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A comparative study of the implementation of organic food in school meal systems in four European countries

Thorkild Nielsen, Benjamin Nölting, Niels Heine Kristensen, Anne-Kristin Løes



www.bioforsk.no





Main office
Frederik A. Dahls vei 20,
N-1432 Ås
Norway
Cell-phone: +47 40 60 41 00
Fax: +47 63 00 92 10
post@bioforsk.no

Bioforsk Organic
Tingvoll Gard
N-6630 Tingvoll
Norway
Cell-phone: + 47 452 30 200
Fax: + 47 71 53 44 05
okologisk@bioforsk.no

Title:

A comparative study of the implementation of organic food in school meal systems in four European countries

Authors:

Thorkild Nielsen¹⁾, Benjamin Nölting²⁾, Niels Heine Kristensen³⁾, Anne-Kristin Løes⁴⁾

Address

¹⁾ MAN/ Innovation and Sustainability, DTU Management Engineering, Produktionstorvet, DTU Building 424, DK-2800 Kgs Lyngby, thon@man.dtu.dk

²⁾ Center for Technology and Society, Hardenbergstraße 36A, D-10623 Berlin, Germany, noelting@ztg.tu-berlin.de

³⁾ Aalborg University - Copenhagen Institute of Technology, Lautrupvang 2, DK-2750 Ballerup, Denmark, nhk@plan.aau.dk

⁴⁾ Bioforsk Organic Food and Farming, Gunnars veg 6, NO-6630 Tingvoll, Norway, anne-kristin.loes@bioforsk.no

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Sammendrag:

I denne rapporten sammenliknes skolematordninger i fire land, Danmark, Finland, Italia og Norge, med spesiell vekt på i hvilken grad økologisk mat er integrert i ordningene. I Danmark og Norge er det fortsatt et privat ansvar å sørge for at elevene har med seg mat på skolen, men de yngste elevene får mat i skolefritidsordningene. I Finland og Italia får elevene henholdsvis gratis eller subsidiert varm mat på skolen. I Danmark har flere store kommuner, for eksempel København og Roskilde, brukt ressurser på å etablere serveringstilbud for skolemat, og økologiske råvarer har ofte inngått i denne satsingen. Infrastrukturen betales av det offentlige, og maten selges til "selvkost". Mangel på spiseplasser, begrenset tid til spisepause og vanskeligheter med å integrere mattilbudet i skolens travle hverdag har bidratt til at tilbudet foreløpig ikke er bredt akseptert. Best erfaringer har man med å etablere lokale kjøkken på hver enkelt skole. I Norge har ordningen med gratis frukt på skoler med ungdomstrinn vært et første skritt i retning av et gratis skolemåltid, men generelt er det lite fokus på skolemat her i landet til tross for stadig lengre skoledager for elevene. I Italia har mange kommuner vedtatt målsetninger for forbruket av økologisk og lokalprodusert mat, og stilt krav om dette i anbudsutlysningene for skolematleverandører. Mange elever, f.eks. i Roma, får servert økologisk mat på skolen. Økonomiske innstramminger er en stadig utfordring for denne

satsingen, og det gis ikke mye informasjon til foreldre eller andre om at maten er økologisk. I Finland er gratis skolemat en lang tradisjon, og sektoren er preget av høy kompetanse og profesjonalitet. Sunn mat og bærekraftig kosthold står i fokus, og lokal mat prioriteres til dels framfor økologisk. Det er imidlertid offentlige målsetninger om økende forbruk av økologisk mat også i Finland, og ulike prosjekt er i gang for å integrere økologiske råvarer også i skolemåltidene.

Summary:

Based on national reports from Denmark, Finland, Italy and Norway, describing the school meal systems and to which extent organic food is integrated there, this report identifies differences between the four countries and experiences made with organic food procurement and the dissemination of organic ingredients in school meals. Such knowledge will help to understand the possibilities and restrictions for increasing organic food in school meal systems, and to reveal the room of manoeuvre for public organic food procurement for youth in each country. In the report, similarities and differences of the national school meal systems in general are first discussed, because this context determines the scope of organic food procurement. The history and current situation of the school meal systems, framework conditions of public food procurement in schools (laws, guidelines, control, financing), the structure of the school meal provision and public discourses about school meals are described. Next, focus is set on the use and development of organic food in school meal systems. Some school meal system cases are presented by the amount of organic food used, the arguments for organic school food and challenges and barriers for the dissemination of organic food. Finally, school meal system actors in general as well as “organic” actors such as promoters, decision makers, companies and organisations are compared across the four countries. Summarizing chapters are found at the end of each section of the report. In short, warm meals are served for free to all pupils daily in Finland, and subsidized according to family income to all pupils at least twice a week in Italy. Norway and Denmark stick to a packed lunch brought from home, with additional milk and fruit subscription schemes and a developing additional or complementary meal service especially in Denmark with subsidized prices. Organic food is much emphasised in Italy and Denmark; significantly less in Finland and Norway.

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Atle Wibe

Prosjektleder / Project leader



Anne-Kristin Løes

Front page picture: Kirsty McKinnon, Bioforsk Organic Food and Farming. Food prepared of vegetables from a school garden, served to the pupils who grew the crops. Map front-page based on http://upload.wikimedia.org/wikipedia/commons/f/fc/Map_of_Europe_%28political%29.png attached 9. Nov. 2009

Preface

This report is an output of the iPOPY project (innovative Public Organic food Procurement for Youth). It compares the school meal systems, and to which extent organic food is utilized in the school meals, in the four iPOPY-countries, Denmark, Finland, Italy and Norway. The report is based on preliminary national reports about these questions, and hence the authors want to acknowledge all co-authors of the national reports: S. Bocchi, R. Spigarolo, N. Marcomini, V. Sarti, S.R. Hansen, H.W. Schmidt, M. Koesling, G. Roos, L. Birkeland, L. Solemdal and M. Mikkola. Thanks to Grete Lene Serikstad for final proof reading.

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1. Introduction: National school meal systems and their use of organic food

The iPOPY project is one of eight transnational research projects initiated by the CORE Organic funding body network; www.coreorganic.org. CORE Organic is a research programme composed of funding from 11 European countries, and the iPOPY project analyses public organic food procurement (POP) for youth in four of these; Italy, Finland, Denmark and Norway.

Public organic food procurement for youth comprises all activities with regard to procurement in public food services for children and young people up to 25 years of age in schools and other public institutions for youth, such as day-care centres, universities, hospitals, and military facilities. The meal system is organized 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).

This comparative study is based on national reports describing the current situation and framework conditions of POP in the four countries (Bocchi et al 2008; Hansen et al 2008; Mikkola 2008; Løes et al 2008). As school meals are a very prominent part of POP for youth, this comparative analysis focuses on school meal systems in Italy, Finland, Denmark and Norway to explore differences and similarities of POP for youth across countries. However, it is not a systematic analysis of POP as the project relies on preliminary empirical research in the four countries.

The national reports rely on available statistics and public information, in some countries combined with interviews with key informants from e.g. public bodies, private companies and other experts. For this purpose - and for the purpose of being able to compare the findings - comprehensive guidelines for the national reports were developed. This comparison has revealed that the guidelines and the national reports need to be refined and revised, to ensure that they are streamlined enough to allow a fair and realistic comparison. Hence, this is an explorative study, highlighting findings specific to the respective countries as well as qualitative results. The comparative study presents various approaches for development of organic school meals, and much can be learned from the national cases of efforts to strengthen organic food in the school sector. The introduction and/or increase of organic food in school meal systems depend(s) on the national or regional systems in place, which differ considerably between the four countries. This situation provides the opportunity to study a large variety of cases, but as the status of organic food in public procurement needs to be analysed against its particular background, the various national settings also represent a scientific challenge.

It is the overall aim of this report to identify differences between the four countries in relation to experiences with organic food procurement and the dissemination of organic ingredients in school meals. This will help to understand the possibilities and restrictions for increasing organic food in school meal systems, and to reveal the room of manoeuvre for POP for youth in each country.

This report consists of three parts. First, similarities and differences of the national (and regional) school meal systems are discussed in general without regard to organic food, because this broader context determines the scope of organic food procurement. Important aspects of the national school meal context are a) the history and current situation of the school meal systems, b) framework conditions of public food procurement in schools (laws, guidelines, control, financing), c) the structure of the school meal provision, and d) public discourses about school meals (chapter 2). The second part describes the use and development of organic food in school meal systems. The mentioned POP cases can be characterised by a) the amount of organic food used in school meal systems, b) the arguments for organic school food, and c) challenges and barriers for the dissemination of organic food (chapter 3). In the third part, actors in the school meal context in general as well as “organic actors” such as promoters, decision makers, companies, organisations etc. are compared across the four analysed countries (chapter 4), and conclusions are drawn (chapter 5). Each chapter describes first the situation in Italy and Finland, thereafter the situation in Denmark and Norway.

2. School meal systems in Italy, Finland, Denmark and Norway

The history of school meal systems, and the national food cultures, determine the specific development paths and shape the current situation of school meal systems in the four countries.

2.1 The history of school meals

Italy had the first experiences with school canteens more than 120 years ago. From this early beginning of school meals up to the 1970s, the meals played a social role by ensuring sufficient food for all. These historical roots of social policy are quite similar to the other three countries and to European countries in general at the end of the 19th century. In the 1980s, questions of hygiene and nutrition were brought into focus, and the first “nutritionally safe” menus were established. In the 1990s, food quality became a subject of discussion and the school meal discourse centred on topics like product origin and sustainable production methods. The recognition of these subjects has also been the key to success for the introduction of organic foods into school meals. Summing up, there is a long tradition of school meals in Italy, where a large majority of pupils can get a warm meal at school at least several days a week.

The history of Finnish out of home meal systems began during the industrialization at the end of the 19th century when factory patrons became responsible for offering food to their workers. The workers were not willing to pay for the food and with time many factory-catering sites were closed down. Instead, vocationally educated catering managers, financed by the industry, appeared. After a couple of companies had failed, a new company, the Finnish Nutrition Centre, was established in 1947. In the 1970s it was decided to make the meal systems more profitable, whereupon a number of regulations were made. From the 1970s on, public catering systems became more and more regulated and the state covered costs for the kitchen infrastructure as well as equipment, and subsidised the meal prices by approximately 30 %. Parallel to this development, public catering for schools was established in Finland. First discussions about school meals started in the end of the 19th century. In the 1920s, the state subsidised school food for poor families. In 1943 the law stated for the first time that municipalities should serve primary education pupils a free school meal with five years transitional period (Lintukangas et al., 2007). In 1977, all municipalities had restructured primary education, and several municipalities also served secondary school pupils a free warm meal. School meal systems are well established in Finland. In general, they are linked up with other public catering domains (e.g. elderly people) and managed in a highly professional way. The individual health aspect has been very central early on so that healthy meals are the starting point for catering operations. This point of departure has been supported by national nutritional recommendations to be followed by all caterers. Here the so called ‘plate model’ is central in that it guides the nutrition content of the meal. However, the nutritional recommendations do not offer recommendations or present any doubts about the healthiness of conventional food; the recommendations do not mention organic food.

In Denmark and Norway, school meals have roughly followed the same historical path. When school meals were introduced in the end of the 19th century, they played an important social role by ensuring that children from poor homes were offered a free, warm meal per day. In Norway, children from affluent families were offered to buy the same food at low cost, whereas in Denmark it was not suggested until the 1930s that school food should be offered to all children (Benn, 1996).

In Norway, warm school meals were served until about 1935, when they were replaced by a more “nutritionally correct” meal. As Løes et al. (2008) state, the meals “might have been developed to a warm lunch meal for all pupils in Norway as in other European countries, if it had not been for the strong efforts of some enthusiastic food-and-health pioneers”. One of these, physician Carl Schiøtz, argued that the food children were offered in school was prepared for a rapid and in-human food

intake. The criticism resulted in what is known as the “Oslo-lunch”, which consists of four pieces of whole-grain bread with margarine and cheese, 0.5 litres of fresh milk, and a piece of raw vegetable or fruit (carrot, apple, orange, banana). In the beginning the “Oslo-lunch” was offered in schools free of charge, but since some schools were too poor to offer free meals, it was proposed that pupils should bring ingredients for the “Oslo lunch” with them to school. This idea was rapidly spread out in society and the packed lunch is still the most disseminated type of lunch in Norway.

Around the 1950s and the beginning of the 1960s, as wealth increased among people, it was agreed that the money used for food in schools would be better spent on for example school buildings, and the school meals in Norway gradually disappeared. Political awareness of school meal systems was in decline. The common school meal in Norway in 2009 is a packed lunch brought from home, supplied by a subscription scheme for milk, which was introduced in the early 1970s. A subscription scheme for fruit was introduced in 1995.

In recent years, an interest in school meals has begun to reoccur both in Denmark and Norway. In 2005, the Socialist Left Party in Norway promised, if they were elected, to implement free, warm school meals for all Norwegian pupils. However, when they were included in the government, they had to compromise this ambitious goal. Since August 2005, the government has provided funding to the municipalities to serve free fruit and vegetables daily in all schools with classes 8-10 (lower secondary level). In Denmark, the Norwegian model of a packed lunch for pupils (“Oslo-lunch”) was adopted in the 1940s and 1950s. In some municipalities the packed lunch was introduced instead of hot meals. The school meal debate arose again in the 1970s, but the idea of offering free meals met no support and in most schools small stalls were set up instead, selling side dishes such as fruit, milk and bread (Benn, 1996). These stalls dominated the 1980s and 1990s where the most common thing was for children to bring their own lunch and buy milk, and sometimes small side dishes, at school.

2.1.1 Current school meal situation

In *Italy*, the necessity of providing full meals to school children is beyond question. Currently about 4.3 million meals per day are served in public schools, and the parents pay up to 5.00 € per meal dependent on income. Furthermore, there is no political discussion about the implementation of quality food in school canteens. All national parties agree with this goal from the right to the left. Today the bulk of the regions have approved specific laws and/or guidelines meant to encourage and help move forward the development of a quality school catering system. The municipalities (in particular in the Northern and Central part of Italy) frequently introduce organic products in their menus.

Today the discussion in relation to school food in *Italy* is focused on the problems about reducing waste in school canteens¹ and how to reduce the non-food costs². It is not realistic to ask families to increase their share of the total cost. Hence, ways to reduce the costs of logistic and personnel are sought, such as introducing self-service or cook-chill systems and improvements and simplification of logistic supply chains.

In *Italy* the basic program structure is almost entirely privatized, meaning that private food companies employ the staff needed to prepare and serve meals in publicly owned facilities. E.g. in Rome, six companies provide the lunch service plus a mid-morning snack for 140.000 children.

In *Finland*, municipalities are responsible for providing free meals in day care centers as well as in primary and secondary schools, starting when children begin primary school at the age of about 7 until they graduate from higher secondary school when they are about 18 years old. All meals are financed by the municipalities’ (state subsidies are for tertiary education and public employees) with tax money. There are central or preparation kitchens in practically all municipalities, and they feed satellite kitchens with either hot or chilled food to be heated at the schools. Today many

¹ In many cases a waste of more than 40% is registered.

² The food cost does not exceed 30% of total meal cost.

municipalities discuss the possibilities of introducing cook and chill systems, because it provides a more flexible organization of the work. The largest share of caterers is municipal, which means that they have a municipal office and a 'whole-day work' with a public pension scheme and a rather safe position. The new trend has been to change to contract catering, and lower the 'fixed' municipal costs by 'freeing' the municipalities from personnel.

In *Denmark*, school food projects have been in and out of schools on several occasions, and the debate has been raised more than once. The packed lunch's leading position is under attack as the preparation of packed lunches is time consuming, children find packed lunches boring and, not least, unpalatable after 4 hours in a hot classroom. The latter is caused by the fact that Danish schools have neither basic facilities for eating home-brought food nor the ability to offer a refrigerator for each classroom (Mikkelsen et al, 2005). Hence, the school meal is gaining ground. The packed lunch is, however, still the most disseminated type of lunch and only 20-25 % of the Danish schools had well-run school food systems as a supplement for the packed lunch in December of 2006.

Today there is a broad variety of meal systems, and most of them only serve as an addition to the prevailing packed lunch that most pupils bring from home. Many children bring their meals most days of the week, and buy food at the school a few days a week. Meal systems including warm meals at schools are organized by the municipality or by the individual school in various ways.

In *Norway* the packed lunch continues to be the most popular type of school meal. The packed lunch has become such a well-established tradition that Norwegians tend to believe that a cold meal for lunch is the only natural thing, and that eating something warm for lunch (in addition to a warm dinner) would be fattening and unhealthy. For these reasons, public food procurement at school is not well developed in comparison to *Italy* and *Finland*. School meals are only offered in very few primary schools. However, subscription schemes for milk were introduced around 1970, and for fruit around 1995. Since 2007, fruit is served for free in all schools with 8th to 10th grade levels. There was some debate about nutrition in school during the last national election in 2005. Low scores in international comparisons of pupils' skills (PISA) as well as increasing length of school days are important arguments for taking action to ensure that pupils are sufficiently nourished during the day. However, as the infrastructure is lacking and no personnel are prepared to serve food, school meal systems are very complicated to introduce. A private organization, Friends of The School Meal (Skolematens Venner), is working actively to promote the providing of warm school lunches (www.skolematensvenner.no), and the first school restaurant in *Norway* serving hot meals daily in a lower secondary school was opened in August 2008 (<http://www.horecanytt.no/id/31736>).

The different types of school meal systems require different structures, regulations and practices which are described in the following sections.

2.2 Regulatory framework and financing of school meals

The regulatory framework comprises laws and guidelines, organisational structures and responsibilities as well as public financing of school meals.

In *Italy*, the regulatory framework consists of a patchwork of general rules and principles on the national level, guidelines for school meals decided by the regions, and implementation at the municipal level. The municipalities can interpret these guidelines and are relatively free to set up their own regulations and standards because non-compliance of national and regional guidelines is not sanctioned. The municipalities are responsible for public school meals. They control and manage the meal systems on their own, or outsource the task to private catering companies, in which case the municipality still maintains control of the meal system, but consults the company in connection with the practical work. *Italy* also has a few municipalities who have created public or public-private companies to manage the meal system. In all cases, municipalities have to cover all the costs for school catering services, and they decide how to distribute these costs. Thus, they manage financial terms and lay out rules concerning subsidies. Normally, families pay according to

their income. In some cases low income families pay less than 50 % of the total cost, whereas families with a medium or higher income pay all the cost. So, a part of the cost (10-30 %) is paid directly by the municipality.

It is up to the municipalities to work out “school-meal” policies and, as mentioned, they are recommended, but not obliged to follow national or regional indications. Altogether municipalities manage meals for 85 % of all nurseries/schools attended by children/pupils from 1 to 13 years. Only meals in private schools are not provided by the municipalities.

In *Finland*, the national government has issued laws concerning public meals. In 1981, redefinitions for the school meals entailed regulations to the nutritional content, meal planning, special diets, dining halls and timing, hygiene, personnel, educational tasks of school meals and control responsibilities of the school meals (Lintukangas et al. 2007). In 1991, the school sector as a whole was to some extent deregulated and the regulatory scheme was made more flexible: “The primary school regulation stated that pupils must be offered a purposefully organised and supervised, free school meal, allowing quantitatively sufficient amount of food to be eaten.” Furthermore, regulations from 2003 and 2004 emphasise the common national educational framework that is applied in education as regulated in law. The tuition must follow the age and capabilities of pupils and tuition must promote healthy development and growth of pupils. The Finnish school meal system has become a part of the educational plan as well as a part of the pupil support system. The educational plan is developed together with health and social sector officials in the municipal sector. Issues such as nutrition, health and manner are regarded as topics that should be taken into account when working with school meals. Municipalities offer free school meals for pupils in basic education (classes 1-9, pupils aged 7-15) and secondary general and vocational education (classes 1-3, students aged 16-19). Often, they manage public food procurement by public procurers who are responsible for all public procurement in municipalities. However, the catering is mostly organised in co-operation with catering managers, who select the product range and suggest the individual products. In small municipalities, catering managers also take care of procurement.

In *Denmark*, the national government has enacted guidelines for public food procurement in schools. However, decentralisation was an important topic when organising and reorganising the Danish school system with regard to financing and to educational programs. Hence, the public school system has a relatively decentralised decision process. Therefore, the responsibility for public school meals lies with the municipalities. They are recommended to follow the national guidelines, but are free to implement the guidelines according to their own wishes.

Some of the largest community meal systems in *Denmark* are outsourced and organised externally by private companies. One of those delivered entirely organic food for the municipality of Roskilde. Roskilde is situated 50 kilometers from Copenhagen and has 81.000 inhabitants and 18 schools. The most comprehensive meal system is found in the capital Copenhagen. The KØSS project (healthy and organic school food of Copenhagen) is partly organic and initiated and organised by the municipality itself. Both Roskilde and Copenhagen school meal systems are financed partly by the municipality (taxes) and partly by parents, who approximately pay 3 € for one meal.

In *Norway*, the Directorate for Health and Social affairs (Helsedirektoratet) formulated national guidelines concerning meals in kindergartens and public schools. The guidelines are optional for municipalities. Concerning school meals, the national regulations are rather weak and only state that pupils have the right to a good physical and psycho-social environment which promotes their health, well-being and learning capacity. More precisely, it is stated that the facilities at schools must ensure that the children are able to consume their food, brought from home. Based on these very general suggestions, the Directorate for Health and Social affairs has prepared guidelines for school meals, as well as for meals and food served in day-care centers. Public schools, as well as half of all kindergartens in *Norway* are owned and administrated by municipalities. By national law, municipalities are obliged to offer a before- and after school care system, but even in these systems it is not mandatory to offer the pupils any food. The subscription scheme for school milk is subsidised by the dairy company (in Norway, only the largest dairy company delivers school milk). Organic milk (when available) has a significant premium price. Since August 2007, the serving of

fruit has been paid by the government on all schools that include a lower secondary level (classes 8-10), plus on all schools in some selected areas where free fruit was regarded as especially important for reducing social inequalities. The reason for starting with this group of pupils is that they tend to eat least fruit and also more often do not bring any food with them to the school.

2.3 Structures and practices of school meal provision

This section compares the organisation of school meals at the school level including the production of school meals (possibly outside the schools) as well as the eating facilities and situation at school.

In *Italian* primary and lower secondary schools, parents can choose between having their children attending school for the regular time (27 to 30 hours a week) or full time (33 to 40 hours a week). In the first case, the pupils receive two meals a week in school, and in the second case, they spend all afternoons in school and receive five meals a week. The catering production units vary from large central kitchens delivering thousands of meals to several food serving outlets, to small, decentralised kitchens located at the school. Special meals are provided for pupils who cannot for religious, ideological or physical reasons eat certain food products. Such meals currently represent 5 % of the total meals provided, and its share is increasing. The school meal is integrated into the daily school routines. Pupils have their lunch in a dining hall. The municipality controls the quality of the meals and the lunch setting. Additionally, many schools (80 %) have a special commission that consists of parents, teachers etc. who observe the school meal system, the so called “*commissione mensa*” (= Canteen commission).

In *Finland*, pupils also eat in dining halls, special large rooms with tables and chairs set in groups. It is very unusual to eat in the classrooms. The latest recommendations in *Finland* state that 30 minutes is an acceptable time for the lunch break, but part of it is spent in queues when the children get their food from a buffet. To properly make use of the dining hall, the youngest classes come in the first wave, the next to youngest classes in the second wave etc. The whole lunch sequence can take up to two hours.

With regards to menus, all Finnish schools serve food for children with special diets, like lactose intolerance. A doctor’s statement is required for this. Vegetarian food is also served as well as vegan food, but only with parent’s consent, since parents are held responsible for the nutrition of their own children (Urho and Hasunen 2004). However, the recent developments in some municipalities feature vegetarian meals as an optional meal every day, and some vegetarian meals are even more popular than meals containing meat or fish. The reasons behind this development suggest that price, environmental and cultural aspects are supporting the vegetarian menus. The school meals are mainly cooked in central kitchens that may also serve other institutions. The meal planning and the meal preparation is organised in a managerial, scientifically based manner. The kitchen personnel is well qualified and their work is supported by nutritionists with a university degree particularly at hospitals; in ‘ordinary’ canteens, professionals such as polytechnic degree managers supervise the operations. Cooks may have a vocational degree, and may be specialised to prepare different diets such as lactose free diets etc.

In *Denmark*, there is no prevailing mode of organisation for school meals, because school food is only offered as a supplement to the packed lunch. Often it is entirely up to the school management to decide if the school introduces school meals, and thus, a broad range of practices can be found. Two thirds of all Danish public and private elementary schools have permanent “food stalls” or canteens, where the students can buy side dishes and in some cases full meals. At most Danish schools, the pupils have approximately 30 minutes to eat their lunch. The youngest children often eat together with a teacher in the class room, while children in the higher classes are permitted to leave school during their lunch break. Only 10% of the schools can offer the pupils a common place (as dining halls) to eat their food outside the classrooms. The opportunity to leave the school area means that some pupils buy fast-food in nearby stores, and a few schools have therefore chosen to no longer allow the children to leave the school during lunch breaks.

In *Norway*, there are hardly any warm school meals. There is a national regulation that children must have sufficient time for eating, at least 20 minutes, and furthermore that an adult should be present during the lunch break in classes 1-4. It is recommended by the authorities that lower secondary schools should organise a canteen or booth where the pupils can purchase food. However, it is most common that the pupils eat their lunch, brought from home, in the classroom. However, if a school chooses to serve or sell food, it is required that this food is healthy and contains little sugar and fat. It is usually only the oldest pupils (typically grade 10) who are allowed to leave the school campus during the school day.

2.4 Discourses, arguments and challenges for school meals

The further development of school meal systems, including the introduction or an increased share of organic food is shaped by discourses about school meal systems and healthy nutrition for young people in the general public and in the political realm. Frequently, both discourses are interwoven and can be regarded as one. There are some dominant topics that are common for all countries. However, the arguments in favor of, or against school meals differ considerably from country to country, as demonstrated by the following examples:

Healthy meals

The main purpose for the school meal systems in all the analyzed countries is to offer a healthy meal to the pupils, in order to help them maintain a good health. The meals seek to meet the general recommendations for nutrition, such as whole-grain bread, high intake of fruit and vegetables, no sweets and soft drinks etc. The focus on promoting healthy eating habits seems to be the most important argument used to legitimize the school meal systems in all countries.

Diminishing of social inequality and improved learning abilities

Another important objective for the school meal systems is to improve the learning ability of the pupils, and to diminish social inequalities. In *Finland*, social policy was at the origin of the school meal system. Providing a free warm meal that is based on nutritionists' advice for all pupils is an effective instrument to reduce social inequalities and to ensure school meals that support learning conditions.

In *Norway* the government has paid for the serving of fruit for pupils in all schools that include a lower secondary level (classes 8-10) since 2007, plus all schools in some disadvantaged areas. The free fruit scheme was regarded as especially significant in diminishing social inequalities. This is because teenagers have especially large necessity for fruit, as they normally do not like to bring fruit with them from home, and often do not bring any food at all (or they bring food, but do not eat it).

The provision of special diet meals can also be seen as a strategy to avoid creating inequalities, as well as to avoid discrimination by imposing a diet that is not in line with specific religious, ethical or cultural needs.

Utilising school meals to learn about food

The possibility of using the school meals as a way of teaching the students about food and health seems to be an important aim in at least *Italy*, *Finland*, and *Denmark*. In *Italy* it is an objective of the school meal systems to teach the children/ students (and their parents) the properties of the organic method and its benefits for the environment in order to improve the children's consciousness and to create young aware consumers. Unfortunately these principles are not directly connected to the food served at the schools. Often the children and their parents do not know that the ingredients are organic.

In *Finland*, school meals "are used as vehicle for nutrition but also for health, cultural and economic education." School meals are not utilised directly for education. This is in contrast to *Denmark*, where some private catering companies as well as some municipalities offer teaching materials and try to organise the school meals in a way that involves the pupils in preparation and

sales of the food. In this way the school meal systems are considered to be a long-term strategy, trying to influence the pupils' eating and consumer habits in general, by teaching them about the effects of food consumption in a holistic perspective.

2.5 Trends in the development of the school meal systems

In *Italy*, the present discussion is about reducing the waste in school canteens, reducing the non-food costs, controlling that the regional laws and/or guidelines are respected by the municipalities and/or by the catering companies, helping the municipalities to elaborate a good contract with the companies, and not least, how to increase the consumption of organic and typical or local food, and decrease the consumption of conventional foods.

In *Finland* there is a continuous discussion about the cost limits, and the meal services are commonly the targets of savings in municipal funding. The sector is also relatively low paid, making it difficult to recruit new personnel. In general, the majority seems to be satisfied with the current school meal system. However, some parents and catering personnel are questioning the quality of industrially prepared meals, heated up in the school kitchens. In *Italy* and *Finland* the meal systems have been implemented over many years and that might be the reason why the discussion about the development of the meal systems now revolves around subjects like quality of the food and sustainability (Mikkola, 2009a).

In *Denmark* and *Norway* there are relatively few experiences with school meal systems and funding is discussed more in these countries. Much of the public and political discussion is about whether there should be a mandatory public school meal system, and if so, how it should be organised and financed. In *Denmark* the political support for school meal systems is increasing. As a consequence of the scarce resources in the school sector, food stalls and canteens are only established or extended when the municipality prioritises this task. The lack of support from politicians in *Norway* might be because several stakeholders think that more public money for the school sector can be better utilised for other purposes than school meals, and that feeding their children is the responsibility of the parents rather than the public. The foremost problem is considered to be the costs, especially related to personnel required to administrate and serve the meals, and that the school usually lacks the infrastructure.

2.6 Summary: Different types of school meal systems

School meal systems in the four countries have similar historical roots related to social policy starting in the end of the 19th century with meals for needy children. However, their development paths diverge. In the 1930s in *Norway* and in the 1940s in *Denmark*, a cold lunch for pupils was introduced because it was considered to be healthier. The responsibility for the school lunch was transferred to the parents, and public procurement for pupils concentrated on subscription schemes for milk and fruit. On the other hand, school meal systems were further developed in *Italy* and *Finland* to the point of offering complete warm meals for a vast majority of the pupils. By highlighting this bifurcation, we can speak of two generic types of school meal systems: The type of *full warm school meals for (nearly) all pupils* represented here by *Italy* and *Finland*, and the type of *packed lunch and additional food items*, represented here by *Denmark* and *Norway*. The latter is characterized by a packed cold lunch provided by parents and additional food items like milk, fruit, yoghurt, sandwiches etc. provided by public procurement with the intention to improve the food provision at school mainly for health reasons.

These two types of school meal systems result in different regulatory and organisational structures. Providing full warm meals to many pupils demands a higher degree of professional management and administrative structures and involves more actors. However, irrespective of the type of meal or food served, a school meal service can be organised in diverging ways, as described for the four

countries studied here. The main characteristics of the regulatory and organisational framework for school meal systems are:

- the system being centralised or decentralised;
- the system being managed only by public institutions or by private firms or in cooperation between public and non-public actors; and
- the system being financed only by the public, or sharing costs between the public and the parents.

These three characteristics define the room for manoeuvre for the actors involved in the organization of school meals on each political level (national, regional, municipalities). As shown, the practices of school meal provision diverge across the four countries. In *Italy* and *Finland* the warm lunch system requires that school meals, lunchtime, facilities for eating etc. are integrated into the daily school routines, whereas in *Denmark* and *Norway*, the infrastructure for school meals is generally lacking, both physically (kitchens, dining halls) and socially (personnel to administrate, prepare and serve the food and do the cleaning). Moreover, each school meal system has to fit into national food cultures and patterns. Finally, discourses and political trends tend to stabilise the type of the full meal system while the type of additional food items is under pressure to explain how it can ensure a healthy diet to pupils.

To sum up, in *Italy*, the full warm meal system is well established. The management of the school meal procurement is highly decentralised and organised at the local resp. municipal level. In *Finland*, the warm meal system is established as well as based on a long history as in *Italy*, but the school meal system is much more centralised, important decisions about the regulatory framework such as nutritional recommendations, in-house control or vocational curriculum for cooks are taken at the national level. Moreover, *Finland* has a more scientifically based managerial approach than *Italy*. In *Denmark*, the additional food items system is changing 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.

3. Organic food for school meals

This chapter describes to what degree *organic* food is introduced into the school meal systems. For each country, the following topics are exposed: Quality requirements, the share of organic food already used in school meals, the supply chain management, and the actor coalitions. The introduction and dissemination of organic food in school meal systems is described and illustrated through examples and experiences. In addition, the history of public organic procurement (POP) is briefly explained for each country.

The status of organic agriculture and the organic food sector in the four studied countries vary considerably. However, in all the countries, the share of organic agriculture is above the average of the European average with 2.0 % in 2008 (Table 1). Thus, organic agriculture is well established in all the countries; and the organic food markets as well as the organic food sector including processing and marketing have been evolving for some time.

Table 1: Situation of organic agriculture in the four countries in 2008

Country	Organic and in conversion agricultural land (ha)	Share of total agricultural land in %	Number of organic farms
Italy	1,002,412	7.9 %	44,556
Finland	151,988	6.6 %	3,991
Denmark	150,104	5.6 %	2,753
Norway	52,248	5.0 %	2,702
Europe	8,137,668	2.0 %	220,171

Source: Willer et al 2009 at <http://www.organic-world.net/statistics-europe-area-2008.html> and <http://www.organic-world.net/statistics-europe-land-producers.html> accessed 11.11.09

3.1 Italy: Improving the quality of school meals by using organic food

The history of POP in *Italy* shows that some organic pioneers started to introduce organic food in school kitchens at a local level. They supplied kitchens in schools and kindergartens with local organic products in the 1980s. These model projects and initiatives took place mainly in Emilia Romagna (e.g. the consortium of organic producers of Emilia-Romagna delivered to kitchens in Modena and the province of Ravenna; the “Cooperativa agroecologica la mustiola” in Cesena), but there were similar experiences all over *Italy*. In connection with these first experiences, local administrations organised conferences, seminars and programs of food education involving parents, teachers and cooks. From the mid 1990s, when policy got involved in organic agriculture, the use of organic products for school canteens was promoted at the national and regional level. Between 1999 and 2002, regional (mainly in Northern part of Italy) laws were launched, fostering the use of organic food in public food procurement. From 2001 on, municipalities (especially in Northern provinces) promoted full-quality and sustainable catering systems in school canteens. In 2004, the city of Rome introduced organic, typical and fair-trade food for 140,000 school meals per day.

Between 2003 and 2007 several regions produced guidelines for the management of school canteens recommending the use of organic products. These guidelines postulate that public institutions managing school and hospital canteens should include “*organic, typical and traditional products*” in the daily diets. Currently, actors involved in POP for youth try to establish quality standards at the national level. Some organizations develop voluntary standards on public procurement for canteens (e.g. the guidelines for the evaluation of food quality of school meals: *Linea guida per la valutazione della qualità della ristorazione scolastica*, 2007).

From about 2000 on, such efforts to improve the quality standards of school meal systems were complemented with educational programs with regard to healthy nutrition and local and environmentally friendly food production. Interesting examples are educational programs in Rome and learning materials developed by the project BioBenessere (Morgan and Sonnino, 2008). However, only one third of the municipalities inform children and parents about the use of quality food. Furthermore, less than 10 % of the schools teach the children about principles in organic agriculture. Teachers are obliged to organize educational activities on environment and nutrition, but the contents of these activities are almost always nutritional issues. In Italian schools, education about sustainable consumption is not provided. There seems to be a “missing link” between action and communication (Spigarolo and Donegani, 2009).

The number of school canteens offering organic food (entirely organic meals or using partially organic ingredients) has risen considerably over the last decade to 791 in 2008. The data shows that the number of organic meals served each day at schools has risen from 24,000 in 1996 to 924,000 in 2007³ (Table 2).

Table 2: Development of organic school canteens in Italy 1996-2008

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Organic canteens	69	97	103	110	199	342	522	561	608	647	658	683	791

Source: BioBank 2008 (www.biobank.it)

There is data available on the use of organic and other products from controlled food chains in Italian school meal systems. In 2005/06 a large survey called “Eating out of home” was conducted in all Italian regions by ACU (Customers and Consumers Association) and co-financed by the Ministry of Productive Activities. The survey involved directly over 500 cooking centers (out of which 185 were school canteens) and shows that more than 94 % of the school canteens use organic products at least once a week and that 76 % by weight of all the products comes from a “controlled chain” (*filiera controllata*), whereas only 24 % are from the conventional agriculture (Table 3). The term “sustainable agriculture” is used in *Italy* to describe integrated production methods with reduced amount of pesticides.

Table 3: Share of quality and “controlled chain” products in school menus

	Type of product	Share of weight in %	Average meals per week
Controlled chain	from organic agriculture	40 %	4.3
	from sustainable agriculture	18 %	2.5
	Typical, local products (DOP, PGI) ⁴	14 %	3.7
	from fair trade	4 %	2.5
Non-controlled chain	from conventional agriculture	24 %	-

Source: ACU - “Eating out of home” - 2006, cited from Bocchi et al. 2008, p.36

The survey revealed great regional differences with Northern regions as frontrunners. Altogether, the use of organic food in school meal systems has increased considerably over the last decade. Over time, supply chains for school meal catering have evolved and quality standards for school meal systems are pushing the use of organic ingredients further. This striving for high quality school

³ Source: <http://www.biobank.it/it/BIO-articoli.asp?id=170>, date of access 6/9 2008.

⁴ Protected Designation of Origin and Protected Geographical Indication

meals is complemented by educational programs explaining e.g. the value of organic and regional agriculture. To conclude, organic food is a corner stone of the school meal system, and *Italy* can be seen as a pioneer of public procurement for young people in Europe.

CASE: Rome school meals

Every day, 144.000 meals are served in the public schools in Rome. Six years ago, most of the food in Roman school meals was conventionally produced; little was organic, and little attention was paid to seasonality, variety, and balance between caloric and nutritional content. In 2008, organic food comprises 70 % of all food served, and has expanded beyond fruits and vegetables to include olive oil, canned tomatoes, cheese, bread, baked products, cereals and legumes, pasta, rice, flour and eggs. Frozen fish fillets have replaced processed fish products, and fair trade chocolate and -bananas have been introduced. Contracting companies also agreed to decrease food miles to decrease pollution, replace disposable eating utensils by normal plates and cutlery and install dishwashers, increase recycling by distributing non-utilized foods to facilities that feed the poor, distribute partially-utilized foods to animal shelters and reduce production of waste throughout the entire process. And this is just a partial list.

The change began, under the leadership of Dr. Silvana Sari, largely through contract changes with the catering companies, and proactive monitoring to verify compliance with performance standards.



Lunch in an Italian school.

3.2 Finland: Established school meal systems in need for a sustainable vision

There is no data available on how many schools in *Finland* serve organic or partly organic school meals, nor on the share of organic produce used for school meals. However, organic food is served in some schools, but there are hardly any complete organic school meal systems running on a continuous basis. A large number of municipalities organise organic or local meal days or weeks, whereby the whole meal or nearly all the ingredients are organic or local organic; a particular Finnish feature is to emphasize local food as well (Mikkola, 2009b). The use of organic (and/or local) products is diverse, but its main features can be characterized by five typical patterns:

Invisible embedded use: products from conventional farming and wholesalers are substituted by organic/local food (e.g. potatoes, carrots, onions, cucumbers, berries, fish and meat) but the caterers do not communicate the use of organic/local products to the consumers, although they are often satisfied with the good quality of the products and commonly try to foster local food production.

Site and time specific visible use: Municipalities increase the visibility of organic/local food through specific events like organic and/or local meal days or weeks at school. At such occasions nearly all the ingredients are organic, and central kitchens are able to plan and prepare the meals in advance. Such occasions may in fact demand all available organic meat in *Finland*.

Dedicated visible use: Some schools and educational institutions are environmental or sustainability oriented, and may promote this through e.g. their names (eco-schools etc.). These institutions are often based on religion or ideology, e.g. Steiner-schools. They serve explicitly organic food (meals, fruits and vegetables as snacks). However, due to inadequate deliveries of organic products there exists no totally organic school meal system.

Labelled use: Some municipalities serving (partly) organic or local/Finnish meals and food communicate this to their customers through various labels. Four labels are of special importance in this context: a) the Finfood certificate for the use of regional food, b) the Nordic Swan for restaurants and catering organizations to signal environmentally friendly meal services, including organic and regional food and c) the “Steps to Organic” promotional and educational program for using organic food and d) the Green Flag educational label, indicating schools’ environmental and sustainability activities, including sometimes but not necessarily the use of organic or local food.

Science based evolving use: Some catering organizations have started to orientate their meal services towards sustainable production based on scientific evidence. They take into account healthy nutrition, environment and social well being with regard to food chain actors as well as to customers. In this perspective, they consider organic/local food as more sustainable than food from conventional production and trade. As some very large companies are involved, the impact of this strategy for public catering might have considerable leverage (Mikkola, 2008; 2009a).



Finnish youth helping themselves to bread in the lunch. Photo by Øyvør Helstad.

To sum up, the conventional meal system is prevailing in *Finland*; nevertheless there are also movements towards sustainable catering in hundreds of schools, mainly due to the Education for Sustainable Development (ESD) program. Even though there are some experiences with the use of organic ingredients and they slowly are making their way into the well-established Finnish system, organic school food has very low priority at the moment. However, the recently published national strategy for sustainable development proposes a 10-15 % increase of the annual use of organic and

local food by catering organizations. A proposal for an action program for sustainable public procurement (Finnish Ministry of Environment 2008) suggests that public catering organizations should serve a sustainable meal once a month by 2010 and once a week by 2015. Here sustainable meal means life cycle based evaluation of the meal including production, processing, storage, transport, preparation and food waste. Energy and water consumption needs to be optimized, and waste and climate impact minimized. The document evaluates organic and plant based food positively as compared to conventional and animal based food. These aims and recommendations could push organic school meals forward.

CASE: City of Kiuruvesi

Kiuruvesi is a sparsely populated (9.500 inhabitants) rural town located in the middle of Finland. Kiuruvesi town has made a decision to support the use of local organic food in the municipal kitchens. This decision is closely linked to the town's other goals of sustainable development, rural vitality and employment. In Kiuruvesi the municipal kitchens are encouraged to use local and local-organic products even though they are often a little more expensive.

Local organic farmers alongside interested government officials and politicians planned organic production and processing to be one of the goals in the strategy for sustainable development (Kakriainen, 2005). Municipal kitchens are encouraged to use local organic products not only to improve the quality of the meals they serve, but also because this can contribute to rural development.

Kiuruvesi has 19 municipal kitchens. They employ 42 people and produce about 620 000 meals annually. The strategy includes goals for how the kitchens should function at a practical level. Cooking, food supplies, packaging, waste management, organic waste, refrigeration and hygiene are aspects of sustainable food services that are explicitly mentioned in the development goals.

3.3 Denmark: Much talk but little action - new concepts under development

In *Denmark*, no statistics to describe the use of organic food in public food procurement or in other catering systems are available. In a survey of all Danish municipalities from 1996, 48 % of the municipalities mentioned to have or wish to have experiences with organic food. Further, the survey revealed that mainly municipalities with more than 20,000 citizens had experiences with organic food (71 %), whereas only 36 % of the municipalities with less than 10,000 citizens had such experiences. In general, municipalities use organic ingredients in day-care institutions rather than in schools.

The degree to which municipalities emphasise the use of organic food products varies extensively. The Danish experiences with organic school meals can be described by five different models (Ruge, 2008). The *first* model is status quo; packed lunch made at home. The *second* is large-scale produced food from centralised kitchens for further processing at the schools. The *third* model is food produced by external production units, but as individual portions to heat in a microwave-oven when a pupil buys that dish. The *fourth* model is cold food for purchase like sandwiches, or lunchboxes ordered over the Internet by the parents. The *fifth* model is school meals produced at the school. All five models have been observed in *Denmark*.

The two most comprehensive municipally organised, organic meal systems are situated in large cities, namely Copenhagen and Roskilde. Furthermore, six large Danish cities, including Copenhagen, are part of a project called "Dogme 2000", which obliges them to act as forerunners of environmentally friendly and sustainable communities. This includes ensuring that 75 % of the public food consumption was organic⁵.

⁵ See www.dogme2000.dk.

In order to strengthen the organic sector, the Danish government in 1997 decided to allocate 5 million € and later additional 1,5 million € to the introduction of organic products purchased by the local municipal authorities. The initiative was called 'Grønne Indkøb' (GI) - green procurement. Today, this support and the resulting implementation processes are regarded as one of the most significant instruments for realizing the goals of increased organic consumption. One example of local initiatives is the "Healthy School meals in Copenhagen" (KØSS) program, which was initiated by the municipality of Copenhagen. The aim of this program is to encourage pupils to develop healthy eating habits. From the beginning of the project the plan was that by 2008, 75 % of the food is intended to be organic. This goal was later postponed to 2011. In 2008, approximately 50 % of the school food in Copenhagen was organic, while the share in kindergartens and nurseries was respectively 75 and 85 %.



Organic school food for sale in Copenhagen, Denmark

The municipality finances the establishment of stalls or canteens in the schools, but the users must finance costs of producing the meals at the central kitchen unit. Municipalities often cooperate with private caterers or suppliers (supermarkets, bakeries etc.). Due to the rising demand for lunch meal systems in public schools, a number of catering companies have entered the out of home eating market. They offer different types of "readymade" meal systems and may play a significant role in the distribution of organic food products. However, only a few companies offer organic food in their menus at the moment. Organic milk subscription schemes have become very popular in *Denmark*. More than 40 % of the Danish school children drink organic milk in school. This milk is paid for and ordered by the parents.⁶

Currently, the Danish school meal system is exposed to dynamic changes, and the number of schools serving warm meals is increasing. However, a common meal system is not yet established. Therefore, the use of organic food in school meal systems depends on the initiatives of a broad range of actors. A well established market for organic food, private catering companies established to, or starting to, offer organic food, and model projects and initiatives in/from municipalities are factors that foster POP for youth in *Denmark*.

⁶ Mejeriforeningen the 15'th of February 2008 (Danish Dairy Board)
(<http://www.mejeri.dk/Nyheder.aspx?ID=638&PID=1135&NewsID=829>)

CASE: Copenhagen school meals

In 2008 all school children in Copenhagen had the opportunity to buy a healthy organic lunch. This was realized through the Copenhagen Healthy School Meals project (Danish: Københavns Sunde Skolemad - KØSS). The background of this project is a Copenhagen survey revealing that 25 % of the children did not have breakfast before school, and 25 % did not have lunch during the school day. The present system was implemented by the City Council in 2003. It involves all food being produced in a central kitchen where it is portioned, chilled and then brought to the schools. Pupils age 13 to 14 are responsible for heating the meals in microwave ovens and collect cash payment for the food. One can also order and pay using the Internet. The prices vary from 1.00 (e.g. potato soup) to 2.70 € (e.g. sushi or a hamburger with salad). Copenhagen City has granted about 1,000 € for each school in order to set up a school food booth. Complementing this there are funds equivalent to 200 hours' wages annually to let teachers supervise the pupils responsible for the booth. The total cost for Copenhagen City is about 1 million € annually.

In 2009 the new concept "EAT" was introduced in 44 schools. This concept meant food was tailored to the specific age group (from 1-3, from 4-6 and from 7-9 grade). Furthermore six schools invested in own kitchens. The overall aim is that 25 per cent of all school children will use the system every day. Still the goal is that 75 per cent of the food will be organic in 2011. So far the municipal has invested 9,7 million € in the new concept (only construction costs).

3.4 Norway: The packed lunch - and (organic) fruit and milk schemes

In general, the interest for organic consumption is rapidly increasing among Norwegian consumers. Each year new organic products are introduced into the food market. On some products, especially imported like coffee and bananas the premium prices have decreased. On other products, e.g. organic school milk, they are still very high.



Norwegian children are adapted to a packed lunch from an early age.
Photo by Kirsty Mc Kinnon, Bioforsk Organic Food and Farming.

As one of very few countries, Norway has a public aim not only for organic production, but also for consumption. Within 2020, 15 % of both production and consumption in Norway should be organic. A recent study emphasises that institutions like hospitals and elderly homes would be most efficient to reach the goal, whereas in institutions like schools procurement of organic food would be more demanding, but would also be much more visible and cause more attention (Knutson et al, 2007). Not surprisingly, the consumption goal is much more difficult to reach than the 15 % goal of

production. E.g. public organic food consumption was not mentioned as an instrument in the recent white book “Green State” (Norwegian Ministry of Environment 2003), which demonstrates the difficulty to implement political decisions from one political sector to another. The consumption and production goal is primarily supported by the Ministry of Agriculture and Food, whereas other Ministries are not Much engaged in this issue. However, as seen by the Norwegian case, the Ministry of Defense has recently made an important decision that will increase public organic food consumption significantly.

With regard to school food, the type of additional food items is prevailing. Organic milk and fruit is offered only in some regions. The school milk is provided by the largest Norwegian dairy company, TINE. Since 2001, TINE has experimented with organic school milk (0.25 litre containers) in some regions where excess organic milk was available. However, only a restricted quantity of organic milk is available for schools. Further, the premium price has increased rapidly and is currently 40 %. The amount of organic milk sold in the school type containers, which is exclusively sold in schools and canteens, decreased from 146,000 liters in 2006 to only 50,000 in 2008.

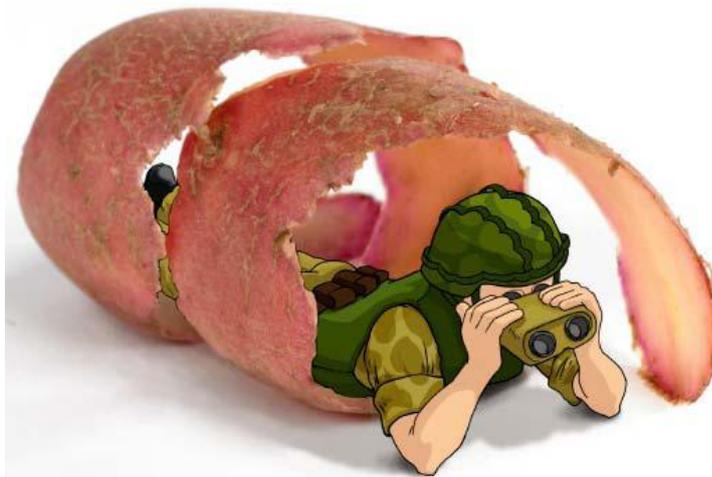
The largest distributor of fruit and vegetables in Norway, BAMA, supplies fruits and vegetables in the whole country, and offers one organic fruit per week. In some regions, private wholesalers have established a deliverance of organic fruit to schools. It is a great challenge to cover the premium prices, even if this would seem to be an easy way to increase the public consumption of organic products.

CASE: «Natural Defense»

The Armed Forces in Norway aim at an organic food share of 15 % in 2010. In mid-Norway, the air force camps participate in a pilot project to develop strategies to achieve a 15 % organic food share. The use of organic produce is fostered locally at the Air Force Academy kitchen where the chef emphasizes their role in awareness rising and providing a healthier and tastier alternative. The chef also finds it important to send a signal that the kitchen and the army care about the environment and what their guests eat.

The Norwegian Defense System Management Division (FLO) thinks that a meal eaten at one of their kitchens should provide more than just a filled stomach. Pål Harald Stenberg, project manager at FLO, says that they would like to provide the soldiers with a respect for the food and the meal situation.

By the end of 2007 it was estimated that the use of organic food accounts for 10 % to 20 % of the total expenditure that the Air Force Academy, located in Trondheim has on food procurement. The kitchen emphasizes buying local products, if available.



The logo of the project to increase the share of organic food in the Norwegian defense, communicated along with the text “Natural defense” (in Norwegian).

3.5 Restrictions and challenges for the increase of organic school food

Chances and restrictions for the further increase of organic food in school meals vary considerably due to different degrees of organic school food and different school meal systems in the four countries. The chances mainly depend on the public debate with the resulting political decisions and implementations, on structural barriers, and on actors as well as actor networks. The last aspect is analysed separately in chapter 4.

Some arguments tend to show up repeatedly in public debates on organic food. In *Finland* and *Italy*, almost solely environmental arguments are used to legitimize the use of organic ingredients. In Finland, there exist arguments for organic food connected with human and environmental health (Mikkola, 2009a) and some new evidence is expected to be disclosed by new research for benefits for human health (Mikkola, 2009b). Additionally, the clash with lacking vitamin D fortification in Finnish organic milk continues, making it less attractive for public catering use. In *Italy* the health aspect clashes with the organic food issue. In the policy of the Ministry of Health it is forbidden to connect organic agriculture to healthy issues because scientific evidence is lacking according to the Ministry. Since the end of the 1990s, the purpose of using organic ingredients in *Italy* has been to achieve sustainable productive methods and the request for quality food was the key to the success of organic food in school canteens. In *Finland*, the environmental argument also includes a focus on the use of domestically grown products to reduce impacts of food transport. Also in *Norway*, the main argument from the government for using organic food is to achieve a better environment. In addition, organic ingredients may be considered to be better for human health than conventional ingredients. Even if such statements are seldom found by authorities on a national level, they may be found on a regional or municipal level. E.g. in the municipality of Trondheim, *Norway*, who has a goal of organic consumptions in schools and day care institutions for children, the main arguments for using organic food are “more nutrition and less additives” followed by “more environmentally friendly way of production”. On the national level, the most important argument to promote organic production has so far been that the consumers’ demand should be satisfied by Norwegian products, for food that can be grown in Norway. Recently, arguments that organic food is better for the environment have gradually begun to be expressed by the Ministry for Agriculture and Food, which is clearly the most active political promoter of organic food and farming in Norway. Arguments that organic food is healthier is still a question that will cause very much debate and criticism, and is not used in the political debate by other than NGO’s, and even then very carefully so. The critics argue that it is not scientifically proven that organic food is healthier than conventional.

In *Denmark* the overall challenge for a conversion towards organic food is the difficulties of anchoring the “organic consumption” in the municipalities. Hence there have been examples of municipalities with a relative high level of organic foods that suddenly stop the use of organic foods. Often this is a result of other agendas *taking over* in the food service systems, and causing the “organic agenda” to fade out. The lesson is that it is very important to have “carriers” of this agenda, and these carriers can be placed in different arrears in the municipal administration.

In all the countries, the extended use of organic ingredients for school meal systems is hampered by structural barriers. The most important ones are the premium price for organic food as well as difficulties in the organic supply chain. In addition there are country specific barriers.

3.6 Summary: Organic school food

The situation of organic school food is quite different in the four countries with regard to the share of organic food used for school meals, public and private support, quality requirements, the visibility of organic produce and its connection with nutritional education. The type of the general school food system is setting the framework conditions but it does not determine whether organic food is used or not - at least in our sample of four countries. However, the type of full warm school meals provides more possibilities for increasing organic consumption through public procurement.

Italy can be seen as a frontrunner of organic school food. It has a high share of organic food in school meals, well-established contracts, consultants and supply chains etc. It emphasises the role of high quality food and promotes the highly visible use of organic (and regional) products.

In *Finland*, there is no specific enthusiasm in increasing the use of organic food for school meals. Sometimes, the use of organic products is neither made visible to the pupils nor to the parents. However, there are single initiatives mainly at the local level, but they are not visible as 'a movement', because at large the actors are engaged in the 'normal (heavy) work' and the organic issue is not of 'urgent quality' within the well established system. Furthermore, interest in organic, local and sustainable catering is visible in labelling systems such as steps to organic kitchens, Nordic Swan kitchens, Green Flag schools, eco-day care centres and eco-schools, and municipal practices such as organic meal weeks and days etc.

In *Denmark*, there are initiatives to promote organic school meals. Dedicated schools and municipalities can introduce organic school food and private catering companies offering organic food seem to have become an important player in addition to the municipalities. However, (organic) school meal systems are only in a development stage.

In *Norway*, consumers and the government are interested in organic food, but the introduction of organic food items in school food is hampered partly by the very restricted public food procurement at schools, partly by limited availability of products (milk) and partly by the difficulties of financing the premium price (fruit).

4. Actors related to Public Organic food Procurement for youth

The four national reports point out the key actors in each country. A comparison of these actors is the topic of this chapter. Their roles and motives concerning public organic procurement of school meals for youth will also be analysed. Furthermore, the central actors will be identified and their stakes in relevant decision-making processes within the field of school meals will be clarified.

We assigned the actor groups according to three societal domains: state, market and civil society. Actors from the state-domain represent the politicians at the national, regional, and municipal level along with civil servants such as school staff or paediatricians. Actors from the market domain are connected to the provision of food (e.g. supply chains, raw material, technology and knowledge). Actors from the civil societies are often from organisations such as registered charities, non-governmental organisations (NGOs), community groups, parents, consumer organisations, professional associations, trade unions, self-help groups, social movements etc. We are aware of the interaction between the three domains, and know that it can be difficult to assign an actor to a specific domain. Nevertheless, we find this distinction useful for our analytical purpose.

4.1 Public actors

In all four countries, political bodies intervene in the field of school meals on different levels, but there are variations in what kind of role they play. At the *national* level, *Finland* and *Italy* have national laws stating that the pupils shall be served a meal during school hours, in *Finland* through the school phase from 7-18 years, at least in some levels of the school systems. In *Denmark* and *Norway* the issue of school meals is discussed in the parliaments, with the parties mainly on the left wing arguing that the countries should implement free school meals in all schools in order to achieve better health and learning ability amongst the pupils. In *Denmark* the parliament calls for the municipalities and schools to organise school meals and make guidelines with advice on how to do so. In 2008, the The Ministry of Food, Agriculture and Fisheries allocated 16 million DKK (2.2 million €) to a pilot project, which should provide school meals to 15,000 children for two months in 2008; and 6 million DKK (0,8 million €) for evaluation and research of the effects of school food. In Norway, there is less pressure or supporting instruments from national authorities to establish school meals. However, the Norwegian government has proclaimed the goal of a 15 % share of organic food consumption no later than 2020. The latest development in *Norway* is the project “Økoløft i kommuner” (“Organic efforts in municipalities”). Via this project, 20 million NKK (2.51 million €) will be used over two years (2008-10) to increase the production and consumption of organic food in about 50 selected municipalities.

Our discussions of public school meals reflect the general discussions of the responsibility of the welfare state. The politicians at the *municipal level* are important actors in all countries because of their crucial role in the implementation of school meal systems. In *Finland* and *Italy* it is mandatory for the municipalities to serve school meals. E.g. in Rome, local policy had significant impact on the goals for local and organic food served in public schools. Thus the head of the Roman school food production expressed uncertainty about the future for sustainable food in Rome, when the political majority shifted in 2008. Although the consequences of this shift are still not established, it indicates that local politicians certainly can be a driver for the introduction of organic foods in school meals.

In Finland, there have been initiatives for using organic food on several levels; by individual schools, by some municipalities and various, often government funded organizations, creating labelling schemes to indicate the use of organic food and orientation towards ecological or sustainability aims. These labelling systems also develop their criteria continuously, and are also connected with research developments, which offer organic food a chance to be included more

heavily in the criteria. Finally, the national action program for sustainable procurement (Ministry of Environment 2008) looks for scientific evidence for sustainable catering and some national guidelines for this may be offered in the future. The future uniform guidelines may include the use of organic and local food in public catering, as they are positively framed by the political document. These developments include the future possibility of including the use of organic food in school meals across Finland.

In *Denmark*, local politicians can decide whether they want to implement a school meal system at all. E.g. the City of Copenhagen runs the most proactive public organic procurement programme for schools. This involves the Board and Administration of Children and Youth and other boards and administrative units in the City. In other cities and municipalities, teachers and other school personnel have in some cases been active in setting up (organic) school meal systems.

In *Norway* a few municipalities (Kristiansand and Trondheim) have decided on political goals for organic food procurement. With regard to a rapid increase in organic food consumption, school meals will be less efficient than e.g. day care institutions or hospitals because the school meal system in *Norway* is not well developed.

Public *administrations* shape actual practices and routines because they are responsible for the implementation of school meal systems. In *Italy*, municipal administrations provide school meals on the basis of the national and regional laws, and on the suggestions coming from the families, the Consumers' Association and the citizens. Normally, the department for school and education is responsible for school meals and the implementation of the local public procurement policy (quality of foods, how many organic products and so on), even if the school catering service is contracted out. This includes responsibilities concerning budgets, food legislative demands (i.e. food safety control systems), provision systems/standards, etc. Provision officials (civil servants) in the municipality develop and follow up on provision contracts. The municipalities have to manage the financing of the school meals. They may have different policies to do so, as illustrated by two cases. The first is Milano Ristorazione, a public company managing the school canteens of Milano and serving 78.000 meals a day. They recently decided that the families must pay all the costs, but they cannot ask more money from families with low incomes. Therefore, a small increase of the fees for 80 % of the families recently was implemented. More importantly, the company began to decrease the costs for food procurement, suggesting less use of organic products, and a smaller emphasis on quality. The second example is the municipality of Rome, which during the last 5 years has increased organic foods in school canteens and decided that the families do not have to pay more than 2 € for every meal, whereas the current real meal cost is nearly 5 €. 3 € will be subsidised by the municipality. However, extra costs for organic food are regarded as an obstacle in a number of Italian municipalities, whereas the majority of municipalities have found a solution to the extra expenses.

In *Finland* there are hardly any initiatives from public authorities concerning the introduction or transition to public organic procurement. However, the public Nutrition Centre plays a role in this context. The procurement is mostly organised in co-operation with catering managers, who select the product range and suggest the individual products. This approach involves mainly professional actors such as paediatricians and nutritionists who influence the planning of the menus and who are not politically responsible.

In *Denmark*, some municipalities have supported projects attempting to introduce organic foods in public institutions e.g. the KØSS project in Copenhagen. In Norway, the public administration in Trondheim, one of the few municipalities with an expressed aim of organic food in schools and day-care institutions, explains that they cannot do much to implement the political decision as long as no extra funding has been provided.

School administration and staff

The schools are potentially important actors in the implementation of organic food in school food serving systems. Due to the different political choices at national and municipal level, they play different roles in the different countries. Because of the clearly defined responsibilities of the

municipalities in *Italy* and *Finland*, the scope of schools and school headmasters is restricted. In *Italy*, they only provide teachers to supervise the meals. In *Finland* the teachers and headmasters may have some influence on the school meals, particularly on the festive arrangements or educational implementation. In *Denmark*, schools in municipalities without a common school meal system may choose to organise a meal system by themselves. In these cases, the school management is a very important actor. However, there have been examples where teachers had a hampering impact on the introduction of school meals, as they did not think that providing food is their responsibility. In Norway, a few schools have chosen to serve food, because this has a positive impact on the social environment. However, these schools are rare examples, and seldom emphasize organic food. A study by Marley (2008) showed that the implementation of organic food in such schools was dependent on some or several engaged stakeholders in the school environment (e.g. dedicated teacher or head master) to survive and grow.

4.2 Market actors

A variety of suppliers and operators of school meal systems have developed in the market for school meals that comply with the specific requirements of supply chains in the field of out of home eating. New companies have been formed, existing catering operators have developed specific departments supplying (organic) school meals, catering companies supplying conventional food have taken in organic producers, and experiments with public-private-partnership have evolved.

In *Italy* there is some interest from actors in private companies, because about 70 % of the meals are prepared by catering companies. Many private companies take part in the National Observatory of School Canteens and of the subcommittee “Eating out of home” created by UNI (National Organization of Standardization) that is writing a voluntary rule on public procurement contracts for canteens. These two groups represent crucially important stakeholders of the entire supply chain (organizations of catering companies, municipalities, producers, trade unions and consumers).

In *Finland*, the activities of the Finnish Nutrition Centre have been contracted out, and today the companies Fazer-Amiga and Sodexho are important players on the Finnish catering market, although the majority of municipalities still have their own catering service (central kitchen), either in municipal ownership or as a contract unit (i.e. Fazer-Amiga or Sodexho or some other less well known company), or that the municipality makes business itself, without being ‘private’, serving all schools in the municipality.

In recent years, a number of organic oriented catering companies have evolved in *Denmark*. Some of these commercial actors have a proactive strategy that includes the setting up and provision of policies, strategies and complete supply systems. Furthermore, the food industry has a keen interest in the discussion of school meals. It has initiated the initiative “Food+Lab” which aim is to develop new initiatives mainly for public procurement for children. Companies, universities and authorities are involved in this work.

In *Norway*, a few catering companies are beginning to specialise in delivering school meals, and some companies are specialised in delivering organic fruit to the school fruit schemes.

4.3 Actors from civil society

Private organizations or associations are also important actors in the field of school meals. They can be differentiated into a) parents’ organizations and other specific organizations caring for (organic) school meals, b) organizations from the organic movement, or c) other actors.

Parents’ and school meal organizations

In *Italy* there are 4 areas involved in the choice of menus, in the procurement and in the quality control:

- 1) the composition of the menus and the nutritional balance are discussed by the responsible of the municipality and of the catering companies (normally this people are dietitians) with the supervision and the final approval of the health authorities;
- 2) the policy of procurement (what types of products are required - organic, typical and so on) is in charge of the municipality and it is defined in the call of tenders and in the contracts;
- 3) the control of the hygiene aspects and of the food safety is in charge of the health authorities;
- 4) the monitoring compliance with the contract (grams, quality of food, quality of the service) is in charge of the municipality and of the *Commissione mensa* (Canteen commission), in which parents and teachers are involved.

The canteen commission, the parents and often the municipalities by themselves are the main players in promoting organic products.

In *Finland*, parents' organizations participate in a dialogue with school meal decision makers, but they generally do not seem to be proactive in relation to i.e. introducing organic food. Most Finnish parents are satisfied that their kids get warm meals in school and they may stress other factors in developing the school food than using organic food; they seem to prefer higher such topics as better taste, more modern food, more fresh food like fresh bread etc. There are a few local parents' organizations that have agreed to pay a subsidy for procurement of organic school meal ingredients in a few schools. The Finnish parents' organizations have not tried to influence directly on school meals, but rather on the vending machines in the school area serving beverages and sweets. Parents' organizations have communicated to headmasters of primary and secondary level schools for abandoning the vending systems. This discussion was active a few years ago, and has had some effect, though the development takes place through decisions made school by school by the teachers and headmasters.

In *Denmark* the organization "*Familie og Samfund*" (Family and Society) has created a campaign for the implementation of school meals. Especially in *Denmark*, the discussion of school children's involvement in school meal systems has been highlighted. Many of the school food projects seem to be dependent on the children's involvement in e.g. serving the food, cleaning, etc. On the one hand it is seen as a way of involving the children in the school meal production, yet on the other hand it is necessary in order to keep the cost for salaries low.

Parents play a distinct role in relation to organic school meal systems. With user payment models it has been possible for individual schools to establish meal systems that have a high share of organic products in the menu. Parents' organizations have been formed to lobby decision makers to implement (organic) school meal systems. Motives are health concerns, convenience and learning abilities.

In *Norway*, the organization "*Skolematens venner*" (Friends of the school meal) is an active player in the field of school meals. Their vision is to reduce future social problems and diseases related to lifestyle, by advocating the implementation of a free, warm and nutritionally correct lunch meal in Norwegian primary and lower secondary schools. Surprisingly, the organization for all Norwegian parents of school children, "*Foreldreutvalget for grunnskolen (FUG)*", the national board of school parents, has not expressed any public opinion at all about school meals, even if this has been on the public agenda in later years.

The organic movement and its associations

The organic movement and the organic farmers' associations have a social and economic interest in promoting organic school meals. Thus, important actors in introducing organic food to the *Italian* school meal systems were organic pioneers. They were e.g. a cooperative of local organic farmers. Still today the organic movement, its networks and associations are actively involved in consultative and advisory work, boards, think tanks and development projects in public organic procurement.

The organic movement, its networks and associations are rarely included by the institutions in defining policies about POP, except in the Emilia-Romagna region, where *ProBER* was involved when the regional law was drawn up. However, the organic networks and associations are involved in the workgroups that define the technical standards on public procurement as voluntary rules, and this fact is very important. Few municipalities in *Italy* involve organic networks and associations as local producers, when they decide to procure food from a “short chain”. One of the NGOs often involved in POP is The Consumers’ Association.

The organic movement in *Finland* has not been active in relation to the catering sector, including school meal services, and seems to be more interested in supermarket sales.

The *Danish* organic movement is primarily organized in “Økologisk Landsforening” (Association of Organic Farmers). This organization is responsible for a project that is connecting school pupils with organic farms (visits, study trips) and a consultant that along with a homepage service provides information on organic catering.

The *Norwegian* organic movement is organized in “Oikos”, an NGO with many similarities to the Danish “Økologisk landsforening”. With respect to organic food for youth, Oikos coordinates a large project to introduce organic food on several Norwegian music festivals, especially the large annual “Øya” festival in Oslo. However, as was also found for *Finland*, the organic movement in *Norway* has not been actively involved in the discussion of organic school food in recent years.

Other actors

Provided by the extensive structures of school meal systems in *Italy*, a knowledge network has appeared. Today we find a growing number of universities and academic departments dealing with developing product standards, guidelines, contracts and recommendations for policies on organic procurement for schools, etc. Research, development and innovation activities have had a priority in academic institutions, especially in the northern part of *Italy*, such as The National Observatory of School Canteens, which, though it was founded in Geneva, has participants from all parts of *Italy*.

Although organic food is not much represented in the Danish and Norwegian school meals, both countries have examples of research projects and individual projects focusing on the use of organic ingredients. In 2001 and 2002, *Norway* and *Denmark* both participated in a “Nordic Network”, which was established in order to investigate the potential of implementing organic food in catering in the Nordic countries. This network was later developed into the Norwegian lead Healthcat - Network (2005-2008), which included all the Nordic countries (Denmark, Norway, Sweden and Finland) and focused on healthy and sustainable food production.

4.4 Summary

The study of actors in the field of organic school meals systems demonstrates that the actor constellations are diffuse and heterogeneous. Nevertheless, some actors are potentially important, and they can be differentiated according to the societal domains of the state, the market and civil society. Important public actors can be found mainly at the local level. Municipal politicians, civil servants and school staff implementing school meals are often promoters of organic food. Market actors at the moment do not have much power and interest in organic catering, although some organic companies are getting involved in this issue. Finally, parents’ organisations and organic farmers’ associations (may) promote organic food. Their impact is mainly characterised by implementing (model) projects and initiatives at the municipal and school levels.

In *Italy*, a wide range of public and private actors is committed to high quality school meals. As organic food has been widely introduced into school meals since 2001, a very high number of actors and actor groups with a vested interest in organic school food are involved; they promote organic school meals, while trying to establish stable structures and institutions.

The major organic actors in *Finland* are some organic and/or locally committed private organisations such as Steiner Schools and congregations of the Finnish Lutheran Church.

The actor constellation of the *Danish* public organic school meal procurement is a blurred picture. Nutritional agents have been relatively visible in the public debate. In relation to organic school meals the major actors have been pioneers in public kitchens, institutions and administrations, but lately also private market actors have become important drivers for POP (e.g. the organic wholesaler and catering company Frydenholm).

In *Norway* the main driver is the national government, more specifically the Ministry of Agriculture and Food, with ambitious goals for organic food consumption, and a few organisations. The initiatives are restricted by the limited level of the Norwegian school meal system. For this reason, stakeholders promoting organic food and farming have not focused on the school sector.

5. Conclusions

Two main types of school meal systems can be differentiated: full warm school meals for a majority of pupils (*Finland, Italy*), and food items served in addition to, or instead of a packed lunch brought from home to ensure a healthy nutrition at school (*Denmark, Norway*). Due to less activity in this field, *Denmark* and *Norway* have less sophisticated regulations and less infrastructure for school meals.

Organic school food has developed most efficiently in *Italy*, a country known as a champion in both food culture and organic food production. In *Finland*, the school meals are working efficiently, there seems not to be strong voices against changing them towards organic foods. In fact organic food in schools is a very minor issue for the general public, but there are political and research-based developments in the conversion which may induce ‘more electric current’ into conversion, and the quality aspect is not perceived as quest for organic but rather more tasty and fresh ingredients than was the case in *Italy*.

In *Finland*, regional/local food ingredients are considered more important than organic food, however, none of the aspects are very high on the agenda. In all the four countries, organic food seems to be of small importance in the public debate about school. However, the new field that public serving of school meals encompasses may offer an opportunity to introduce organic food into school meals because the situation is not fixed, and new actors might enter the arena. E.g. new companies offering organic catering might utilize this opportunity. A bottleneck for a further increase of organic food in school meal systems in all four countries is the management of the supply chains and the adaption to the specific and complex requirements of school meal catering.

Besides these economic and organisational aspects, organic school food is restricted by a lack of promoters. In general, there has been a visible public debate about school meals, but organic food actors seem to play only a minor role in the studied countries. The topic is not high on the agenda of national politics. School administration bodies are generally not eager to change school food systems and routines, or to invest scarce financial resources in new fields. Still, we have shown in this paper inspiring examples of successful changes, and more are found in the studies of Morgan and Sonnino (2008).

Altogether, the orientation towards regional/local food provision is often mentioned as a uniting orientation for the development of the school meals. This is the case for both the newer initiatives in *Denmark* and *Norway* as well as for the established school meals in *Italy* and *Finland*.

A number of more specific findings are summarized as follows:

- In all countries, the school meal was historically formulated as and based on social policy. The current aims of the meal systems seem more complex, as the aims have been expanded by a spectrum of new issues like (public) health, learning, social aspects, sustainable/organic, convenience etc. These are formulated objectives, and to a certain extent prioritized in this order, according to the specific key-actors’ major policies.
- Resource allocation to school meals is a topic in all of the countries, which means that, although not based on a ‘free-market’ principle of balance between supply and demand, the school meals are facilitated with a relatively low resource allocation in all countries (with the exception of *Italy*).
- Political initiatives at the national level, e.g. financial incentives may help to increase public organic food procurement for youth (POPY). However, a successful implementation will always be dependent on POPY drivers at the local level (local politicians, parents’ organizations, committed school staff).

6. References

- Benn, J 1996: Kost i skolen - skolekost I. En undersøgelse af forhold, tilbud og muligheder i forbindelse med skolernes spisepause. Fra fattige børns bespisning til sundhedspædagogiske projekter [Food in the school - school food]. Ph.d. thesis. Danmarks Lærerhøjskole.
- Bocchi, S., R. Spigarolo, N. Marcomini and V. Sarti 2008: Organic and conventional public food procurement for youth in Italy. Bioforsk Report, Vol. 3 No. 42 2008, iPOPY discussion paper 3/2008.
- Finnish Ministry of Environment, 2008: Ehdotus kestävien hankintojen toimintaohjelmaksi 2008. Julkisten hankintojen työryhmän ehdotus 13.2.2008. Helsinki, Ympäristöministeriö. [Proposal for action program for sustainable procurement 2008. Proposal of the working group for public procurement 13.2.2008. Helsinki. In Finnish]. Accessible 23.10.2009 at <http://www.ymparisto.fi/download.asp?contentid=80568&lan=FI>
- Hansen, S. Rosenlund; H. W. Schmidt, T. Nielsen and N. H. Kristensen 2008: Organic and conventional public food procurement for youth in Denmark. Bioforsk Report Vol. 3 No. 40 2008, iPOPY discussion paper 1/2008.
- Kakriainen, S. 2005: Municipal Support for Local Food. In: Kakriainen, S. & von Essen, H. (Eds.); *Obstacles and Solutions in Use of Local and Organic Food*, Baltic Ecological Recycling Agriculture and Society (BERAS) Nr. 4, 2005.
- Knutsen, H., A.M. Lyng, C. Nymo, A. Spissøy and M. Svennerud 2007: Økologisk mat i offentlig sektor. Notat 2007-4. NILF, Oslo
- Lintukangas, S., M. Manninen, A. Mikkola-Montonen, P. Palojoki, M. Partanen and R. Partanen 2007: Kouluruokailun käsikirja. Laatueväitä koulutyöhön. Opetushallitus. Helsinki. [Handbook for school meals. Quality food for school work. Finnish National Board of Education. Helsinki. In Finnish.]
- Løes, AK, M. Koesling, G. Roos, L. Birkeland and L. Solemdal 2008: Organic and conventional public food procurement for youth in Norway., Bioforsk Report Vol. 3 No. 43 2008, iPOPY discussion paper 4/2008.
- Marley, E.K. 2008: Food for Thought - Introducing Organic Food in Norwegian Schools. Master Thesis, Senter for Utvikling og Miljø/Centre for Development and the Environment, University of Oslo.
- Mikkelsen, B. E., M. Bruselius-Jensen, J.S. Andersen and A. Lassen 2005: Are green caterers more likely to serve healthy meals than non-green caterers? Results from a quantitative study in Danish worksite catering, Fødevarerdirektoratet.
- Mikkola, M., 2008: Organic and conventional public food procurement for youth in Finland. Bioforsk Report Vol. 3 No. 41 2008, iPOPY discussion paper 2/2008.
- Mikkola, M. 2009a: Shaping professional identity for sustainability: Evidence in Finnish public catering. *Appetite* 53 (1), pp. 56-65.
- Mikkola, M. 2009b: Catering for Sustainability: Building a Dialogue on Organic Milk. *Agronomy Research* 7 (2), pp. 668-676.
- Morgan, K. and R. Sonnino 2008: The school food revolution. Public food and the challenge of sustainable development. London: Earthscan.
- Nölting, B., A.-K. Løes and C. Strassner 2009: Constellations of public organic food procurement for youth. 2009: An interdisciplinary analytical tool. Bioforsk Report Vol. 4 No. 7 2009; iPOPY discussion paper 1/2009.

Norwegian Ministry of the Environment (Miljøverndepartementet) 2003: Miljøledelse i staten, Prosjekt Grønn stat.[Environmental management in the public sector, project green state]. Available at <http://www.grip.no/Felles/Dokumenter/Veileder-Miljoledelse-i-staten.pdf>, accessed 8.10.2009

Ruge, D. 2008: Hvordan kan man gøre? Fem modeller. [*How to do? Five models*] <http://www.okologi.dk. Økologi i skolen/Skolemad/Modeller.asp>; Entered the 4th of September 2008

Spigarolo, R. and G. Donegani. 2009: Practice of organic food in Italian schools. In: Mikkola, M., B.E.Mikkelsen and G. Roos (Eds): Like what you get? Is it good for you? Proceedings of the seminar held at University of Helsinki, Ruralia Institute 21.-22. January 2009, Helsinki, Finland. CORE Organic Project Series Report, Tjele, DK: International Centre for Research in Organic Food Systems (ICROFS), p. 27-33.

Urho, U.-M. and K. Hasunen 2004: Yläasteen kouluruokailu 2003. Selvitys peruskoulun 7-9 -luokkien oppilaiden kouluruokailusta. Sosiaali- ja terveystieteiden tutkimuskeskus 2003:17.Sosiaali- ja terveystieteiden tutkimuskeskus, Helsinki. [School catering in the upper level of the comprehensive school in 2003. Reports of the Ministry of Social Affairs and Health, 2004:17. 80 p. Helsinki, Finland. In Finnish.]

The iPOPY project

The aim of the project “innovative Public Organic food Procurement for Youth - iPOPY” (<http://www.ipopy.coreportal.org/>) is to study how increased consumption of organic food may be achieved by the implementation of strategies and instruments used for public procurement of organic food in serving outlets for young people. Supply chain management, procedures for certification of serving outlets, stakeholders' perceptions and participation as well as the potential of organic food in relation to health and obesity risks will be analysed. The research project is a cooperative effort between Norway, Denmark, Finland and Italy (2007-2010). German researchers are also participating, funded by the Research Council of Norway. The iPOPY-project (2007-2010) is one out of eight transnational pilot projects funded by the CORE Organic funding body network within the context of the European Research Area. More at: www.coreorganic.org.

Project partners and participants:

Norway: Bioforsk Organic Food and Farming; SIFO, National Institute for Consumer Research
Germany: University of Applied Sciences, Münster; Center for Technology and Society, Berlin Institute of Technology
Denmark: Technical University of Denmark; University of Aalborg
Finland: University of Helsinki, Ruralia Institute
Italy: State University of Milano, Dep. of crop science; ProBER (Association of organic and biodynamic producers of the administrative region of Emilia Romagna)
Project manager: Anne-Kristin Løes, Bioforsk Organic Food and Farming, Norway

iPOPY reports:

Hansen, S.R., H.W. Schmidt, T. Nielsen, N.H. Kristensen; Bioforsk Report Vol. 3 No. 40 2008, iPOPY discussion paper 1/2008, Organic and conventional public food procurement for youth in Denmark.

Mikkola, M.; Bioforsk Report Vol. 3 No. 41 2008, iPOPY discussion paper 2/2008, Organic and conventional public food procurement for youth in Finland.

Bocchi, S., R. Spigarolo, N. Marcomini, V. Sarti; Bioforsk Report, Vol. 3 No. 42 2008, iPOPY discussion paper 3/2008, Organic and conventional public food procurement for youth in Italy.

Løes, A.-K., M. Koesling, G. Roos, L. Birkeland, L. Solemdal; Bioforsk Report Vol. 3 No. 43 2008, iPOPY discussion paper 4/2008, Organic and conventional public food procurement for youth in Norway.

Nölting, B., C. Strassner, A.-K.Løes; Bioforsk Report Vol. 4 No.7 2009, iPOPY discussion paper 1/2009, Constellations of public organic food procurement for youth.

He, C., B.E. Mikkelsen; Bioforsk Report Vol. 4 No 66 2009, iPOPY discussion paper 2/2009, Organic school meals in three Danish municipalities.

Strassner, C.; A.-K. Løes, N.H. Kristensen, R. Spigarolo (eds.); CORE Organic Project Series Report, International Centre for Research in Organic Food Systems (ICROFS), Tjele, DK. Proceedings of the Workshop on Organic Public Catering held at the 16th IFOAM Organic World Congress, 19th June 2008 in Modena, Italy.

Mikkola, M., B.E.Mikkelsen, G. Roos (eds); CORE Organic Project Series Report, International Centre for Research in Organic Food Systems (ICROFS), Tjele, DK. Like what you get? Is it good for you? Proceedings of the seminar held at University of Helsinki, Ruralia Institute 21.-22. January 2009, Helsinki, Finland.

Nölting, B. (ed.) (2009)); CORE Organic Project Series Report, International Centre for Research in Organic Food Systems (ICROFS), Tjele, DK. Providing organic school food for youths in Europe - Policy strategies, certification and supply chain management in Denmark, Finland, Italy and Norway. Proceedings of the iPOPY seminar held at the BioFach February 20th 2009 in Nuremberg, Germany.

All publications can be downloaded from the website:

<http://www.orgprints.org/> (enter “iPOPY” as keyword)