality for the weighing of the biddings, and precisely formulated quality demands (compulsory and non compulsory).
- As the case studies reveal, there is not one optimal system for all organic school meal systems but each municipality has to find its own solution adapted to its size and specific context. However, a municipality can learn a lot from the best practice cases, e.g. how to formulate a call for tender, and how to organise organic and/or regional supply chains.

Some more lessons can be learnt from these findings. Common working groups, platforms and working relations between all relevant supply chain actors are able to bridge different logics of action of each group.

E.g. the development a voluntary standard on public contracts for canteens initiated by UNI (Ente Nazionale Italiano di Unificazione; National Organization for Standardization) and the National Observatory of School Canteens brought together stakeholders from the producers and the caterers for the first time and started a valuable learning process. We recommend developing these experiences further because it is precisely in between these groups that many problems should be addressed and solved most effectively e.g. by developing guidelines and shared voluntary standards. Also the analysis of the best practice cases demonstrates that municipalities cooperate effectively with caterers, producers, and schools creating innovative solutions for high quality school meal systems.

With regard to call for tenders a balance between price and quality is important in order to prevent a race to the bottom. We suggest paying more attention to the question how quality aspects may be integrated into a call for tender either as compulsory or as non-compulsory. Clearly defined quality standards that are shared by all stakeholders should be developed. Currently, a working group of UNI is developing such a voluntary standard on public contracts for canteens, in which all undefined requirements that are not directly connected to quality aspects are considered as not applicable.

In Italy, the trend replacing conventional food in school canteens by quality food continues, even grows. While organic products are quite well established meanwhile, the procurement of local products is on the rise. It is motivated by a mix of cultural (local traditions) and environmental concerns (less transportation). In order to improve the quality even further towards the vision of a "sustainable school meal system" a holistic approach is needed that combines these trends and integrates further aspects. Challenges that are worth working on are especially the environment of the canteens, the waste management, and a coherent food education which is, so far, a non-tapped potential (Spigarolo and Donegani 2009).

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Tracing Food Education for Sustainable Development in iPOPY Countries

Recommendations for learning about sustainability and organic food within educational contexts

Mikkola, Minna¹; Roos, Gun²

¹ University of Helsinki, Ruralia Institute, Mikkeli, Finland, minna.mikkola@helsinki.fi;

² SIFO – National institute for Consumer Research, Oslo, Norway; gun.roos@sifo.no

Abstract

Food Education for Sustainable Development (FESD) is evolving into a topical entity included in education in European countries due to the growing focus on environmental and health problems, which cause a 'sustainability deficit' within the food system. This paper presents qualitative and exploratory research results from iPOPY project, carried out in Denmark, Finland, Italy and Norway regarding FESD and organic food in public food service for young people. The national core curricula in the studied countries seem to allow FESD although it is addressed in school contexts in varying ways through different school subjects; to some extent, the implementation depends on teachers' other school activities and school food culture. There are teachers who engage in innovative FESD with students, creating new connections between conceptual, practical and experiential education by networking with other teachers and food system actors. Results suggest that pupils and students would achieve more profound learning outcomes if a whole school approach with integrative and coherent educational strategies would be applied and school food culture would be considered from the point of view of SD. The school caterers seem not to be too much involved in FESD but their and their organization's roles are becoming more important. For successful learning about sustainability and organic food among young people, teachers, caterers, students and school administration have to be included in the process.

1. Introduction

Schools and public food service have been recognized as promising arenas for advancing sustainable development and changing the way people eat (Morgan & Sonnino, 2008). This paper traces education and communication about organic food and sustainability aimed at young people and discusses the findings from the ongoing iPOPY (innovative Public Organic food Procurement for Youth) project, which focuses on organic food in public food service for young people. Schools are main arenas for formal learning and school meal systems are the major public food services to young people. Festivals are collective events that can be understood as arenas for social and informal learning and opportunities to experiment with pleasure and meaning (Purdue et al., 1997).

Food Education for Sustainable Development (FESD) is often understood as part of Education for Sustainable Development (ESD), which refers to normative improvement of economic viability, state of environment and socio-cultural well-being (Morgan & Sonnino, 2008). Currently, FESD is gaining momentum within educational developments in European countries. However, as a cross-curricular theme, it represents rather a reformist concept when compared to international mainstream education based on different school subjects.

The iPOPY work package 4 explores the practices, perceptions and preferences linked with organic food in schools and other public settings in the four iPOPY funding countries (Denmark, Finland, Italy and Norway). This paper, which mainly is based on case studies in Finland and Norway, presents findings of actors' (teachers', caterers', students', school administrators' and festival visitors') views and learning about sustainability and organic food in the contexts of education and leisure. The qualitative research aims at analysing the actors' experiences and learning in order to respond to their views when proposing improvements for FESD. The findings also convey recommendations for implementing FESD within schools.

2. Methods

This paper is based on findings from iPOPY work package 4. The paper focuses on qualitative case research in Finland and Norway, whereby observation and individual interviews and focus group interaction were used

to produce qualitative data. In this paper, food education in Italy is also dealt with briefly because some of the iPOPY data on school meals was also collected in Italian schools by observation. Italy has more organic food in schools than these Nordic countries (examples of iPOPY research sites in Figure 1).



Figure 1: Examples of iPOPY sites of research: Primary school in Italy and music festival in Norway
Photos: Gun Roos

The qualitative research is based on cases, including primary, upper secondary and vocational schools in Finland, a cadet school in Norway and a Norwegian music festival (Table 1). These sites were selected to represent schools with progressive educational aims such as ESD and food service using both conventional and organic food or only organic food like the music festival in Norway. The cases in Finland included schools, because the free meal served at Finnish schools offers a stage for iPOPY research whereas in Norway, there is no public food served for pupils or students at school but they mainly bring their lunchbox to school. Other formal and informal educational contexts in Norway such as a cadet school and a music festival were therefore selected as cases for the iPOPY project. Teachers and caterers were interviewed individually, whereas focus group discussions were conducted with pupils and students at schools and participants in the event. The interview guides included questions about understanding, learning, evaluating and committing to sustainability and organic food by the respondents. The interviews were tape-recorded, transcribed and analysed for content and discourses, following principles of qualitative categorization of perceived differences in actors' accounts and behaviours (Bauer & Gaskell, 2000).

Table 1: Studied cases in Finland (FI) and Norway (NO). Numbers of interviewed teachers, caterers and young people in focus groups.

Sites of research	Type of site	Teachers	Caterers	Young people (number of focus groups)	Total interviewed
Primary school FI	Suburban	3	3	5 (1)	11
Primary school FI	Urban	3	4	13 (2)	20
Primary school FI	Suburban, remote	3	2	9 (2)	14
Vocational College FI	Suburban, remote	2	1	11 (2)	14
Upper secondary school FI	Suburban, remote	3	(2)	10 (2)	13
Music festival NO	Urban	-	-	9 (2)	9
Cadet schools, Norwegian Defence NO	Suburban	-	-	11 (2)	11
TOTAL		14	10	68 (13)	92

3. Results and discussion

3.1 Teachers

Teachers are central actors in education. In this part we will first focus on teachers and education in Finland. To illustrate European variation, food education in Italy, a European country serving more organic school meals than Finland, is presented. Finally, the role of cross-curricular FESD is discussed.

3.1.1 Teachers and Food Education for Sustainable Development in Finland

In Finland, ESD is part of the national core curriculum as a thematic unit which is supposed to be taught through all school subjects (Uitto, 2009). The statutory free school meal is considered as part of education, particularly pertaining to nutritional, cultural and manner tuition (Manninen, 2009). The 'environmentally dedicated' schools have also the possibility to reorganize their activities according to FESD and gain visibility by becoming certified by the international FEE "Green Flag" program or by the Finnish educational development foundation (OKKA). Altogether about 200 schools have complied with these programmes, and some of these schools serve organic food, among other more typical environmental activities. The ESD as a generic unit for all Finnish schools also frames FESD which is most often relevant for some particular subjects such as home economics, biology, geography, environmental and nature studies, and sometimes even languages and mathematics. Finnish teachers in case study schools presented a strong acceptance to the idea of ESD in general, but simultaneously a hesitation about how to deal with it in education; ESD seems to allow for individual variations across teachers and schools. In general, the teaching is directed by educational aims more broadly in primary schools but when national matriculation examination draws near in upper secondary school (pupils aged 16-18 years) the focus on subject knowledge grows ever stronger. Therefore, in lower classes there seems to be more space for experiential and practice based education. The teachers of the Finnish primary case study schools expressed a varied focus on ESD. The dedicated teachers aimed at a education of environmental ideas, introduced environmental practices, organized experiential learning in the vicinity of schools or at educational farms, and developed Green Pupils' Boards for pupils interested in environmental education. These teachers networked with 'external' actors such as caterers and technicians, and introduced them to teach and guide pupils about FESD. Additionally, these teachers organized organic food to be served at school meals by (considerable) administrative efforts, as a signal of sustainable practices. The 'ordinary' teachers expressed other educational interests and therefore worked according to basic educational aims including the concept of sustainability and organic food in their teaching. Finally, there were teachers who felt themselves as struggling with other problems which demanded more attention than ESD or FESD. (Mikkola, 2009a).

3.1.2 Food Education for Sustainable Development in Italy

In Italy, Food Education (FE) is a compulsory topic in primary and secondary school but it is taught without a particular school subject; therefore, it becomes 'disseminated' among teaching, as in Finland. Italian food education has a strong tendency to highlight nutritional, food cultural, environmental and rural aspects (Morgan & Sonnino, 2008) and it can be considered as a variety of FESD. Educational material has been published by both national, regional and commercial stakeholders within the food system. This FESD seems to vary in its implementation, like in Finland. The school meals are statutory but funded by family income-dependent progression, which is not visible to pupils (Morgan & Sonnino, 2008). Although the national and regional laws promote the use of so-called 'quality food', including organic food, at school meal service, pupils are not informed about this and may not be aware of the organic quality of the food served at school. In general, the FESD at Italian schools historically aimed at food security, after which food safety became an issue; finally, recently quality food, including organic food, has become the target for the Italian school meal system (Spigarolo & Donegadi, 2009). In Italian schools there are Canteen Commissions, where parents, school staff and caterers meet to discuss and ensure the quality of the school meals. These bodies may be regarded as co-operative bodies for FESD (Spigarolo & Donegadi, 2009).

3.2 Caterers

In this part caterers' views and roles in FESD within Finnish case study schools are presented. Public caterers often meet limitations with funding and often find it difficult to buy organic food. They are interested in SD and organic food but more often than not restricted by organisational practices of the catering industry. They would like to exert more influence on the developments towards sustainability and moreover, and they express interest in learning more about sustainability and new practices.

3.2.1 Caterers' views on sustainability and organic food

Finnish caterers had different positions in terms of their powers to procure organic or local food; executives had more responsibility for the budget, whereas managers could impact within these limits on the quality of food. The executives' and managers' professional identity for sustainability (Mikkola, 2009b) was studied as social force for sustainable food choices. The caterers' choices depended on the alignment of (existing) organizational sustainability strategies, their own views about sustainability and its practice as well as availability and price of organic and local food on the market. In case of positive alignment of these factors, the executive caterers were able to buy organic and local food, work together with the supply chain actors

and feel happy about their professional position. In case of lack of support by the organizational strategy and supply chains on the market, the executive caterers were trying to deal with sustainable choices. Finally, if they were critical or delimited about their views for sustainability, in spite of some level of organizational support, they focused on other developmental aims within their professional work rather than to search for organic products. The managers shared partly these approaches; they seemed to be happy when organic food was used by the organization, but were often found to disagree with their superiors about the procurement criteria of conventional food. Some managers were concerned about the health quality of food, some created distance to (un)available organic food and again some paid no attention to their unsystematic choices for sustainability. These results support that sustainability and organic food, understood as a sustainable alternative, have become identified by caterers as an option for exhibiting sustainability aspects in catering. However, there seems to be need for orchestration of the use of organic food within the organizations, co-operation with suppliers and more profoundly informed decisions about sustainable food choices. (Mikkola, 2009b).

3.2.2 Caterers' response to the organic message

The caterers studied seemed to view organic food as an alternative to conventional food and thereby saw it as a potentially more sustainable option, as a 'call for goodness' in terms of environment, health and animal welfare (Mikkola, 2009b; Mikkola & Roos, 2009). Some attached this quality feature to local food too, and were additionally interested in presenting themselves as progressive professionals working for a 'morally sensitive' organization. However, those who were unable or unwilling to 'join' the 'good organizations' – due to lacking understanding of sustainability criteria on the chain level, economic or availability problems – seemed to develop a negative response to this organic message (Mikkola & Roos, 2009). The organic message as moral communication (Luhmann, 1990) suggests the features of moral behaviour and calls for procurement of organic food. The caterers' negative response included arguments such as free school meal service being already on a morally high level and organic food being 'new luxury' not feasible for cheap and democratic school meals. The caterers also saw more urgent improvement needs elsewhere, for instance in renovation of old kitchens. Finally, organic food was criticized for lack of particular micronutrients and fortified vitamins, and that the evidence of weak quality of conventional food was missing. The caterers also presented resistance to 'trends' and saw their activities as firmly based on legal and nutritional agreements about school catering. The analysis suggests that the organic message needs to be designed in ways not calling for negative response by caterers and even to be designed as a solution to their dilemmatic situation. (Mikkola & Roos, 2009).

3.2.3 Caterers' learning at the workplace

The participatory research approach (Bruges & Smith, 2008) for developing the use of organic milk with caterers was implemented as a response to political quest for increasing the use of organic food in public catering (Mikkola, 2009c). The researcher organized the dialogue with caterers and industry in turns whereby their messages to one another were condensed and mediated by the researcher. The caterers were complaining about the composition of organic milk, which in Finland is not fortified to increase the vitamin D content in skimmed organic milk. Furthermore, there were no large packaging sizes available, and in low-fat organic milk, which is usually not homogenized in Finland, the fat tended to form a layer on top of milk column. The caterers experienced difficulties in explaining the sustainability quality of organic milk because the contrast between conventional and organic Finnish milk types, as perceived by them, was not very obvious. Furthermore, due to the milk market competition between wholesalers, organic milk was not available despite the contract for delivery. The response by industry concluded that vitamin D fortification of organic milk was dependent on national legal developments connected with EU directives, and therefore represented a heavy and slow procedure. Changing packaging sizes would be a major industrial investment, and therefore not done on light grounds for minor product segment under conditions of heavy market competition. The researchers' suggestion for caterers to see the use of organic milk as an "intermediate mediating strategy" (Deane-Drummond, 2006) was reflected upon and a test to use organic milk for two weeks accepted by caterers. The trial increased caterers' interest in quality of organic milk because of a possibly healthy fatty acid composition, and the use of one litre packaging was not considered very difficult; some organizations even were positive to this size for occupational safety reasons. Positive price and quality developments were expected to take place regarding organic milk. The study emphasises the need for learning at the workplace (Tynjälä, 2008), which seems to be a positive option in the hectic working life in catering industry (Mikkola, 2009c).

3.3 Students and young people

The results from iPOPYP cases in Finland and Norway show that young Nordic consumers mainly see organic food and sustainability as positive developments but they also express ambiguity related to features such as commercial interest, price and inequality between food system actors. Views of young people in Finland and Norway about SD and organic food are presented, and the whole school approach is discussed. Students and young people at public events serving organic food are central actors because they represent the consumers and users of these public food services.

3.3.1 Students and sustainable development

Finnish students' views pertaining to learning about sustainable development and within this frame, organic food, were explored as discursive perspectives (Mikkola, 2009d). Particularly, the change towards sustainability was studied as ecological communication. The young people in their teens and early adulthood knew the expressions related to sustainable development; they were talking about 'future generations', 'saving the nature', 'improving SD', and how human every-day behaviour affected the use of resources such as food, water and energy. Regarding economic behaviour, efficient use of natural resources and saving was seen important, but, however, in competitive ways. Particularly in food production young people expected that chain actors respect and follow regulations, for example, they expected the organic label to be trustworthy. In addition, they were interested in scientific evidence of the organic quality. Science was expected to offer support for political disputes in conditions of uncertainty, in order to yield 'right' decisions. Religion was evident as moral sphere, which contrasted 'large populations' with 'limited means' and suggested that well-off people were in position to share efforts for SD rather than people less well-off. In general, a moderate way of living was approved necessary and expectations of fairness expected instead of 'eco-bluff'. The young people could be understood as competent citizens in terms of SD, but judging themselves as less well-off people they voted for modesty and expected organic food to be competitive and truly fair, without luxury connotations. Stress was laid on economically feasible and innovative solutions in the use of organic food (Mikkola, 2009d).

3.3.2 Whole school approach

The whole school approach (Morgan & Sonnino, 2008) refers to a system of FESD whereby the teachers, caterers, supply chain actors and pupils or students are connected to the school meal system in such a way that they would better understand the sustainability aspects of their food. This ideal seems to rarely become a reality, as suggested by our case studies presented here, and confirmed by studies of Norwegian schools by Marley (2008). However, there were schools with FESD approach, whereby teachers, administrators, caterers and supply chain actors were working together to ensure that the school meal service contributed to SD in one way or another. This kind of practice was identified in Green Flag and OKKA Foundation certified schools and whereby parents were aware of organic food being served at school meals. However, the price of the food, its origins, and particular environmental quality features of food were rarely explained anywhere. The pupils' critical understanding and awareness of organic food as well as local food was there, but could be developed further (Mikkola, 2009e). In general, these case studies do not allow to draw conclusions about the extent of FESD across schools in Finland but they suggest that a promising development is in its initial phases. Environmental and sustainable education certifications, such as Green Flag or OKKA could offer one strengthening sign or background for this development. However, the FESD needs to be implemented on the conditions of the national school food cultures present in the particular country and school (Roos, 2009).

3.3.3 Public events for young people - Festival context

The Norwegian Øya music festival, one of the cases in the iPOPYP project, provides young people an opportunity to taste and experience organic food, which may effect perceptions and learning about organic food. The young Øya participants described the festival as a positive experience, and thus organic food was introduced in a positive context. Organic food was viewed as different from conventional food, and there seemed to be an expectation that it would be better for themselves, animals or environment, or taste better. But not all were sure about what made organic food different and why. There was a shared opinion that organic food is more expensive, and that the food sold was small portions for a lot of money. Festival food was mainly associated with necessity, fuelling the body and high price. Some of the participants had noted the information on organic food, but others had not registered the posters or even that the food was organic. There were mixed views on the transmission of organic food from festival to everyday context; some thought organic festival food had a positive effect, whereas others described festivals as separate worlds with limited influence (Roos et al., 2009).

4. Conclusion and Preliminary Recommendations

FESD seems to be developing as an educational orientation in iPOPY countries. The orientation seems to respond to current sustainability deficiency, but it needs efforts for cooperation between different actors who have traditionally not been engaged in shared activities. As problem based and cross-curricular education, aiming at dealing with local community problems of all kinds by education (Beane, 1997), this activity should deserve more attention and resources. Different school food cultures, shared beliefs and priorities driving the thinking and actions related to food at school, means that it is not possible to give one strategy that fits all for how to integrate FESD and organic food (Roos, 2009). However, the iPOPY work package 4 work in FESD conveys some preliminary recommendations for teachers, caterers, students and administrative bodies as future collaborators. The recommendations for formal educational contexts are listed below in Figure 2.

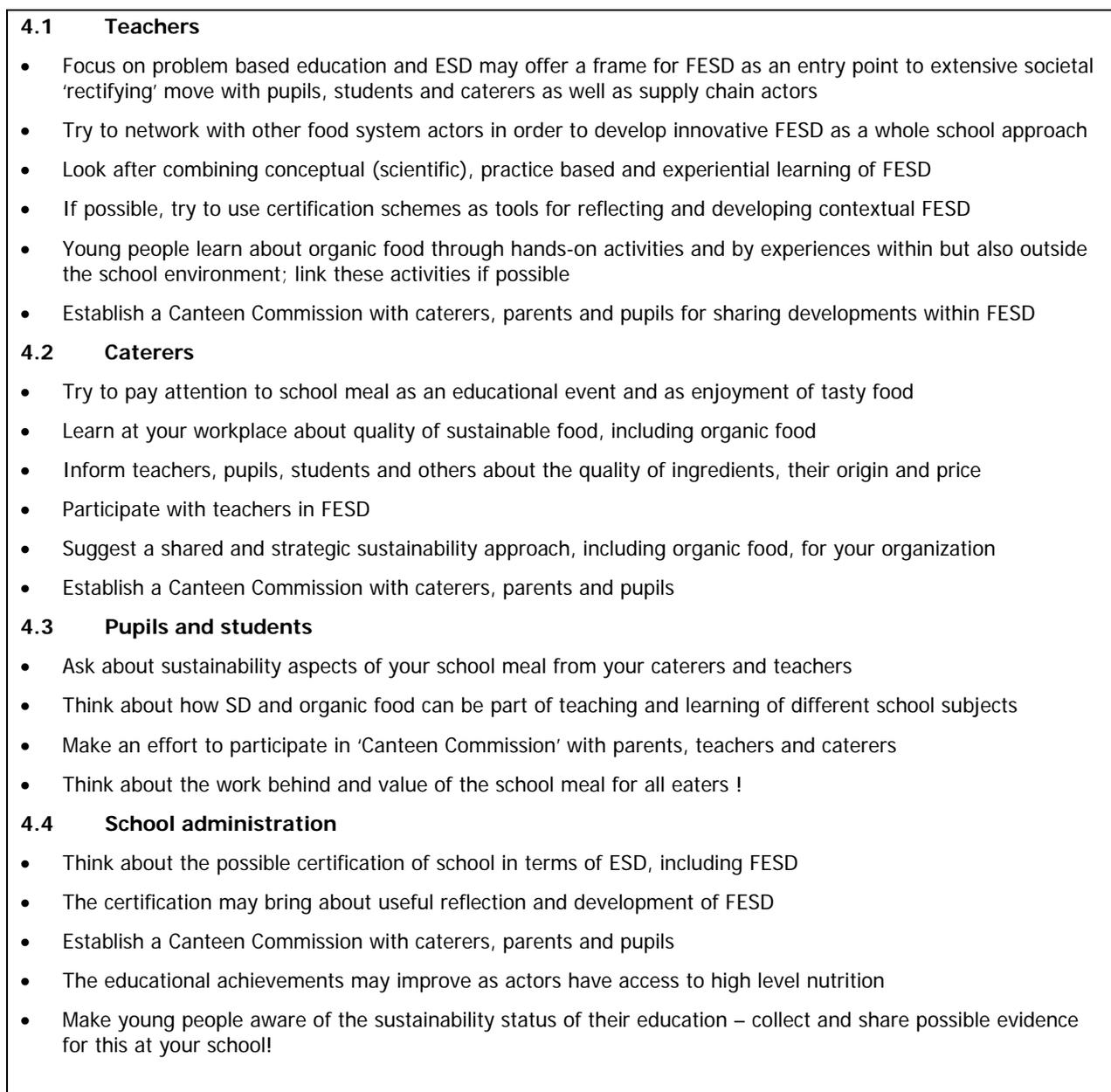


Figure. 2: Recommendations for various actor groups for development of FESD

In conclusion, this paper sees that FESD has a cultural gap to fill, but, however, the concerted effort for its implementation represents a novel challenge for traditional organisation of education.

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Organic and healthy – two goals in one go

A comparative analysis study among public primary schools in Denmark and Germany.

He, Chen & Mikkelsen, Bent Egberg

Food, People & Design, Department of Development and Planning, Aalborg University
Copenhagen, Denmark. chhe@plan.aau.dk & bemi@plan.aau.dk.

Abstract

There is a growing health concern over obese and overweight children. Schools are a well suited setting for children for learning and adopting sound life skills. Using schools in healthy eating strategies may play an important role in preventing children from becoming obese and overweight. As a result a growing number of schools and municipalities engage in initiatives that promote healthy foods and eating. Some of these initiatives however are not focused only on healthy eating alone, but involve objectives to promote more sustainable consumption through developing organic supply chains for school food services. The question therefore arises whether these two change objectives and drivers interact. This paper investigates the interrelation between the two objectives: healthy eating and organic consumption. Can these two goals be reached in one go as previous studies indicate? Is it so that developing either of these strategies leads to a raise of awareness in school food services in such a way that the other strategy is supported at the same time? The paper investigates this possible twin ship by studying characteristics of school food services in Denmark and in Germany. In both cases delivery of school food is voluntary and thus subject to an active decision by schools. The study uses “proxies” as an indicator for healthy eating, such as availability of healthier food items, adoption of food and health issues in curricular activities etc. The study was initiated in Denmark, where a web-based questionnaire methodology was developed. The questionnaire was distributed to schools having a school food service, and answered by school food coordinators. As a second step the questionnaire was translated and adapted to be used in Germany. The questionnaire explored the attitudes, policies and actions in relation to organic and healthy foods served in the schools. Both Danish and German results indicate that schools with organic supply tend to be healthier when measured in terms of “proxies” for healthy eating.

Keywords: organic food, school food service, healthy eating, obesity, overweight.

1. Introduction

Schools have an important role to play in teaching children fundamental life skills, but also to offer an opportunity to establish a healthy eating pattern (Council of Europe, 2005; WHO, 2006; EU DG SANCO, 2007). The foods and drinks which children choose at school are contributing to shaping their dietary habits and studies show that behaviour adopted in early age tends to track into adulthood (Hursti et al., 1999). Hence, school could be a vital setting to help children in their shaping healthy eating habits. Many aspects of health are linked to nutrition; however, across Europe most attention has been paid to obesity and overweight in recent years (NEPHO, 2005) and hence these aspects are focussed here.

Within public health nutrition, BMI (Body Mass Index) is often used to measure the effect of healthy eating initiatives since poor dietary habits has been shown to be a risk factor for development of overweight and obesity. However, to measure BMI over time in a certain population is extremely time consuming. Further, the development of overweight and obesity occurs over a long period of time, and the response to healthy eating is associated with considerable “inertia”. Alternatively, dietary intake can be measured, but is also very time consuming. The present study uses “proxies” of healthy eating to test whether an interest in healthy eating in school is followed by an interest in organic school food consumption. The proxies are the respondents’ answers to questions about indicators of healthy eating, such as the types of foods sold in schools, nutritionally calculated school meals, etc. The relationship of the proxies to dietary intake and BMI is illustrated in Figure 1.

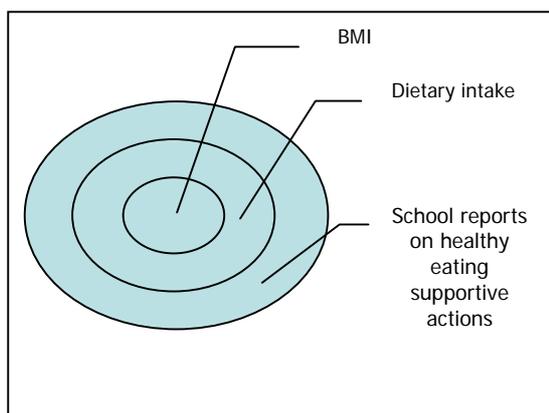


Figure 1. How to measure health impact of school food.

The figure shows the relationship between indicators for children's health and proxies for healthy eating. The three levels are: BMI of students – a proxy for health status. Dietary intake of student – a proxy for risk of developing obesity (increased BMI), School reports on healthy eating supportive actions - a proxy for healthy eating of students

In Denmark, by December 2006 20-25% of the primary schools had a school food service where a complete meal was served daily (Hansen *et al.*, 2008). About 50% had some sort of simple food arrangement, e.g. a school booth offering drinks and yoghurt, whereas 25 % had no food offer. There are three Danish municipalities, Copenhagen, Roskilde and Gladsaxe (He *et al.*, 2009), having used much resources to establish school food service systems with special emphasis on a high share of organic products, and much work has been devoted to compose appropriate and popular dishes. However, only a limited number of pupils buy the school food. Lunch boxes from home remain the most common and traditional way for Danish children to have lunch at school. Denmark has recently adopted national guidelines² and the Government funded in 2008 grants for schools that wanted to implement school meals.

In Germany, the school day has traditionally ended early in the afternoon, and the pupils have been used to go home for lunch. Most schools have a kiosk where pupils can buy food items such as milk, sandwiches and snacks. During the school day, there are several breaks (15-30 minutes) where food can be consumed. The German school system is currently rapidly changing, with increasing length of the school days. An increasing number of schools offer a whole day system (08:00-16:00), where a meal service is included. Other schools have a voluntarily system of childcare in the morning and afternoon. The pupils who stay longer in the afternoon can buy a warm meal, and some schools involve the pupils in preparing meals for other children with supervision by home economics teachers. In such cases, the food may become cheaper for the pupils to buy than when delivered by a catering company, and such school meal systems have become quite popular (Milotich, 1999). In the eastern parts of Germany (former GDR), school meals were common for many years, and the tradition and infrastructure is still existing. Some German federal states, e.g. Berlin, have public goals of organic consumption, and include a demand of at least 10% organic ingredients in their call for tenders with school meal suppliers (Nölting *et al.*, 2009). A newly established network organisation for school food is an important factor in this sector in Germany.

The previous studies have shown that in fact processes and attitudes related to organic foods implement seems to associate with changes in the health profile of the foods on offer in different types of public catering.

For example, the former research has shown that "green" worksite canteen catering managers offered more healthy food items than their non green counterparts (Mikkelsen *et al.*, 2006).

The aim of the present paper is to investigate the relation between two important objectives: Healthy eating and organic consumption. Can these two goals be reached in one go, as previous studies indicate? Will any one of these strategies lead to a raise of awareness in school food services in such a way that the other strategy is concurrently supported?

² Healthy school meals - Nutrition calculations of school meals small portion for 7-10 year old children (http://www.foedevarestyrelsen.dk/Publikationer/Alle_publicationer/2009/207.htm)
Healthy school meals - Nutrition calculations of school meals small portion 11-15 year old children (http://www.foedevarestyrelsen.dk/Publikationer/Alle_publicationer/2009/208.htm)

2. Methods

The empirical material of this study consists of answers to a quantitative survey where the informants used a self-administered Web Based Questionnaire (WBQ). In Denmark, this was done by sampling schools with a record of school food service and by stratifying it into two groups. The sample obtains an approximate even distribution of schools having organic food provision, and schools with no organic food provision. In Germany, the federal state of Hesse was chosen. Due to restricted access for external researchers, it was not possible to base the sampling on information whether schools had food service or not, nor could a stratification of organic and conventional provision be carried out. The survey was distributed in 179 public primary schools in Zealand of Denmark and around 1050 public primary and secondary schools in Hesse, Germany (see table 1). Informants were school staff in charge of the school food service, in our study named as school food coordinators. In practice this person could be anyone from the school headmaster to a school food caterer.

Table 1. Summary of survey key figures.

The table shows status of distribution and response of WBQ in Denmark and Germany.

	Denmark	Germany
Distributed	179	around 1050
Partially completed	13	57
Completed	79	34
No response	87	around 959

The survey was carried out in Denmark in summer 2007 and in Hesse in the autumn of 2009 (see figure 2). The Danish questionnaire was translated to German and slightly changed to adapt to German conditions; however, the core content of the WBQ was not changed. A pilot test of the questionnaire was carried out in each country. In Denmark, the sampling of two types of schools (an organic school bases its food provision on a certain amount of organic food, whereas the non-organic school bases its provision on conventional food supply) for pilot test was based on information from an interview with the municipal school food coordinator in Roskilde (He *et al.*, 2009). Therefore, the one school was known to provide meals with a certain amount of organic foods and the other school known to provide meals based only on conventional food supply. In Germany, the sampling of pilot test was conducted by our iPOPY colleagues in Hesse. The WBQ was sent out to three experts in the field of school meals, one social worker, one person who involved in the planning of school meals and one consultant. Three experts read it and gave some comments but most for grammar.

After some modifications, the completed questionnaire was converted to a web based version using the software SurveyXact (<http://www.surveyxact.com>). The final WBQ was made available for respondents through a web browser link.

In Denmark, organic schools were selected through assistance from the school meal official in the municipalities of Copenhagen and Roskilde. Both cities have established school food service systems with a high share of organic food. The officials provided a list of school names. In addition, some organic schools in other municipalities were selected, known to be based on organic supply because they had participated in research projects with the National Food Institute. At the last, 93 Danish schools known to have school food service based on organic supply were selected. The 86 non-organic schools were sampled as non organic schools from research records of the National Food Institute,. The approach to develop the final e-mails list of schools was done through a search at the Danish Education Ministry homepage (<http://www.uvm.dk/>). After collecting all school names, all contact information of the schools were identified by the homepage search engine.

The questionnaire was sent out individually and directly to 179 schools. The WBQ was open for three weeks. To increase the response rate the mail was addressed to the e-mail of a specific person at the school in cases where information was available of the person responsible for the food service. Reminder letters were sent by e-mail one to two weeks after distributing the initial invitation to participants.

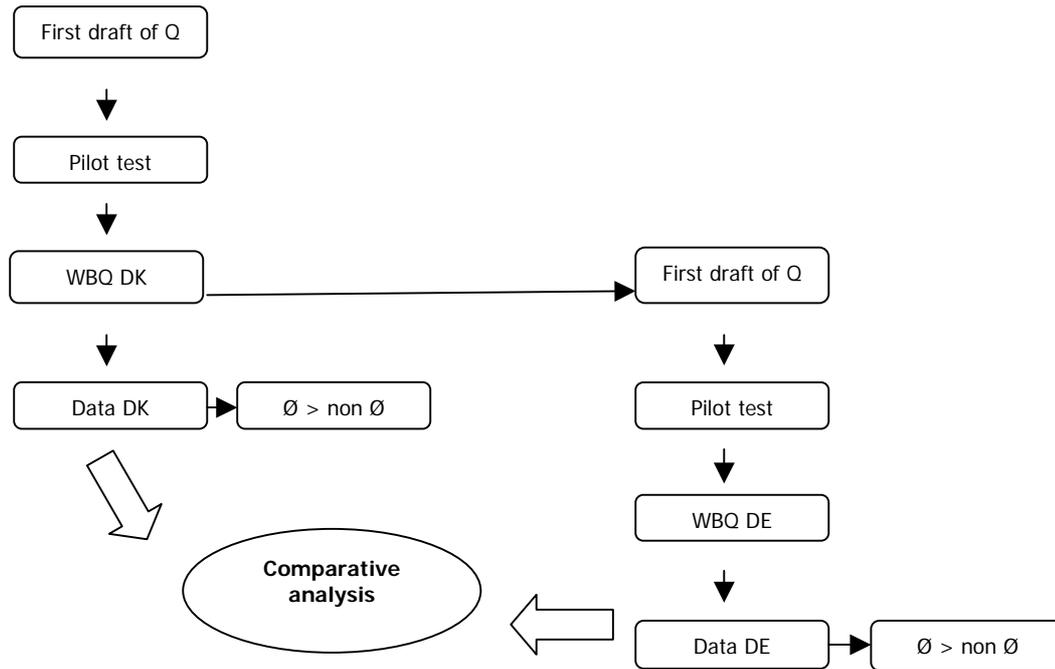


Figure 2. Flow sheet of survey.

The figure shows the steps in the survey process in Denmark and Germany. Legend: Ø= Organic, non Ø = conventional.

In Germany, there are strict limitations to handling out schools' contact information, and it was difficult to attract the interest of German federal states to participate in the study. In the state of Hesse this was finally made possible and WBQ link was inserted into the monthly school newsletter made by their School Coordination Centre.

The WBQ was open for 2 months. To increase the response, the link was put on the website of the School Coordinator Centre in addition to in the newsletter. Further, one reminder letter was prepared and sent one month after distributing the WBQ by newsletter. The link to the WBQ was addressed again in the email, emphasizing a small lottery incentive, i.e. an economy airfare round trip to visit a case of organic school in Denmark or Italy.

The WBQ was constructed to explore the attitude of the respondents, and to identify existing school food policies such as POP (Public Organic food Procurement) policy and FNP (Food and Nutrition Policy), as well as serving practices. POP policy refers to a policy, in which a particular amount of specified foods are anticipated to be organic and which are practiced in public organizations offering food (He *et al.*, 2008). FNP is a set of written and adopted principles that aims to fulfil nutritional needs of pupils at schools, and ensure availability and accessibility of healthy foods (He *et al.*, 2008).

The questionnaire asked about the opinions of the school food coordinators regarding promoting organic food and healthy eating habits through school meals service and curricular activities related to food.

The data from the WBQs were captured in a database and analysed in an electronic spreadsheet. School coordinators reports on the three healthy eating supportive actions: adoption of a food & nutrition policy, operation of a nutrition committee and compliance with untraditional guidelines was then analysed for associations with the type of school food supply (organic/conventional).

3. Results

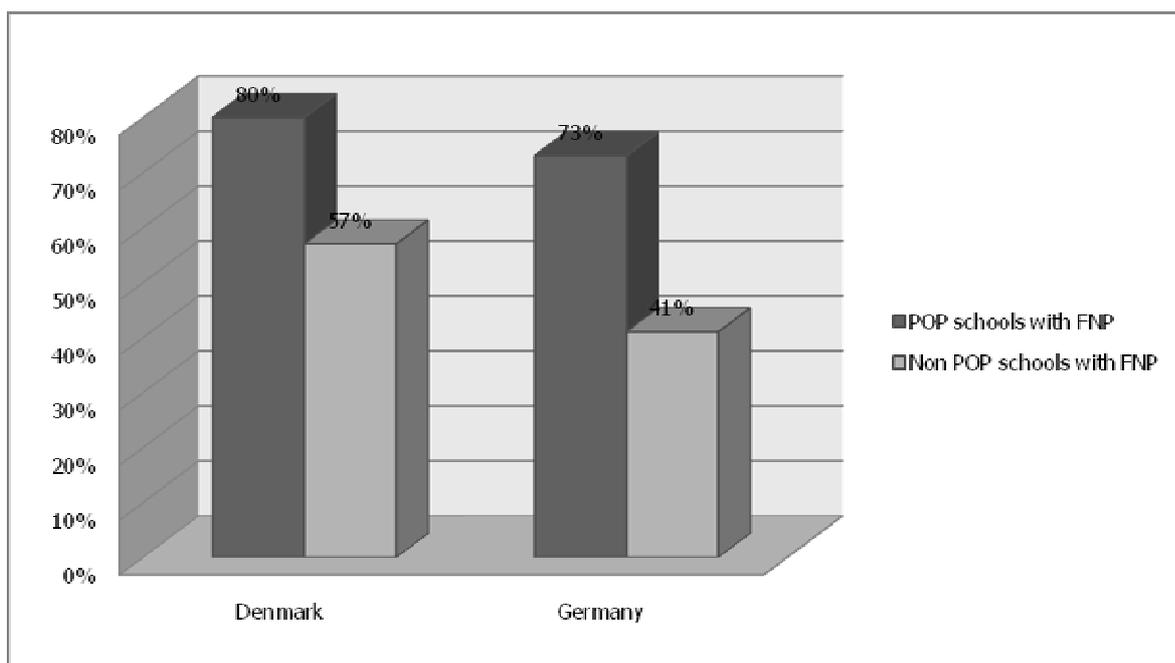


Figure 3. Having a food and nutrition policy?

The figure shows the percentage of POP and non POP schools that have adopted a FNP in Denmark and Germany.

The Danish results indicated 20 out of 92 respondent schools claimed to have a school food policy promoting the consumption of organic food. 63 schools answered that they did not have any policy to promote organic, and 3 informants did not know whether the school had such a policy. More than half of the schools, 52 out of 92, claimed to have a Food and Nutrition Policy.

The German data showed that only 11 out of 91 respondent schools answered they have adopted a POP policy regarding schools food service. 27 schools gave the information that they did not have such a policy, and 2 schools reported not to know whether they had an organic policy. One fourth of the respondent schools, 22 out of 91 schools reported to have a FNP.

In this paper, the schools which have adopted a POP policy as are labelled POP schools, whereas the schools that did not have such a policy are labelled non POP schools. The figure illustrates that 90% of POP schools in Denmark have adopted a food & nutrition policy, where as only 57% of the non POP schools stated they had this policy. The same tendency is the case for the German schools, 73% of POP schools in contrast to 41% of the non POP schools have adopted a FNP. Thus, the results indicate that the POP schools in two countries are more likely to involve a policy facilitating healthy eating than non POP schools. However, the bars show the Danish schools are more actively to engage themselves in establishing a FNP than German schools.

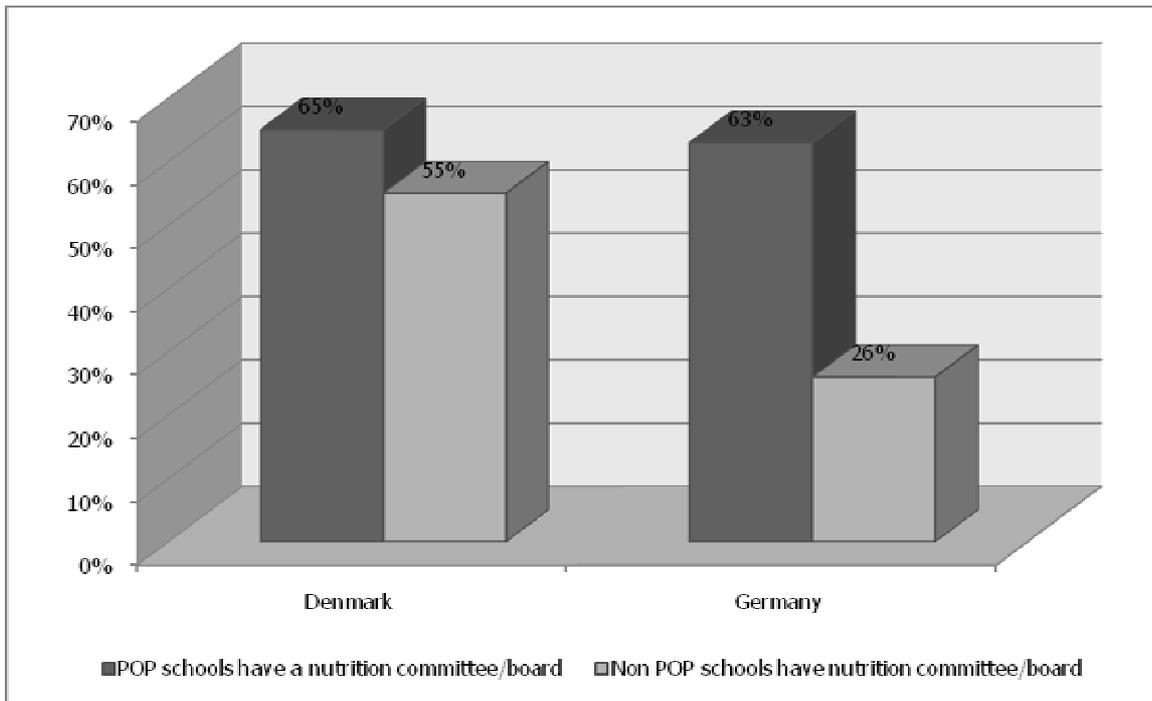


Figure 4. Having a nutrition committee?

The figure shows the percentage of POP/non POP schools that have a nutrition committee or board regarding pupils' health and nutrition aspects in Denmark and Germany.

Figure 4 illustrates that 65% of Danish POP schools reports to have a nutrition group/committee/board which are responsible for children's health. The same is the case for 55% of the non POP schools. So there is only a slight difference between the Danish POP schools and non POP schools in regard to have such school board. For the German schools on the contrary there is a big difference between the POP schools and non POP schools. 63% of the POP schools, almost the same as Danish POP school percentage, have a nutrition committee, but only 26% for the non POP schools involved a nutrition board in their schools. In both countries, above half of the POP schools have established a nutrition board to deal with the healthy issues for children during school days. Results indicate that POP schools are superior in taking into consideration health and nutrition issues than non POP schools, especially in the German schools. Nevertheless, half of the non POP schools in Denmark also have a nutrition committee, so these non organic schools are willing to think over children's health, even though organic prospects have not been put on the agenda.

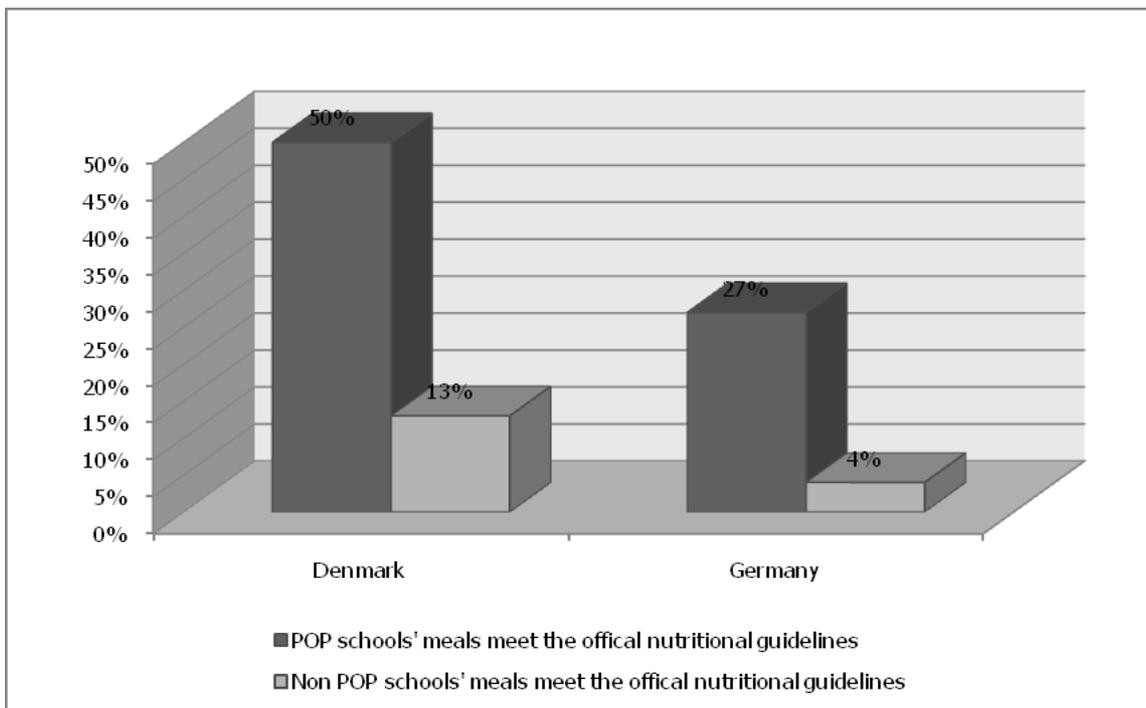


Figure 5. Meeting nutritional guidelines?

The figure shows the percentage of POP/non POP schools in Denmark and Germany that meet the official nutritional guidelines for school meals.

Figure 5 shows that half of the POP schools in Denmark report that their school meals meet the official nutritional guidelines, where as only 13% of non POP schools report to follow these guidelines. In Germany, 27% of POP schools report to meet guidelines where as only 4% of non POP schools reports the same. The data show that in general Danish schools are more complying with guidelines than are the German schools. It can further be seen that POP schools are superior in this aspect compared to the non POP schools.

4. Conclusion

The results show that schools with organic supplies and policies are performing better when measured against the three indicators of healthy eating: adoption of a food and nutrition policy, operation of a nutrition committee and compliance with official guidelines. It is worth noting that the existence of such measures is by no means a proof of the fact that students will eat healthier. On the other hand such measures have shown to be determinants of the availability of healthier foods. As shown in several studies on fruit and vegetable intake availability of healthy food in most cases associates with food intake of such foods. These results suggest that schools having based their supply in organic food might be taking a different approach to school food service. The complicated task of introducing school food in schools based on organic supply has been reported in many cases from both Denmark and Germany (He *et al.*, 2009 & Nölting *et al.*, 2009) and might lead to a local policy process involving negotiations among stakeholders and eventually leading to a raised awareness on food and nutrition issues. Schools not having to face the challenge of introducing organic supply are not forced to go through these steps. Although the studies show interesting differences more data are needed to verify the results. However the study shows that conducting surveys in school food environments is a challenge. School food is a newly established research field but due to the huge opportunities in terms of health promotion, food education and sustainable consumption an increased research interest can be expected. Therefore it is necessary to strengthen the methodology used in this field and the research collaboration within this field.

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iPOPY – innovative Public Organic food Procurement for Youth

Abstract

The study of innovative Public Organic food Procurement for Youth (iPOPY) is the subject of one of eight transnational CORE Organic research projects. Within a number of European countries, namely Italy, Denmark, Finland and Norway, attention is being given to the ways in which an increased consumption of organic food may be achieved by the implementation of relevant strategies and instruments linked to food-serving outlets for young people. The iPOPY work packages explore policy issues, supply chain organization and the impact of certification, the users' perceptions and participation in the food system, and the health impacts of organic food implementation.

This report is linked to the last iPOPY seminar arranged during the BioFach Trade Fair in Nuremberg, Germany. At the seminar in 2010 we draw a link from iPOPY results to the municipality of Nuremberg, which has ambitious aims as to becoming an Organic Model City (BioModellstadt). This includes far reaching goals for the share of organic and regional food served in public schools and kindergartens. Further, the project results are linked to the general situation for school meals in Europe. From the project we present preliminary recommendations and conclusions from the four explorative work packages.

School meal systems are complex constellations composed of heterogeneous elements and being very specific, context- and path-dependent. Any intervention has to take into consideration several perspectives which can be divided roughly into a supply side and a demand side, both including political, economical, environmental, social, cultural, and health aspects. Organic food is an important option to make school meal systems more sustainable. In school meal settings, organic food can be linked up with several aspects such as health, environment and fairness. Hence, we suggest to link organic school meals systematically with the broader goal of sustainable nutrition for youth. Further, we suggest embedding organic food in a whole school approach which strives for coherence of the school's policies and practices. This should include all stakeholders of the food chain – organic producers, caterers, school administration, teachers and pupils in a participatory and action-oriented approach. The (revised) curriculum for food education, the pupils' concept of health, the health and food policy of the school, and the physical and social environment of the school are further important factors in a whole school approach.

Contact person:

Prof. Dr. Carola Strassner

UASM – University of Applied Sciences Münster, Germany

Department of Home Economics and Nutritional Sciences

strassner@fh-muenster.de

Project Co-ordinator:

Anne-Kristin Løes

Bioforsk Organic Food and Farming

Gunnars veg 6

N-6630 Tingvoll, Norway

anne-kristin.loes@bioforsk.no

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