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CORE Organic Project Series Report

Proceedings

Like what you get? Is it good for you? Organic food, health and sustainable development in schools

Proceedings of the seminar held at University of Helsinki, Ruralia Institute 21.-22. January 2009, Helsinki, Finland



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

AGTEC-Org	AGronomical and TEChnological methods to improve ORGanic wheat quality: agtec.coreportal.org
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Foreword

It goes without saying that changes towards sustainability are needed in our food system, and that the changes in view are both widespread and deep-seated. The current deficiencies in public health intertwine with ways of life and environmental impacts of agriculture, food industry and food commodity trade, which all call for a system-wide approach. The problem has been described as the separation of public and private interests, as citizens represent right for good environment and clean food, whereas private actors seem to have unending appetite for ever cheaper (food) commodities and less physical activity. Organic food has been seen to represent an extensive agricultural system featuring sustainability aspects and somewhat higher cost level, but the consumption of organic food is still minor when compared with conventional food in most European countries. As one point of entry to realizing a more sustainable food system, the organic food system and its appropriation may be explored in an environment reflecting public responsibility for sustainability, working for education and including food consumption: in the public primary, secondary and tertiary education institutes and other places where young people consume meals such as congregational activities and music festivals.

The research project innovative Public Organic food Procurement for Youth – iPOPY (2007-2010, http://www.ipopy.coreportal.org) investigates in Work Package 4 (WP4) perceptions and learning about sustainability and organic food as Education for Sustainability (EfS) and Food Education for Sustainability (FEfS), whereby the use of organic food in food service is in focus. Work Package 5 (WP5) studies the connections between organic food and health: how the implementation of organic school meals may support healthier eating behaviour. The project endeavours to release cooperative potential for change towards sustainability among actors such as public procurement, headmasters and teachers, catering organizations and their personnel, pupils and students as well as their parents.

The first task of WPs 4 and 5 was to map the current situation in case organizations in Finland, Denmark, Italy and Norway. The selected case organizations represent actually not the ordinary state of the art in terms of F/EfS and the use of organic food by food service, but rather the embodiment of long-term and determined efforts for sustainability and healthy eating patterns through the use of organic food. The work done so far in both WPs evidences about excellence in educational and food service practices in connection with organic food, but also of long-term struggles, trials and errors and efforts for ambitious endeavours by educators and catering organizations.

These Proceedings report of empirical preliminary research, research made for Master's Theses, projects to implement organic school meals and school gardens as well as educational visions for the F/EfS for the future. Halfway of the iPOPY project, these Proceedings make visible some of the outcomes gained and work ahead towards more sustainable food systems.

Minna Mikkola, Bent Egberg Mikkelsen and Gun Roos, 14.1.2009.

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Introduction to the iPOPY project

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1 Why organic food for the youth?

Schools are increasingly becoming a "food arena" for public engagement, recently demonstrated by the EU decision to implement a daily free fruit school program (European Commission, 2008). The European Commission has allotted funding for a School Fruit Scheme which will begin in the 2009/2010 school year, jointly funded by the EU and by participating national governments. The program is aimed at improving the health of young people in Europe, hoping that increased fruit and vegetable consumption patterns will continue into their adult lives. Although a number of countries rely on the family to provide pupils' food during school hours, publicly organized meal systems and fruit provision strategies are growing in Europe; this is partly due to longer school days and to assist busy families, but also due to public nutrition and sustainability strategies. Public food serving is utilized to achieve healthier eating and more sustainable consumption patterns, as shown by the strategy to accompany the mentioned school fruit scheme with "awareness-raising and educational measures" (European Commission, 2008).

Rising obesity rates among European children cause concern, for example within the European Commission (2003). In spite of the excess access to food, malnutrition and diseases related to food intolerance are also common, and call for new food serving approaches in public as well as in private settings. As reflected in the high share of organically produced baby food, for example in the United Kingdom where almost 50 % of the baby food sold is organic (Anonymous 2006), people tend to prioritize organic and high quality food for the youngsters in order to provide a good basis for long-lasting health and well-being. Organic production has less negative impacts on the environment, for example due to reduced loads of pesticides, and organic produce may have a higher quality (e.g. Brandt and Mølgaard, 2001). Because of these reasons, and due to the rapidly increasing consumers' demand, European countries promote organic food and farming (Commission of the European Communities, 2004). The introduction of organic food in catering often implies that more focus is set on healthy eating (Mikkelsen et al., 2006; O'Doherty Jensen et al., 2001) because organic food strategies are usually guided by a committed food and nutrition policy. Further, organic food strategies often include "less meat, more vegetables" as a result of premium prices which are normally much higher for organic meat than for vegetables and cereal products. Such adaptations are often nutritionally sound.

Organic school meal programs provide an opportunity to increase the quality of the school food and hence the health and well-being of the pupils, to increase the public organic consumption, and to inform pupils about sustainable food patterns. The youth of today are the future family parents. When they get introduced to organic food and farming in public settings like school education, it is more likely that they will buy organic food when they grow up.

The transnational research project "innovative Public Organic food Procurement for Youth" (iPOPY) was initiated in late 2006, when 11 European countries cooperated in the ERA (European Research Area) net CORE Organic to launch a joint call for research projects. The headlines of the CORE Organic call were animal health and welfare, food quality and market research, and iPOPY is one of two market research projects. The main goal 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 are analysed. Our project period lasts for 3 years (2007-10), and the funding comprises 1.4 mill €.

To facilitate the discussions in our research team, we have agreed on the following working definition of the key terms in the project title: *"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 in schools and other public institutions for youth, such as day-care centers, 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". Noelting et al 2009a.*

2 School meals - served and studied

The main focus in the iPOPY project is on organic food served in schools, because schools are the most important common setting for young people in all of the participating countries. Finland and Italy both have a long tradition for serving warm school meals to all pupils every day. Italy is a pioneer in Europe to use organic and local products in school meals, whereas in Finland, both economy and lack of interest restrict the use of organic products in school meals. In Denmark and Norway, children bring a packed lunch and subscribe to milk and fruit served at school. This pattern is slowly changing, and publicly organised food provision is increasing, especially in Denmark. Some Danish municipalities have developed large organic school meal programs (see section 1.4). Norway was the first European country to introduce a daily free school fruit scheme in public schools. Good arguments for this decision were found in an intervention study documenting a long-lasting increase in daily intake of fruit and vegetables after pupils had had a period of free fruit serving at school (Bere et al., 2007). The school meal systems in the four iPOPY-countries and Germany are further discussed by Noelting et al. (2009b).

The organisation of school meals, and the extent to which organic products are integrated in these meals, were the topics of the first four reports from the iPOPY project (Bocchi et al 2008; Hansen et al 2008; Løes et al 2008; Mikkola 2008). iPOPY has also arranged open workshops to discuss these topics during the Biofach fair in Germany (presentations available at www.ipopy.coreportal.org) and the 16th Organic World Congress in Modena, Italy in 2008 (Strassner et al., 2009).

3 Research methods and team building

The research approach in iPOPY is a combination of qualitative and quantitative methods. Information is collected by structured and open-ended questionnaires and interviews. Statistics from public websites and reports are another important source of information. We have defined three to five relevant cases per country where drivers, hindrances and factors promoting organic food serving are being studied. Most of these cases are municipalities with an ambitious aim of public organic food consumption, but we have also included Finnish congregations, Norwegian military camps and a music festival.

iPOPY consists of five work packages (WPs), studying policies (WP2), supply chains and certification (WP3), the young consumers' perception and learning about sustainability and organic food (WP4), and health effects of organic menus (WP5). One WP (WP1) takes care of project management and draws the final project conclusions based on results and conclusions from all WPs. Further information is found on our web site, www.ipopy.coreportal.org .

A nice element of this transnational project has been its ability to attract the interest of several talented students, who have used research questions related to the project to conduct studies and partly to produce theses to achieve an academic degree. The students have been active in the research team, and so far four theses have been published (Hansen et al., 2009; Marley 2008; He, 2008; Sørum, 2008).

4 Project half way – some important results

4.1 Methodology to test if school menu changes cause changed eating patterns

To introduce organic food in school meal service systems, changes in food and nutrition policies as well as in food items served/consumed during school hours are required. It has not yet been extensively proven that such changes in practice lead to changed food intake among the pupils. In a Bachelor thesis (Hansen et al., 2009), a methodology to test this assumption was developed, using the experiences from the "Prochildren" and "Health Behaviour of School aged Children" (HBSC) studies. A pilot test among students and parents at a Danish municipal school was included. The method proposed to study children's general eating habits includes a variation of a 24-hour Recall study, a Food Frequency Questionnaire, and a method developed to identify children's knowledge of fruit and vegetables by pictures. Danish 6th graders were found to be suitable as informants about the relation between food procurement policies and eating practice, if special attention is given to literacy skills and cognitive development. Representative 6th grade classes at schools with organic food policies can be selected by cluster sampling and matched with corresponding classes at schools without organic food policies, after which the influence of the food policy on eating pattern can be compared.

4.2 Organic school meals in three Danish municipalities: Roskilde, Copenhagen and Gladsaxe

Unlike Sweden and Finland, there are no national regulations or funding for implementing meal provision systems in Denmark, and municipalities and schools have to find their own ways. Some municipalities have used significant amounts of public funding to develop locally adapted school meal systems, often including the use of organic food. The capital Copenhagen (52 primary schools), the city of Roskilde (19 schools) and the rural municipality of Gladsaxe (16 schools) have very different approaches, and were chosen for a study to examine various experiences (He et al., 2007). Roskilde and Gladsaxe are close to Copenhagen. All municipalities have some years of experience in school food provision, and make politically supported efforts to promote school meal service based on organic supply. Key informants in each municipality were interviewed, focusing on the involved actors, interactions among actors, and barriers and future plans regarding an increased consumption of organic food in school meals. Copenhagen relies on a large catering production unit, a centralized kitchen where meals are produced to be heated subsequently and

sold in a tuck shop at local schools by a group of pupils organized by a trained teacher. Roskilde has based the meal supply on a local organic catering company, and employs on-site staff to serve the food at school. Gladsaxe employs educated kitchen operators to prepare lunch at their schools, and a municipal coordinator is responsible for education and supervision of the local meal preparation including the necessary concerns to secure the organic supply. In all municipalities, the amount of organic food consumed in schools has so far been well below the politically decided goals and ambitions. Although the organic share of the food supply has reached satisfactory levels in some cases, the total amount of food sold is low due to a limited number of users. On average, less than 25 % of the pupils buy the meals. The traditional lunchbox seem to have been shaping the eating style of school children for a very long time, and this habit is one of the barriers to increasing the application of organic school meals. Even if the organic school meals are not free for the pupils, a significant public financial support is needed for administration, infrastructure etc. Further, it is a challenge to develop an efficient and committed organization at the schools to be responsible for the meals. The schools themselves do not promote organic school meals, and some members of the school staff complain about getting extra work without sufficient resources. Further, no municipality makes any effort to promote their organic school meal programs to other municipalities, so it is difficult to use current experience to develop new and possibly more efficient systems.

4.3 KØSS – healthy and organic school food in Copenhagen

The healthy and organic school food program in Copenhagen (KØSS) is one of the significant attempts in Denmark to create a meal provision that fulfils both healthy eating and sustainable consumption. The KØSS case aims at serving meals that meet strict nutritional guidelines, based on organic produce. In addition, the program has a vision of integrating the food supply into school life and curriculum. A recent student project has studied the Heiberg School at Østerbro, Copenhagen, which participates in the KØSS school meal system. This study investigated how 5th and 7th graders make sense of an organic and healthy meal system. The results show that the KØSS system has not managed to create a significant ownership among the pupils, and that the system has failed so far to integrate the organic message successfully into the curriculum. The study suggests that the potential to support organic and healthy food supply system with curricular strategies is huge, and should be emphasized. The results will be further published in a report during 2009.

4.4 School fruit in Norway

Through the School Fruit and School Milk programs, which are partially or fully subsidized by the Norwegian government, some schools in Norway have decided to order organic fruit and/or milk, while some schools are also including organic food in their school canteens. This study (Marley 2008) took a qualitative look at four Norwegian lower secondary schools where organic food is being introduced to the pupils, either through the School Fruit scheme or through the schools' own school food initiatives. It examined if and how organic food is being included in the schools' curricula, and whether organic food education is being linked with environmental education topics. While many of the teachers and school administrators chose to have organic food because of the environmental benefits of organic farming, the pupils generally drew stronger links between organic food and health. While it was important to have an enthusiastic staff member advocating for organic food in order for the program to be initiated, it was also important to involve a variety of school staff in the process. Involving the pupils in the organic school food process - through school or community gardens, cooking and baking school meals, school trips to farms, etc. - was also quite essential in order to get them interested in organic food and agriculture.

4.5 Organic Food in the Norwegian Defence

iPOPY has reached its half-way point. Several interesting studies have been conducted, and many more are under way. Doing research in a field where frame conditions and practical experiences are changing very rapidly is a challenge, but also increases the practical impact of the studies we perform. Altogether, the case descriptions, workshop and seminar proceedings and scientific papers from the iPOPY project comprise a valuable documentation of current public food procurement systems aimed at young people in Europe. Studying and working with youth is inspiring, and contributes to the dedication and creativity of the research team.

The Norwegian Defence has decided to make 15 % of their food procurement organic within 2010 in the region of Mid-Norway. In three units within the air force, the kitchens are well ahead to reach this goal, which also includes an effort to use local products. Young soldiers trained at these three units participated in a survey about their interest in organic food, and their degree of satisfaction with the served food. A nice taste, smell and appearance of the food was most important. Whether the food was of organic quality, locally produced or produced without pesticides or mineral fertilizers, were of little importance.

5 Outlook

However, the soldiers found it to be quite important that the food was healthy, and about 50% were positive to the project introducing organic food in their diet. 20 % were negative. Assessing the degree of healthiness in their own eating pattern, most soldiers said they ate quite healthy; even so, less than 10% claimed to eat more than four fruits or portions of vegetables per day (five is recommended). The older soldiers were more positive towards organic food than younger soldiers (Sørum, 2008).

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Finnish school meal as regulated practice

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Summary

In Finland, we ensure that everyone has equal access to education. Pre-primary and basic education are provided free of charge for all and this includes school meals, teaching and teaching materials, school transport and pupil welfare services.

Finland was the first country in the world to serve free school meals. 1948 is seen as being the year when free school catering really started, though catering activities on a smaller scale had been around since the beginning of the 20th century.

The municipalities are responsible for producing, serving, monitoring and evaluating school meals in Finland. The common guideline in statutory obligations is a free meal every school day. Basic Education Act states that pupils attending school must be provided with a properly organised and supervised, balanced meal free of charge every school day.

Education is provided according to the pupil's age and capabilities and so as to promote healthy growth and development in the pupil. Education is governed by a unified national core curriculum, which forms the framework for planning education. The National Core Curriculum is drawn up by the Finnish National Board of Education. As part of the curriculum, every municipality is obligated to draw up a plan for pupil welfare. The plan provides the key principles for arranging school meals and sets out the objectives for health and nutritional education and for teaching good manners.

The role of school meals is to be a pedagogical tool to teach good nutrition and eating habits as well as to increase consumption of vegetables, fruit and berries, wholemeal bread and low or non fat milk.

Finnish school legislation guarantees a well-balanced meal for each pupil every school day. The objective is to maintain and improve pupils' health and well-being and to give them energy for their schoolwork. School catering meets these aims by following the dietary guidelines for schools issued by the National Nutrition Council. A school lunch should equate to about one third of a child's daily food intake. It should be tasty, colourful and well-balanced. Lunch is only well-balanced if all the components of the meal are eaten. It is recommended that a sample meal is on display on a tray at self-service school canteens.

School meals should be served from 11 am to 12 noon every school day. A good school canteen encourages pupils to enjoy a peaceful meal and offers them healthy choices. A pleasant, quiet dining area allows pupils to take their time and helps them to understand the role of eating, meal times and spending time with each others in promoting their well-being. Special attention is paid to the taste and temperature of food. Tempting and mouth-watering presentation of food is also important. Catering at school canteens is provided on a self-service basis, so eaters can put their own meals together. Special diets are observed and supervised personally by catering staff.

Food in Finland is safe and healthy. Many things form the foundation of Finnish food culture. They are also the basis of Finnish school meals. Good nutrition is about more than just food. One of the basic things is co-operation between headmasters, teachers, parents and catering staff. There are always adults present in a school canteen.

The meal plate model, a sample meal and personal guidance help pupils to make responsible nutritional choices, promote learning healthy eating habits and teach good table manners and social interaction skills.

Feedback gives valuable and good information from customers. It is important to listen to pupils' opinions and ensure that they enjoy their school meals.

The average price of a meal served at schools providing basic education accounts for about 8% of all the education costs per pupil. A good school meal is an investment in the future.

Teaching and learning about sustainability and organic food in Finnish schools - Sustainability vibrations across individuals and organizations

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1 Introduction

Education has been conceived as synonymous with promoting Good Life by cultivating human excellence and qualities, pertaining to both social and natural world, worthy of being expressed by pupils in the future (Bridges 2008). This view is, to quote Bridges (2008), "inescapably normative" and therefore, open to discussion and decision making by the society at large and more specifically, by politicians, public officers and researchers on various levels of national, municipal and individual educational organizations as well as by various educational support groups and parents, and finally the pupils themselves. Due to being identified as a lever for change, educational development has also become an object for intensive and politically informed interest by various stakeholders. The notion of educationalization has been used to describe the tendency by governments to delegate responsibility (and blame) to resolve pressing social issues to educational institutions (Bridges 2008). How can overburdened educational institutions deal with initiative mania and achieve solutions for issues like obesity and Sustainable Development (SD), to name a few, while keeping to their primary educational responsibilities in teaching literacy, numeracy and reflective critical thinking when treating learners as ends in themselves and not means to ends of others (Bridges 2008)? In other words, in the midst of the pressurized educational sector, is it justified and succesful to engage in Education for Sustainability (EfS) and thereby introduce changes into current teaching and learning?

Bridges (2008) sees the educational institutions accepting some responsibility for solving social and economic problems due to their inherent ambitions for 'helping to build a better world', being publicly owned and under political power as well as having appetite for external funding. Abowitz (2008) claims that public and civic purposes of liberal-democratic education as a normative sphere support an open, transparent and inclusive society, whereby the greening of education is in the interest of the citizens who will live out their shared fate regarding ecological sustainability. Brickhouse and Kittleson (2008) see reshaped science education to be responsible for promoting shared interests like clean water and air, healthy and safe food as well as a healthy and sustainable planet. However, colonization of education by indoctrination (Bridges 2008) and commercial spheres (Abowitz 2008) are seen as threating education.

The potential for change exerted by education has been regarded as rather compromised, as it is often seen to reproduce rather than change prevailing societal structures and activities. However, knowledge, skills and social networks developed in educational environments may prove to be significant in future societal and market orientations (Bridges 2008). Due to the status of 'pressing social issue' of SD and the response to it by EfS, it is well worth to inquire into the ways of implementation and learning outcomes of EfS. The dialogic engagement with case study schools in this research and literature about EfS research suggest the following analytic observations (Bridges 2008) to be elaborated further: actors' identity for EfS (Hegarty 2008), the content and methodology of EfS and the use of contextual facilities and operations in EfS (Bray 2008) and the learning outcomes in relation to educational aims (Biggs 2003). Beringer and Adomßent (2008) claim that characteristically sustainable university (educational or school) projects, like the ones

mapped here, use the interlocking subsystems of research and education at academia (schools) and their operations as synergistic leverage points for SD. Research and education become thereby contextual and aim to create concrete changes in the operational sphere as well. This paper presents preliminary research results regarding implementation and learning outcomes of EfS at three case schools in Helsinki area in 2008, seeking to identify educational potential for change of EfS.

2 Methods and data

The study deals with two primary education schools with about 220 and 500 pupils in the classes 1-6 (aged from 7 to 12) and one lower secondary education school with about 300 pupils in the classes 7-9 (aged from 13 to 15) in Helsinki area. All the schools were located in green urban or suburban area inhabited by middle or high level income families. The schools were judgementally chosen as objects of case studies due to their explicit commitment to Environmental Education (EE) and EfS. The data was collected by semi-structured in-depth interviews, which normally lasted the slot of one lesson (45 minutes), and were addressed to teachers and pupils alike. The first set of questions concerned understanding about SD, its teaching/learning, implementation at the school and future activities towards SD. The second set of questions dealt with conceptions of organic food, teaching/learning regarding it, its use at school and future activities for its use. In each school three teachers were interviewed, one of them the head master and the other teachers active in EE or EfS. Similarly, in each school focus groups of pupils were interviewed; the pupils in two focus groups were aged 10-11, in two 13-14, and in one 8-11. Alltogether nine teachers and 28 pupils in five focus groups participated in the interviews. The speech about SD and organic food was recorded and transcribed verbatim. The analysis of discourses focused on teacher identity, teaching/learning content and methods, the use of operations and learning outcomes in terms of EfS and organic food.

3 Results

3.1 Teacher identity for EfS and organic food

All the teachers without exception perceived SD as an important societal-level concern, and saw it as the responsibility of adults in general and teachers in particular. The Brundtland code was clearly presented and the pupils were seen both as beneficiaries of SD as well as responsible for it for future generations; EfS was consciously included in school specific educational planning and pedagogy, and taught from particular subject perspectives. Teachers‘ identities for EfS and organic food were displayed in different variations, which are here characterised as aligned, committed and distanced.

Teachers in alignment with EfS were contented to develop a school specific curriculum for EfS, designed in broad lines by the Council of State and National Board of Education, and further defined by the municipality for its schools. The particular delivery of EfS within the school by teachers was managed succesfully, also regarding the limited resources of technical and catering personnel. The use of organic food for school meals was deemed positive, but the idea if higher price and administrational hindrances in addition to demands of hectic work channeled the school specific practice development to other environmental issues. Additionally, local and domestic food were seen as well to represent sustainable food, which further led interest to other, more feasible changes in material and energy management.

Teachers committed to EfS presented personal relation with nature and environment, in the way that nature in its enormity was the object of admiration, respect and energizing source for environmental efforts. These teachers organized research of school environmental practices and developed on the basis of results new practices with pupils and other responsible adults in the school facilities. The changed management of energy, water and waste suggests exceptional performance by the teachers, pupils and service personnel. Additionally, committed teachers negotiated with several administrational actors for using organic food in catering, as a food specific aspect of EfS. The changes in teaching and operations were also rewarded by positive publicity, which further supported change management.

Distanced teachers were positive for EfS, as they saw it proper for their calling. They followed the agreed curriculum but were engaged in other societally significant projects like science, ICT, language and conciliatory education. However, distanced identities gained also negative shade in relation with EfS, whereby teachers became guardians to their own and pupils‘ sustainability practices. The triple responsibility for EfS was a heavy load; not only basic educational content and thinking skills concerning SD as well but additionally reseach to sustainability practices, their changes and furthermore their surveillance had to be managed.

3.2 Teaching content and methods of EfS and organic food

In primary education (classes 1-6) the education expressed a more holistic and flexible character in terms of subjects than in lower secondary education, where the subjects were more rigid. However, EfS was dealt with pupils according to curricular outline and pupils‘ interests. The internet was used to support the dialogue with pupils in the way that the textbook content was amended by search for new knowledge, resulting in extending numeracy and literacy skills when the pupils explicated by writing their understanding about search results. The teachers stressed the concrete phenomena as the basis for new conceptualizations, which may end up in very distant, abstract notions and again reach the ground by reflections leading to decisions about how to change concrete practices towards sustainability. This cycle from concrete to abstract to concrete was well exemplified by taking the meatball package into consideration with the pupils; the polyethene package stemmed from a factory, which got the raw material from an oil company, which got the oil from deep layers within the crust of the earth, where it had been stored for millions of years and now taken into consumption; therefore, the package deserves attention as energy waste and further, it needs to be replaced by a different package in the future, because the oil resources will inevitably be depleted. The teachers and pupils also engaged in research activities within the school; the pupils collected all the waste accumulated during a time period in dustbins and source separated the material. The exercise resulted in plans to change practices regarding waste and buying behaviour. Research activities also concerned water and energy consumption, leading to practical operational changes and new behavioral rules.

Farming systems were dealt with by following the route of meat balls from the farm via all the intermediate stages to the school. The symbols for domestic and organic food (the Finnish and EU label) were taught by books and visits to supermarkets. The environmental toxins were illustrated by a cat catching mice wearing toxin buttons, being eventually accumulated in cat‘s tissues with negative consequenses for health. Climate change was also demostrated with Easter time grass pot covered with plastic and the condensing water vapor was followed by the pupils, who made the analogous induction to the condition of earth. The cycle of water and formation of soils were narrated as personalized nature by water drops and soil particles as main characters of the story. Food Education for Sustainability (FEfS) took place also in the canteen, where the plate model for healthy eating was daily presented to pupils, and the catering personnel guided the pupils to decrease the amount of food waste by the saying eat what you take and take what you eat. Or-

ganic crisp bread was offered in the canteen with information for pupils and their parents about the product quality.

The lower secondary education was more theoretical and based on textbooks as well as search for knowledge regarding environment and sustainability. The school subjects most engaged in EfS were biology and geography, home economics, textile work, health education and mathematics. In biology, pupils made a large collaborative project whereby they were free to choose among several topics, some of which dealt with farming and organic food. The organic production methods were investigated and the products looked for in local supermarkets. In home economics, organic ingredients were used in cooking and textile work dealt with saving and reusing materials. The EfS typically made use of material surroundings like the premises with waste, energy, water and food as well as local natural environment but also of local businesses like supermarkets, and information sources like exhibitions and science centers. The teaching included knowledge construction by textbooks and internet, own research, and was oriented towards constructing new understanding and practices towards SD. The education was also normative not only by teachers' role model, but also by peer teaching by the pupils themselves who were nominated by election to act as environmental agents. The extensive range of teaching methods identified intertwined critical science education and argumentation, narrativization, research based reflective transformative education, practices-based education, place-based education, collaborative and normative education, experiential education and finally extended the teaching collaboration to service personnel.

3.3 Use of operations and organic food in EfS

As part of international Eco-School program, recommended by UNEP, Green Flag program promotes SD from practical point of departure on the educational sector. Green Flag cooperation was marketed to schools as a support for EfS, and some of the case schools made use of the Green Flag teaching material offering professional outline to contextual environmental and sustainability issues. School-wide long-term commitment to EfS was evidenced by the permanent Green Flag status awarded for some schools on the basis of environmental reporting concerning three consecutive years. Additionally Finnish Foundation for Teaching, Pedagogic and Educational Fields (Opetus-, kasvatus- ja koulutusalojen säätiö, OKKA in Finnish), working on EfS, also awarded a certificate for one of the schools for their excellence in EfS. The certificate was based on extensive cooperation, reflection and reporting in terms of environmental and sustainability issues. However, the topical areas of Green Flag did not focus particularly on organic food but rather on other elements of material utility systems, development of education, reflection and critical thinking.

In order to use the facilities and operations of service personnel as resource in education, the teachers needed to connect with personnel working in and being governed by another administrational unit than their own. The teachers first developed a shared understanding regarding what they expected from service personnel, and invited them for negotiations. The service personnel aligned with these ecpectations, following sustainability strategies of their own organization, and some of them shared the commitment for EfS with the teachers. The service personnel participated in education and research of their own practices, mainly regarding waste, energy and water management and food service. Catering personnel in particular went through trials and errors in trying to create new practices for decreasig wastes, teaching the plate model and procuring organic food. The difficulties and tension in changing practices concerning food procurement and water, energy and waste management arose due to the limited resources and segregated organizational design. A few individual schools pioneered for EfS by introducing changes into heavily structured and efficient administrational conventions and processes. Additionally, there were factors which decreased the weight of EfS as such in school work. The schools were engaged not

only with EfS but with projects for culture, music, ICT, conciliation between pupils or building the Dream School. The every-day visits outside the school and special and festive occasions, meeting the parents and participation in professional teacher education meetings caused the teacher's workload to grow far beyond the familiar scenery of classroom, pupils and textbooks.

The networked communities for EfS, including teachers, administrational and service personnel and pupils, presented in individual schools an extra layer of social activities. The regular meetings and consecutive work in environmental boards meant sharing of knowledge about material utility systems' operations, which seemed not always to be quite unproblematic. The teachers focussed rather on their educational expertise and the direction rather than the magnitude of the changes brought by newly developed practices. The environmental boards, visible in developing teaching and learning through research and practices, also created a rise in the level of normativeness for SD, as both pupils and teachers became role models to be followed and overseen. The position of being overseen in terms of sustainability practices was not always welcome either for teachers or pupils, who risked to become less competent actors in the eyes of others.

3.4 Learning outcomes in terms of EfS and organic food

For some of the pupils, the concepts regarding EfS and FEfS were rather advanced; pupils at the age of ten were familiar with climate and pollution issues, fertilizers, pesticides, poisons, additives, organic farming, labels and plate model for healthy nutrition. They also exhibited particular knowledges about scales of physical and monetary units. The pupils expressed critical thinking and argumentation skills, as became visible in the following discussion (turns separated by slashes): "Organic food is healthier and surely tastes better. / Have you tasted? / No. / How can you know then whether it is better? / Well they say organic food comes from a happy animal. / It does not contain such a lot of additives." The pupils also refllected their waste research and its transformative impact on knowing and doing; sometimes they were able to discern the waste fractions correctly, but again sometimes they had to ask a teacher. It could happen, that in a hurry to play football, they just threw the trashes in any dustbin. A pupil, they told, even cancelled the family's holiday abroad and changed it to domestic tourism, in order to avoid climate change. The responsibility for SD was extended to adults; when the Minister of Education visited a school, a pupil asked the minister whether the minister knows how to source separate wastes? The animal well-being was a strong focus for some pupils, as they emphasised the desirability of happy life for chickens, whereas some other pupils withdrew from considering it. Reflective thinking skills, connected with practices and normative understanding about the value of food and undesirability of food waste, were focussed on eating behaviour: "If the organic food would taste bad, I would take it back to bio-waste bin. But because it is food, though, and they don't like you to empty your plate when full to the bio-waste bin, I would go back and eat my portion anyway." Emotional satisfaction and dissapointment were strongly expressed by loving or hating particular dishes, and organic crisp bread was known for being tasty. School meal was also used as comfort in case of negative incidents with friends at school.

The experience based learning of SD was presented as on-site activities like source separation of waste in all the case schools and enjoying organic food items in one school. The visits to near-by supermarkets to do research on waste and food labels, including organic ones, and observation of local natural environment were typical activities in all the case schools. The pupils also expressed their consumer skills when evaluating the price of food and the qualities of competing options. Organic food was connected with high prices and the pupils reflected whether it was worth paying. The long-term time frame was available for pupils, who told about their plans to save money for future purchases. The internet, visits to remote places like science centres and exhibitions or land fills were not vigorously expressed in pupils' speech. Finally, the social dimension was rec-

ognised as the existence of and membership in school environmental board, whereby the pupils nominated to environmental agents were known by other pupils.

However, it was visible that there was difference between those who conceptually, practically, socially and normatively were more advanced in terms of SD and those who did not exhibit this level. The proficiency, criticism, reflection and imagination of advanced pupils came close to adult models of expressing oneself, whereas there were pupils who were not as proficient in focusing on the subject matter, discussing it and reflecting their behaviour.

4 Status of EfS and organic food in the case schools

The EfS in primary and lower secondary education seemed to follow the tracks of Higher Education; the same phenomena of initiative mania, expectations for solving pressing social problems and emphasis on stellar organizations as models for others prevail as Bridges (2008) reports. In general, teachers were clearly aware of EfS/FEfS and some had dedicated much of their efforts for this orientation. Teachers could be characterised as committed to EfS and organic food, aligned with the strategies and guidelines for EfS and distanced from the pressing issues of EfS like waste and organic food, although implementing the embedded aspects of EfS in their own teaching. The more committed teachers for EfS integrated the research based operational changes on premises with their teaching about SD (Beringer and Adomßent 2008; Bray 2008), and some included the use of organic food in school meals in their education. Teachers with less connections with green principles experienced the curricular guidance and practice with triple duties - teaching, teaching by research, changing practices and overseeing these - distant and sometimes exhausting, particularly if they were engaged in other topical orientations or met even more pressing social issues.

The learning outcomes at their best demostrated conceptual knowledge, critical thinking and argumentation skills, reflective research based development of practices and social development as participatory and normative behaviour. This change into *doing, acting and being* towards SD does not seem to mean less, but rather more critical thinking, reflectivity and social skills by pupils. However, it is also clear that not all pupils expressed similar learning outcomes and that there were also less proficient pupils, who may, however, by their behaviour represent even better - or worse - realization of SD. In the case schools, SD was approached broadly, whereby all the material utility systems were studied as objects for practices to be transformed, of course within the reach of teachers and service personnel. School meals and their organic ingredients were perceived as one option for F/EfS, which could further be enhanced as a central aspect of living. This preliminary mapping of implementation and outcomes of F/EfS in Finnish compulsory education shows, that F/EfS has developed into an idenfiable and consiously practiced part of education. Furthermore, it seems to have, at least to some extent, potential for change towards SD, as high principles of public and civic education suggest.

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Perceptions and learning about organic food among youth at a Norwegian music festival

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1 Introduction

Interest in organic food is growing in Norway and several political measures have been taken. In 2005, the Norwegian government set a goal to increase the amount of organic agriculture and organic food consumption to 15% by 2015. The Norwegian Agricultural Authority (SLF) has also funded various projects to support the conversion to organic food and to raise awareness among consumers. One of the projects that received funding in 2003-2007 was the "ØkoRock" project, which objective was to develop the Øya music festival as an innovative arena for increasing consumption of organic food and for promoting organic food produced in Norway.

The Øya music festival is the largest music festival in Norway, which has been arranged annually in the Oslo area since 1999. The festival target group is young people (15-35 years) and the organisers emphasize that they focus on providing good quality and positive experiences. Since 2002 Øya has had a special focus on environment. The organisers started first with recycling and garbage sorting and a year later organic food was served to "everybody" including artists, volunteers, guests and audience. The goal was set to serve 100% organic and this has been successful because approximately 90% of the food served and sold has been organic. In 2008, approximately 25 tons of organic food was served in five days. The local restaurants that sell food to the audience are selected to provide a variety of mainly "finger foods" such as hamburgers, fish burgers, hot dogs, pizza, nachos, thai food, wraps, crepes, soup, fruit, sweet rolls and ice cream. The menus have since 2003 been certified by Debio, the Norwegian certifying body (www.debio.no), and marked with the organic label (Ø – økologisk). The volunteers have free access to organic bread, yoghurt and fruit throughout the day and also get served one hot meal per day.

Today both festivals and organic food have become more mainstream. Not only the Øya festival but also other festivals and cultural events are linked to organic food. To coordinate and support organic food at festivals the Norwegian Agricultural Authority (SLF) has funded a project at Oikos - Organic Norway. Festivals have been described as time out and as liminal opportunities to experiment with pleasure and meaning (Purdue et al. 1997). Festivals are collective events and can be understood as arenas for social learning. Thus being at a festival where organic food is served provides an opportunity to taste and experience organic food. Experiences and learning by doing are also stressed in education theories. Learning by experience is an important method in environmental education and studies have shown that students who personally experience through hands-on activities learn more effectively and establish a sense of responsibility (Poudel et al 2005).

Studies of consumer perceptions of organic food have shown that organic food are linked to various factors such as taste, health, environmental concern and availability (Torjusen et al. 2004), but there is less understanding of the relations between experiences with organic food outside and within the home (Ilsøe 2006).

The concept of appropriation may give insights into the adoption of organic food in different social contexts. Appropriation refers to the conceptual and practical process of making objects 'own'

(Niva 2008). Niva who studied appropriation of functional foods in everyday life concluded: "Appropriation embraces many opposing dimensions simultaneously: good experiences and doubts, approval and criticism, expectations and things taken for granted" (Niva 2008, p. 10).

In this paper we question how exposure to organic food at a music festival may effect perceptions and learning about organic food among youth. We will explore young consumers' possibilities for transmitting experiences with organic food from the festival context to the everyday context.

2 Material and methods

The Øya festival is one of the Norwegian cases in the iPOPY project (Løes et al. 2008). We have used qualitative methods and observed at the Øya festival, interviewed organisers and conducted two focus group discussions with young people recruited at the Øya festival in August 2008. The focus group discussions were conducted two and three weeks after the festival at the National Institute for Consumer Research in Oslo. The two groups included three boys and seven girls (group I: 4 girls and 2 boys; group II: 3 girls and 1 boy) aged 16 to 23 years living in the Oslo area. Five of the girls had been volunteers at the festival. The discussions lasted approximately two hours and focused on festival food, organic food and sustainability.

3 Results

3.1 Food at the Øya festival

Based on both the observations and interviews the main focus of the festival is the music and concerts, and food is a part of the festival infrastructure. For example, one of the focus group participants said: "It is the bands that people come to see". The organisers were very motivated and committed to providing a high quality festival experience and to serving good quality local organic food. All food stands were located on the "main street" of the festival area and there were, in addition to organic labels on the menus, several copies of a poster with a text informing what organic food is. Those who were interested in more information could also visit special stands for organisations for organic food (for example, Oikos – Organic Norway). The free festival magazine included two pages on environment and food and also the information book distributed to volunteers included information. Some of the focus group participants had noted the information posters and especially some of those who had been volunteers said that they had read them, but some of the others had not registered the posters or that the food was organic.

In the focus group discussions festival food was mainly linked to the notion of "fuelling the body". This notion is also emphasized by most of the food being "finger food" and by most people eating standing up because there were only a few tables for sitting down. The young participants had mainly bought pizza and nacho chips at the festival. They discussed the price and amount of food and felt that pizza had been the best deal, cheapest and most filling. This suggests that food for these young people in this context was associated more with necessity and less with enjoyment. There was a shared opinion that organic food is more expensive, and that the food sold at Øya festival was small portions for a lot of money. Some talked about rather using their money on t-shirts than food. A few had also left the festival area to buy food at fast food outlets or grocery stores. In contrast, the volunteers had very positive views of the volunteer food, which was free and shared and had a vegetarian option for the warm meal.

Compared to other festivals Øya was by the focus group participants said to have a wider selection of foods and have a special focus on organic food. In contrast to other festivals Øya invites local restaurants to sell food instead of having volunteers and organisations take care of the food services. The organizers thus also link organic with restaurant-like concepts, including a focus on pleasure and gourmet. However, the participants in the focus groups did not make this connection explicit.

3.2 Perceptions of organic food and sustainability

The participants in the focus groups tended to view organic food as being different from conventional food, and there seemed to be an expectation that it would be better in some way. For example, being better for themselves, animals and environment, or tasting better. They said that organic is environmentally friendly, produced without pesticides and additives and with focus on animal welfare, and that you feel better about yourself and can have better consciousness for not "poisoning" the environment or workers and for treating animals well. But not all were sure about what made organic food different and why. Like one of the boys said: *"But do you taste any difference really? I just wonder".*

When asked who they associate with organic food, the immediate association was left wing people. They also thought that younger people know more about and buy more organic food than older people. Especially in some groups of university students organic food is politically correct. There was a discussion about if it was only positive that organic food is trendy today because what becomes trendy is also out after some time.

However, price and availability were described as constraining factors. Like one of the participating girls said:

> *"Most people I know want to buy organic if it wasn't for price and availability. Organic fruits and vegetables are often double price and often bad quality really. In the shop you see that the packages of organic are not good, it may have something to do with how long they have been in the shop. It is often less tempting to buy and more expensive."*

She said that she doesn't buy much vegetables and fruits, but she does buy organic milk and such when she can afford it. In one of the focus groups sour cream was the organic food that they all had bought, and when they reflected on this they mentioned that for dairy products the price difference is not as big as for other foods such as fruits and vegetables. The perceptions were different based on food group. For example, it seemed like organic and ordinary dairy products were viewed as more similar in price, taste and quality, than organic and conventional vegetables, fruit and meat. When discussing sustainability the themes that emerged were more related to environment, climate and energy than food. However, a few mentioned organic food and eating less meat as aspects of sustainability There were lively discussions about saving resources by avoiding plastic shopping bags, excessive packaging and advertising. Most of them said that they do small things like turning off lights and recycling, but that for achieving real changes there would have to be a natural or other crisis because today money rules everything.

3.3 Learning and transmission of experiences

Being at the Øya festival was by the participants described as a positive experience and thus organic food may also became associated with something positive. The participants got first hand experience with organic food at the festival. They tasted a variety of organic foods and were exposed to information although not all had read it. They seemed to think that information is a general way to try to influence behaviour, like one of the participant suggested for what to include in the daily festival program flyer about organic food:

> *"some of the most important facts then I think it maybe could influence some people."*

However, it did not seem like the experiences with organic food at the festival had had a direct effect on consumption of organic food among the participants based on what they said in the discussions. Some said that they buy some organic foods, but they did not describe it as a new development after being at the festival. There were mixed views among the participants on the transmission of organic food from festival context to the everyday context. One participant described that serving tasty organic food at festivals is a step in the right direction because young people go to festivals and pick up things that they may take with them. However, festivals were also described as separate worlds with llimited influence on what people do at home:

> *"I don't know because festivals are like a separate little society and there is a lot of garbage so I don't know, firstly you do get money for collecting glasses and that's a really good way to earn money for beer for example… I think that most people think it's good that they recycle at the festival but I don't think or I don't know if it makes people recycle garbage at home and such because then it's only you and you think 'little me what can I do' and I think many think like that."*

Whereas others emphasized positive effects of consistency on learning:

> *"I think that the more places you see recycling the more normal it becomes for people."*

Eating is related to context. Festival food was among the focus group participants mainly associated with necessity, fuelling the body and high price. It was restaurant finger food eaten standing up, whereas everyday eating events are usually more collective and home cooked food is eaten sitting at a table. If organic food becomes closely associated with festivals, convenience and eating out of home, this may constrain transmission to the everyday context.

Appropriation of organic food in everyday life embraces many dimensions and this is also reflected in this study and in the way the participants in the focus group discussions talked about organic food.

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Practice of organic food in Italian schools

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1 An overview on school catering service in Italy

1.1 A short history of school catering service

In Italy we can recognize 3 stages in the history of school catering service:

- the stage of "food security" (from the beginning to 1970s), in which the first goal was to ensure enough food for all: in this period the school canteens had an important social role, and the quantity of food was more important than the quality;
- the stage of "food safety" (1980s-1990s), in which the policies were focussed on the hygiene and nutritional issues: in this period were proposed the first menus according to healthy and nutritional recommendation;
- the stage of "food quality" (last 1990s-2000s), in which the origin of the food and the sustainable productive methods became the most important issues: the request for quality food was really in Italy the key to success for the implementation of consumption of organic foods in school canteens.

1.2 The present situation

The present situation in Italy can be synthesized as below:

- there's no discussion about the need of providing meals to the children that stay at school all the day: it's a long tradition and now about 4.3 million meals a day are served in public schools. If we add private schools and Universities (sectors for which we have not complete data), probably the number of meals served in all schools is over 5 millions a day;
- there's no discussion about the implementation of quality foods in school canteens at political level:
    - all National parties agree with this goal; the last Ministries of Agriculture and Food contributed to improve the consumption of typical food and promoted organic agriculture, even if for different reasons;
    - the main part of the Regions produced specific laws and/or guidelines to drive and encourage the development of a quality school catering system, focussed in particular to the procurement of organic and typical products;
    - the municipalities (in particular in the Northern and Central part of Italy) frequently introduce organic and typical products in their menu and ask the companies which manage the catering service to procure them;
    - an increasing interest by the organic producer in school catering market has been registered in the last years;
    - families, Consumers' associations, members of Canteen Commissions (see Part 2. Statistics) strongly support the increasing of organic foods in school canteens.

- the discussion is now focussed on these problems:
    - how to reduce the waste in school canteens (in many cases a waste of more than 40% is registered);
    - how to reduce the non-food costs: now the food cost don't exceed 30% of total meal cost – if we want to increase the consumption of organic foods in school canteens it's not possible to ask families to pay more; so, some methods to reduce the costs of logistic and personnel are been studying, such as the introduction of self-service and of the cook-chill system and the improvement and simplification of logistic supply chain, such as short-chain, intended by two points of view: redirecting PP towards local products and creating direct contacts between producers and buyers of catering companies;
    - how to control that the Regional laws and/or guidelines are respected by the municipalities and/or by the catering companies;
    - how to help the municipalities to elaborate a good contract with the companies by which the catering service will be managed: a good example is Sportellomensebio (www.sportellomensebio.it), a public service, managed by ProBER and financed by Emilia-Romagna region, which aim is help the municipalities (in particular the smallest ones) to write the contracts, to know in-depth the market of organic and typical products;
    - how to follow the increasing of consumption of organic and typical foods with educational programs directed to explain to the children/students (and to their parents) the properties of the organic method, its benefits for the environment, in order to improve in the children, the boys and the girls the consciousness and the abilities required to grow some young aware consumers.

1.3 Organic food, health and education

In Italy he formulation of goals and strategies about Public Organic Procurement (POP) comes before all from National financial law for 2000 and from the 6 regional laws that follow. The Municipalities, which manage (by themselves or contracting out) the school canteens, are the responsible of the concrete policies: they decide their own policies about Public Procurement on the basis of the national and regional laws (Attention: they are virtually guidelines because don't provide any penalty) and of the suggestions coming from the families, the Consumers' Association and the citizens. In the Municipalities, normally, the councillor of school and education is the responsible of the school canteens policies. The policy of Public Procurement (quality of foods, how many organic products and so on) is always decided by the Municipalities even if the school catering service is contracted out.

The school headmasters in Italy has no role about managing school catering system, except in providing teachers who supervise the meal time. As I write before, the Municipality decide the policies about the quality of food procured, and make contracts with catering companies. They decide also the type of service required, even if it is contracted out. Regarding the menus, the nutritional calculation (calories, nutritive values of the ingredients) will be made by the dieticians, provided both by the companies (or by the Municipalities) that manages the school catering service and by the local health authorities. Only some private schools make sometimes directly contracts with school catering (but they are not widely present in Italy).

The health point of view in Italy is not matched with organic food. In the policy of our Ministry of Health (always and under government of all colours) it is forbidden to connect organic agriculture to healthy issues: for them there is no scientific evidences of this link.

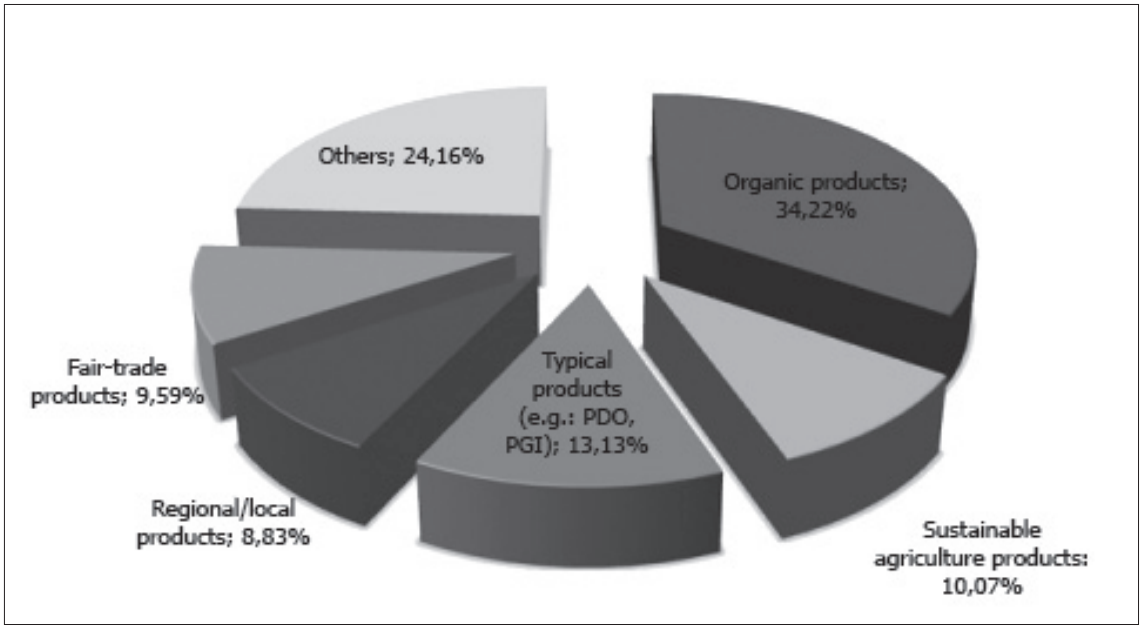
In the recent survey "Mangiare fuori casa" (Eating out of home), carried out by ACU - a Consumers' Association - and cofinanced by the Ministry of the Productive Activities we find that a great part of school canteens use a big quantity of organic products (nearly 40% on weight in average), but:

- **only 1/3 of the Municipalities inform correctly the families about this;**
- **less than 10% of schools explain to the children what is organic agriculture.**

So, in Italian school canteens the children eat a lot of organic foods, but sometimes they don't know it and they hardly ever learn something about organic agriculture!

The teachers that supervise school meals only control that the children's behaviours. During school time, they are obliged to organize educational activities on environment and feeding, but the contents of this activities are almost always nutritional issues. In Italian schools the education to a sustainable consumption is not provided! Obviously, this situation must change. Now, some Consumers' Associations are organizing with few Municipalities educational activities aimed to promote a sustainable consumption.

In the pie below we can see how many "**quality products**" are procured in Italian school canteens (% on weight)



2 The history of food education in Italy

Food education in Italy has a very long history and it is not always marked by success. Going over it quickly, highlighting its fundamental stages can help us to understand its potential of innovation and effectiveness. This potential is strengthen today by the consideration that the organic food is an important issue in the educational activities.

2.1 1981: A milestone

In 1975, the "First national conference of food education" was organized in Rome by Istituto Nazionale della Nutrizione (National Food Institute), but there is no doubt that in 1981 - by now more than 25 years ago – were laid the foundations of the food education in Italy.

The convention "Food education in Europe" was promoted in 1981 by the cooperation of the Consumers in Bologna and this milestone is generally recognized as the first step of the evolution of food education. In this convention a lot of food education experiences leaded in some European countries were compared, and some main points were characterized; the development of the food education in the next years in Italy was strongly marked by them.

The main points emerged during the convention of 1981 were:

- **It's necessary to distinguish,** in the communication aimed at improving food habits, **between "informative moment" and "educational moment"**.
- **It's necessary to acknowledge the complexity of the food action** like a synthesis of physiological, psychological, social and cultural issues.
- **It's necessary to face the food education in a systemic way,** involving the population, and young people in particular, and sharing all the planes characterized as significant in relationship with food habits.

2.2 The eighties: Food education

Unfortunately, although thus interesting input and thus already delineated indications were stated in the convention of Bologna, in the 10-15 successive years many new plans about food education were carried out. Most part of these plans collected and developed the suggestions defined in Bologna in a partial and often contradictory way, on the basis of the sensibility of the promoters.

In this context, however, the Ministry of education didn't give any contribution.

The main points of weakness of many of the plans developed during this period were in particular:

- **The identification of food education with nutritional education**. The pressure of sanitary urgencies as food safety, diseases related to food habits in particular of young, drove to make a big mistake, confusing the objectives with the contents. In this context the teachers and the educators spokes only about calories, nutritional principles and metabolism to children of the nursery and primary schools; the idea that a thus complex cognitive approach could lead to increase children consciousness and promote a modification of their food habits, has been proved, after the fact, completely wrong.
- **The fragmentation and the dispersion of the experiences.** The lacked assumption of responsibility from the institutions and the absence of a shared plan on a national level,

has prevented a collection, a comparison and a appraisal of the various experiences carried out in this period. So, many interesting results cannot be enhanced and many failures, that could be avoided, have been reiterated.

2.3 The nineties: Sensorial education and "finger in the pie"

We all learn from our mistakes and the mistakes reiterated during the '80 years have surely contributed to rise the idea that something had to change in the objectives and methodology of food education devoted to children. During this period a position, in particular, rose above the others: many educators, aware that the main drive in the food choices is better a psychological "greediness" than a physiological one, tried to shift the attention of food education developing plans more in keeping with the interests and the daily experience of young students. At least, in classroom students begun to eat, not only to speak about food!

The main phenomena which grew in this period were:

- **The diffusion of educative plans on sensory education,** for an aware and critical approach to nutrition.
- **The reappraisal of the kitchen activities in the schools,** in order to regain possession of a direct relationship with the food through concrete actions.

The results of this strategic change are encouraging: publishers spread the market with books about cooking for children and get so without any doubt a gross gain, but surely a new way that really can motivate young people is chosen. Children are now available to reflect about their food habits: this is the first step in order to become active protagonists of their own choices as aware consumers.

2.4 2001: Another milestone

Maybe it is excessive to define it thus, but sure, after 20 years from the convention of Bologna, the "Second national conference for food education", - Rome 2001 – was an important overview on the situation of food education and took a glance at the most important innovation.

Above all it has allowed to reveal as the activities of nutritional, sensory and cooking education were the fundamental axis of food education in the schools. This activities can contribute to promote an idea of quality of the food that can be summarized in four essential points. The ideal food is:

- **safe** (it must not cause damages to the consumer)
- **good** (it must satisfy specific sensory requirements)
- **nourishing** (it must contain useful substances for the human body)
- **rewarding** (it must meet the needs of psychological and social satisfaction of the consumer)

Important: in the last few years, since the continuous increase of our children weight (the fattest of Europe, statistics say), also the Ministry of Education seems to be aware of the urgency to give a different dignity to food education.
In particular:

- **The regulations on autonomy of the schools** (DPR n. 275 Rome, 8/3/1999) opens a new relationship between the schools and the social and territorial complexity in which they

are located. This means that the school acquires more instruments to create a good relationship with the territory and with the social and economic activities that operate in it.

- **The introduction of the food education in the school programs was definitively stated,** inside the so-called "civic education".

3 The future of food education is ORGANIC

Obviously, the conception of food quality described above is very partial and not really functional if our aim is the improvement of the quality of the life and of the health of the young people (indeed, of all).

This conception restricts the appraisal of quality considering only the immediate relationship between food and consumers: food must be safe, good, nutrient and must satisfy the consumer.

But in reality every activity concerning food production implies an involvement of the environment and of the society, and the effects of the human activities on them, as well as their costs, cannot be considered extraneous to the idea of the real quality of the products.

All this line of reasoning involves the idea of **sustainability**, which is directly related to the environmental and social impact of agricultural and food productions and connected with the appraisal of the ethical aspects of the production.

A new model of *food pyramid* can be used - recycling a wide popular diagram - in order to represent the level reached by a population regarding the evolution of its relationship with food.

ETHICAL ISSUES

ENVIRONMENTAL ISSUES

FOOD QUALITY

FOOD SAFETY

FOOD SECURITY (AVAILABILITY)

The base of the pyramid indicates the lowest level, corresponding to the concept of *food security*; this, unluckily, regards today a great part of the inhabitants of the planet. In the actual society, prevails the idea of "technical" quality of the food that does not correspond to the total quality of the whole food system.

This is really the jump that we must operate on the cultural level, promoting suitable activities of food education: the aim is to make the young generations aware of an overall idea of quality, that must involve not only the wellness of a single person, but also the welfare of the whole society in which he lives and the environment from which he obtains the resources.

The image of the quality food that is the basis of every activity of food education must answer to this identikit:

- **safe**
- **good**
- **nourishing**
- **produced respecting of the environment**
- **produced respecting fundamental ethical principles (social fairness, animal well-being…)**
- **rewarding**

It is obvious that organic agriculture, for which sustainability is a concrete expression, will become a fundamental key to make the necessary significant improvement in food education.

4 From theory to practice: A challenge to face

The problem that we have to face now is how to give concrete form to the enormous potentialities that a food education oriented to organic food can be exploited on the educational plan. The actual conditions are particularly favorable (and we can say unluckily), considering the health problems that characterize a wide percentage of the young population; overweight and obesity of the children are the more evident ones, but they are not certainly the only ones: the searches on the relation between additives and food intolerance, are very alarming, as well as the others on the relation between food coloring and attention disturbances. Last but not least the data on the iperholesterolemia among the young people are very critical and a disease which has been now identified as a real children pathology, characterized with the alarming name of "nature deficit", is very serious too.

In order to complete an overview on the more significant plans of food education carried out in Italy in the last years, we can notice that, beyond few cases, the plans have not paid sufficient attention to the values of organic agriculture. Certainly, the experience of the educational farms (some of them are organic) is very interesting, as well as other educational plans like the Biobenessere project, some activities developed by the Emilia Romagna Region (for example, the triennial plan "eat together"), other ones realized by Lombardia Region (the competition Happy Hour – happy snack), by the Municipality of Cesena (pioneer of organic catering) and by the Municipality of Genoa (the last national championship of school catering was based on organic food).

However, all these activities are not enough… We need to improve the relationship between organic food served daily to Italian children and food education. What are the constraints for this aim?
Maybe one of the reason is the substantial lack of attention paid by the organic farmers organizations to food education.

Surely, the public authorities (The ministries of Education and of Health) don't play their roles in the best way and they are strongly requested by teachers, families and consumers in order to develop food education in this direction.

Our children don't need only to eat organic, they need also to know organic, and to became young aware consumers.

Growing organic! School gardens and organic food in Italian school

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1 The didactic and pedagogic mean of a school garden

One of the main challenge today is to build and to feed sustainable communities: social, cultural and physical environments in which we can satisfy our needs and our aspirations without reducing the prospects of future generations. Organic farming bases itself upon the comprehension of the natural and physiological cycles of the plants and of the soil and upon a great experience of local territory and its traditional farming. Organic farming considers the great variety of relationships that the agriculture develops with creatures that live in the soil, in the air and in the water, and with climate and microclimate. Every action is considered for its effect on the totality. For this reason organic farming is very interesting in sustaining natural resources. An organic product ought to be healthy and produced respecting environment and farm workers.

The concept of organic food implies also the importance of the origin of the product and so the close connection with seasonal cycle of the plants. The link with the territory is very important as well as preservation of biodiversity. A school garden is the ideal place to teach the merits of the organic farming to our children. It offers the opportunity to explain the principles of the organic method as well as the technologies applied in the agricultural production.

So this specific syllabus teaches our children these fundamental facts of life: an ecosystem does not generate waste, because one species' waste becomes another species' food; matter cycles continually through the web of life; the energy driving these ecological cycles flows from the sun; diversity assures resilience and life, from its beginning, did not take over the planet by combat but by cooperation, partnership and networking. The activities in the school garden are integrated into the teaching syllabus and into the practical-creative workshops. Teachers and children are taken over an educational experience rich of goals.

- **Ecological/environmental education**:
  - the understanding of the relationships and connectedness between natural elements involved in agricultural productions;
  - the understanding of the important ecological concept of food cycle: children learn about food cycles integrating this knowledge into our times of planting, growing, harvesting, composting and recycling;
  - the understanding of the concept of cyclic nature and of the periodicity of agricultural production;
  - the knowledge of different indigenous plants;
  - the understanding to be part of the ecosystem and the creation of a sense of place;
  - so the practical experience of natural cycles and of cultivation infuses into children a respect for earth that they will conserve forever.
- **Food education**:
  - the importance of eating seasonal vegetables and fruits, healthy and rich in micronutrients;
  - organic farming involves also parents and grandparents ensuring an important and successful information and collaboration with school.

The pedagogic aspect of gardening is also very important. The project increases the collaboration in the learning community thanks to the constant parallelism between the natural community and the humans' one. The class' work in the school garden is also the topic around which to plan other educational activities: activities of sensory education; scientific experiments; activities linked with humanities and arts subjects. Gardening reconnects children to the basics of food knowledge while integrating every activity that takes place at school. Children generate a sense of place where they live and study. In the garden children experience growth and develop on a daily basis and this is essential not only for gardening but for education too. While children learn that their work in the garden changes with the development of the plants, they also learn that the teachers' methods of instruction and the entire discourse in the classroom change with the development of the students.

2 School gardens and their contribution to Food Security

The didactic role of school gardens is also important for FAO. FAO, in close collaboration with WFP, promotes the cultivation of school gardens in developing countries to integrate student's diet with important micronutrients. FAO recognizes the important contribution that schools can make to overcome hunger, poverty and illiteracy. Schools are the main social context in which knowledge, behaviours, attitudes, values and skills for life are developed. So, they have the mandate to guide young people towards maturity and also can play an important role in promoting learning about food, agriculture and nutrition. The major aims of FAO' s School Garden Programme are:

- **Educational**:
  - increasing the relevance and quality of education for rural and urban children by introducing into the curricula important skills for life;
  - encouraging the production and consumption of micronutrient-rich fruits and green leafy vegetables;
  - providing active learning by linking gardens with other subjects;
  - teaching environmental issues; teaching practical nutrition education.
- **Economic/Food security**:
  - familiarizing children with sustainable production of food important for household food security;
  - promoting income-generation opportunities;
  - improving food availability and diversity.

3 Slow Food and its school garden's projects

Slow Food is a non-profit organization that supports local food production, territorial origin and highly rated quality food. An extensive network of school gardens was promoted by Slow Food USA and particularly by Alice Waters, who designed the idea. She is the Slow Food International' s president and in nineties she proposed for schools a new method of alimentary education based on practical activity in a school garden. This is how *The Edible Schoolyard* project was set up. Slow Food USA led the first national project promoting School Gardens in 2001.

At the International Slow Food Congress in 2003 it was decided that every branch office in the world should work to set up School Garden projects. In 2006, at the Slow Food Italy National Congress in Sanremo, it was resolved to create 100 gardens in Italy. Today in Italy more than 125 school gardens are part of the national program "Orto in Condotta" that includes a three-year curriculum on sensory, consumer, environmental education, as well as lessons on food culture and knowledge of the territory.

Schoolteachers are trained to carry out the program and they work with parents and grandparents to support children's project. Today there are more than 183 school gardens around the world. The educational themes of the school gardens are similar, however they are adapted to the culture and territory of each country. School Gardens follow the three fundamental principles of '**Good**, **Clean** and **Fair'**.

- **Good** because they are accompanied by workshops that train children and parents to appreciate the sensory qualities of food and to demand quality in school canteens.
- **Clean** because young people learn to use organic production methods, to search for the seeds of local fruit and vegetable varieties, and to reduce food miles by favouring local produce.
- **Fair** because they encourage the transmission of knowledge from one generation to the next, acknowledge the social role of the elderly and of volunteers, enhance farmers' work and skills, and lead to partnerships with similar projects in developing countries.

Partners of the project are students, teachers, grandparents, parents, local services, Slow Food and also restaurant manager and local producer promoting the integration of farms into the fabric of the city. All these persons together are able to establish "a learning community". The characteristics of the project "Orto in Condotta" are as follows:

- the project has a three-years cycle and every year a particular topic is stressed. In the first year the focus is on vegetable garden and sensory training, in the second year on alimentary and environmental training and in the third year on the food culture and the regional knowledge;
- children must use organic production methods and choose local product;
- GMOs are forbidden;
- food production with didactic value is preferred.

4 The example of the school garden in San Mauro Torinese

The municipality of San Mauro Torinese was one of the first Italian towns that began the project "Orto in Condotta" and now, after four years, the results are seven school gardens allocated in four primary schools and one nursery school, that involve six hundred children, and twenty-one volunteers. Children, teachers, grandparents and parents realized the "Campo dei Semplici" ("field of the simple people"), where officinal herbs and aromatic plants are cultivated. Another vegetables garden was created and called "Campo Coccinelle" ("ladybirds field"). In this garden marrows and tomatoes, aubergines and peas, strawberries and radishes, salads and carrots are cultivated. The school garden became an outdoors and permanent workshop to observe an ecosystem.

From an educational point of view the experience enhances greatly children to take care of a plant, creates sense of responsibility and children seem to be happier and less aggressive. Children ask if they can play in the school garden, if they can eat more salad because "it' s first-rate" and if they can find the slugs. Children are encouraged to play in the school garden because they develop a better relation with vegetables and the animal kingdom. Children learn not only the gardening but the workshops enable also the observation of animals in the ground with a particular attention in creation of an equilibrate environment, where parasites are controlled by natural antagonists or by children's assistance without using chemical products.

The school garden experience helped to create a net with territory. Educational school trips are indeed encouraged. Also farmers, breeders and schools synergies are fostered. Children are taken to small and big farms where they can learn more about cattle and breeders visit the school for specific workshops. Stakeholders' cooperation is essential to achieve the community devel-

opment. Now children of San Mauro Torinese are experts to the extent that they can share their knowledge with persons outside the school. So they cultivated little gardens in pots with old and disabled persons.

Thanks to the activities in the garden, the school bought a dryer to produce infusions to sell in the village fair. Part of the income is reinvested in the school garden. The other part is given to charity for school gardens in developing countries. At school children realized also a herbarium, bookmarks with dry flowers to sell. Several workshops are also in place as for example a photographic lab and a lab to study the soil and the animals of the garden (searching the animals like ladybirds and aphids, grubs, earthworms…). Grandparents carry out the most tiring works. They hoe the garden, build and repair the tool shed and help to plant: "Working with children is fantastic, they rely on us! We retain our father's and our grandparents' memory". Children work in the garden during the break, but only if they want, it isn't compulsory. If they prefer they can play, but when the time to sow comes all children have to work together. Sara, a child who is in the fifth form, tell us the "sage's history": "One day we realized that the plants was full of parasites, but it was too late 'cause the break was finished and we had not time to do nothing. Luckily some days later we saw that ladybirds ate all parasites". This is the first principle of organic farming: plants defend other plants. Sara take up again: "In the strawberry's field (this is the typical fruit of San Mauro Torinese) we planted also garlic and onion that release natural antibiotic substances defending the other plants. It's intercropping". Sara really said "natural antibiotic substances" and "intercropping".

In an area of the garden there are aromatic herbs, marked by the sign "Hortus Conclusus" like it was called in the Middle Ages. Next to every plant there is a tag with the plant informations searched in internet by children. They invented a play: grown-up children play with the younger to guess a plant that they smell and touch without seeing. With the grandparents children also built the compost. At home children explain the meaning of recycling and of separate refuse collection.

At San Mauro Torinese children visit the old mill, attend cooking workshop and learned how to prepare pasta with grandmothers, but most of all they eat vegetables and they seem to like it very much. They learned to eat seasonal fruits and vegetables, because they are more tasty, cheaper and especially locally produced. To complete childrens' knowledge, maths teachers give lessons on basic seasonal vegetables prices and transport cost incidence. In this way they learn a bit of statistic, geography and they maybe might suggest to their parents what is better to buy at the supermarket. Children hoe, pull up the weeds, water (the ground and not the plant), push the wheelbarrow, listen to the grandparents, help the younger. They harvest and dry the herbs, they plastic-coat and then write their research.

5 The project "Orto in Condotta" at the primary school A. Scarpa of Milan

The project "Orto in Condotta" will begin also at the primary school A. Scarpa of Milan. Slow Food prepared the bureaucratic papers and the project will start on February 2009. The school garden will be cultivated in the schoolyard, where in the past another farming garden was endeavoured. The project will involve all the school children and every class will have a private area in the garden. The first operations will be done with three second-forms and one fourth-form (classes where I and the others teachers that are heads of the project are working). The groundwork of the area and the building of the facilities (seedbed, tool shed, compost) will be done by grandparents, and if necessary helped by children during the after lunch break.

There will be two important goals in the first year of the project:

1) The school garden has to be projected together with children.
2) The importance of composting.

During the first months of the school year, with the other teachers, I prepared preparatory activities that will guide children in the planning of the garden, in its realization and in the understanding of composting.

5.1 Planning with children

The first step is to explain to children the meaning of natural community and the relationships between natural elements using the metaphor between natural community and human community. To get started children will need a notebook, which will be their "nature journal", where they'll report or draw all their observations about the activities in the school garden, from the planning to harvesting. In any case the editing of this journal will be useful to understand and to notice the seasonal changes. The first activity will be the examination of the schoolyard with children and then the registration of all plants, animals and natural elements that they will find. Then children will explore the area where the garden will be tilled and they will note down (writing or drawing) all the plants that are already present. The teachers will ask children to draw the garden how it appears before farming. Children have also to write the names of the plants that they are able to recognize. Then the teachers will introduce the meaning of natural community and food cycle using simple experimental activities. Children will perform an experiment to know the elements that contribute to the growth of plants and to understand the synergy between creature's community. So they will understand that the soil is one of interdependent communities found in nature.

The teachers will explain to children that some animals and insects can do more harm than good in the garden like aggressive plants. For example slugs can kill some plants by munching on their leaves. But we'll explain to children that not all animals and insects are bad for the garden. Beneficial insects can indeed help the garden in many different ways from controlling populations of pests to pollinating plants when they flower. At this point children have some basic knowledge: they learn about many of the different communities in gardens (soil, plants, animals); they also learn that plants and insects in the garden depend on each other for health and survival; they know that plants need sunlight, water and space.

Now the class can work in small groups and design its perfect garden. It's possible to plan the garden by enumerating the facilities required and by planning the spaces. It will explain to children that also they have an important role in the garden community. After all they decide what to plant and where to plant it. The rest of the garden community also needs them to pull weeds, add water to the soil, and monitor for insects and pests. After the clarification of the role of man in the garden, children can plan their own garden. So, in their nature journal, they will draw the project for their perfect garden community. Before beginning, they will make a list of all the plants, insects and other animals and other garden elements that are important to include.

5.2 The importance of composting

It's important to explain to children how to build the compost and how is the technique to produce it. It will be produced by using only vegetable residuals which don't attract mice. Foods uncooked and cut vegetable are better. From didactic point of view, it will be better to begin with activities that are useful in order to understand what decomposition means. Then children will perform experiment to understand that the nature break down dead plants, animals and animal wastes into simpler matter that is rich in nutrients and ready for uptake by living plants and animals.

6 Conclusions

School gardens can contribute to increase the relevance and quality of education, improving children's and their parents' knowledge of food production techniques and nutrition. Gardens can serve as a "laboratory" for teaching of modern farming skills and nutrition. Moreover, they can also be used for practical work related to biology, environmental studies, mathematics as well as reading, writing and arts. School garden activities can include nutrition education, food preservation techniques, sustainable natural resource management, recycling and composting.

The project "Orto in Condotta" strengthens the didactic syllabus by providing food education as well as environmental education. It also helps little consumers to grow up aware of their opportunities. Children will acquire basic organic farming knowledge and a comprehensive regional knowledge. The project will help school children and their parents to regain possession of their territory and their roots.

Integrated curriculum for sustainability education in primary and secondary schools in Finland

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Like what you get? Is it good for you?
Organic food, health and sustainable development in schools
21.-22.1.2009 Helsinki, Finland

Integrated curriculum for sustainability education in primary and secondary schools in Finland

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National core curriculum in Finland

- **National Core Curriculum** is the basis for the local school curriculum
- Learning objectives and core contents are defined for every school subject

- *National Core Curriculum for Basic Education 2004*
  - classes 1-9
  - pupils ages 7-15

- *National Core Curriculum for Upper Secondary Schools 2003*
  - generally three years
  - compulsory, specialisation and applied courses
  - pupils ages 16-18

- **The Finnish National Board of Education** (FNBE) is the national agency in charge of development of education in Finland

- FNBE is working under the auspices of the **Ministry of Education**

14.1.2009 Anna Uitto, University of Helsinki

Integration and cross-curricular themes in primary school

1. Growth as a person
2. Cultural identity and internationalism
3. Media skills and communication
4. Participatory citizenship and entrepreneurship
5. *Responsibility for environment, well-being, and sustainable future*
6. Safety and traffic
7. Technology and the individual

- As a basic value and cross-curricular theme, ESD is to be considered in all school subjects:
  - mother tongue, foreign languages, mathematics, environmental and natural sciences, biology, geography, physics, chemistry, health education, religion, ethics, history, social studies, music, visual arts, crafts, physical education, home economics, optional subjects

Responsibility for environment, well-being, and sustainable future, 1

- **Objectives – the primary school pupils will:**
  - ***understand*** the prerequisites for human well-being, the necessity of environmental protection, the relationship between the two
  - ***learn to observe*** changes in the environment and in human well-being, ***to clarify*** the causes and consequences and ***to act*** for the living environment and the enhancement of well-being
  - ***learn to evaluate*** the impacts of the consumption and daily practices, and ***will adopt*** the actions required for SD
  - ***learn to promote*** well-being in own communities, ***understand*** the threats and potentials of well-being at global level
  - ***understand*** that through choices, individuals construct both their own futures and our common future; ***the pupils will learn to act*** constructively for a sustainable future

Responsibility for environment, well-being, and sustainable future, 2

- **Core contents for primary school:**
  - ecologically, economically, culturally, and socially SD in one's own school and living environment
  - individual and community responsibility for the well-being of people and the condition of the living environment
  - environmental values and sustainable way of life
  - eco-efficacy in production, society, and everyday ways of acting; product life-cycles
  - consumer behaviour, management of one's own household, and the consumer's means of influence
  - the hoped-for future and choices and actions it calls for

Cross-curricular themes in the upper secondary school

- active citizenship and entrepreneurship
- safety and well-being
- *sustainable development*
- cultural identity and knowledge of cultures
- technology and society
- communication and media competence

Sustainable development, 1

(shortened)

- Objectives are for students to
  - ***be familiar with the key factors*** of the ecological, economic, social and cultural dimensions of SD and ***understand*** that all dimensions are important
  - ***know how to measure, assess and analyse*** changes occurring in the natural, cultural and social environments
  - ***reflect*** the meaning of sustainable lifestyle, an environmentally friendly and eco-efficient production and community, a community and society reinforcing its social and culture heritage
  - ***be able and willing to act*** for SD in their own everyday life and as students, consumers and active citizens
  - ***be able to co-operate*** for a better future on local, national and international levels

Sustainable development, 2

- ***Students should learn to examine the challenges to SD from several points of view****:*
  - ***exploring*** the effects of human activity on the environment and changes that have occurred in the way human beings adapt their environments during cultural evolution
  - ***analysing*** global environmental hazards and their causes as well as means to correct the course of development; ***exploring*** problems relating to population growth, poverty and hunger
  - ***assessing*** the cycles of substances and energy in the environment and production systems and ***learning*** how to save energy and raw materials

(continues)

Sustainable development, 3

- ***pondering*** on the characteristics of economic growth that would not be based on an increase in consumption of energy and raw materials and on the bearing of economic stability on environmental protection and people's well-being
- ***studying*** business enterprises and technologies that fulfill the principles of SD and learning how to exercise the means of influence available to consumers
- ***determining*** the ways in which human activities can be adjusted to their environments with respect for cultural heritage and without endangering natural diversity
- ***rehearsing*** the practices of sustainable lifestyles and determining their structural prerequisites. Examples of successful practices will be incorporated into instruction and the upper secondary school's everyday life

Food in the curriculum of the basic education, 1

- *The general support for students:*
  - for local curriculum, a plan is to be drafted that depicts the objectives and key principles of pupil welfare:
    objectives for health and nutritional education and the learning of manners in conjunction with provision of school meals
- *Mother tongue, foreign languages*
  - everyday communication needed while eating meals etc.
- *Environmental and natural sciences, grades 1-4 pupils:*
  - know where food stuffs come from and where food is produced
  - know day-to-day practices and habits that promote health e.g. nutrition and regular meals

Food in curriculum of the basic education, 2

- *Health education, grades 7-9*
  - Health in choices in daily living: nutritional needs and problems in different situations; the most common allergies and special diets

- *Home economics, grades 7-9*
  - *Objectives*: learn to perform basic tasks related e.g. to household compatible with SD
  - *Core contents,* nutrition and the culture of food:
  - nutritional recommendations and healthy food
  - food quality and safety, basic methods of preparing food
  - meal planning, various eating situations in the Finnish culture of food
  - changes in food cultures

Food in the curriculum of the upper secondary school, 1

- *Mother tongue, foreign languages*
  - Communication in everyday situations while eating meals, discussing food cultures etc.

- *Biology education*
- Environmental ecology (BI3-course)
  - A sustainable future; ecologically sustainable production
- Human biology (BI4-course)
  - Structures, functions and significance of organ systems; digestion and nutrition
- Biotechnology (BI5-course)
  - Plant and animal breeding
  - Ethics and legislation

Food in the curriculum of the upper secondary school, 2

- *Geography education*
- A common world (GE2-course)
  - Primary production and the environment; food production and supply, sustainable agriculture and fishery, different forms of agriculture

- *Health education*
- Foundations of health (TE1-course)
  - Factors influencing working and functional abilities and safety, e.g. nutrition
- Young people, health and everyday life (TE2-course)
  - Health-related, cultural and social meanings of nutrition; weight control, health-related exercise and eating disorders

Summary

- ESD is a basic value and cross-curricular theme in all primary and secondary school education
- ESD is mentioned separately in the curricula of mother tongue, foreign languages, environmental and natural sciences (grades 1-4), biology, geography, chemistry, ethics, history, social studies, visual arts and home economics
- Food is mentioned in various ways; in general support for students, in the curricula of environmental and natural sciences (grades 1-4), biology, geography , history, health education and home economics
- Sustainable food production and is mentioned especially in the curricula of biology and geography
- National Core Curricula and other information in NFBE website:

http://www.oph.fi/english/SubPage.asp?path=447;27598;37840

http://www.oph.fi//info/english/school_meals_in_finland.pdf

Local and organic food in cook education

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Like what you get? Is it good for you?
Organic food, health and sustainable development in schools
21.-22.1.2009 Helsinki, Finland

Local and organic food in cook education

Kirsi Jauhiainen, Senior Teacher and
Stefan Stojanov, cook student

Omnia Vocational College

Omnia Vocational College

- Omnia is a multisector joint authority of education offering vocational training at a number of centres in Espoo and Kirkkonummi in Finland.
- Education covers six extensive areas from culture to technology
- Alltogether 7000 students
- Tourism, catering and domestic sector
- 460 students, 50 teachers
- Vocational degrees restaurant cook, waiter/waitress, receptionist, baker
- Working in restaurants, hotels, catering organizations and bakeries as employees and in their own businesses

Curricular guidance

- National Board of Education distributes guidelines for educational aims and content to be implemented by vocational education
- Business approach is recently emphasised
- Omnia wants to offer education including the business approach but to deal with ecological and sustainability aspects as well
- The school runs continuously international projects and develops education respectively

Qualifications of restaurant cook

- Must be familiar with unprocessed and pre-prosessed foodstuff
- Planning and organising the preparation of portions and complete meals
- Able to use raw ingredients and pre-prosessed goods to prepare tasty and beautifully presented standard and special meals, dietic dishes and a la carte meals using different cooking methods
- New trendy or ever-present? requirements in preparing ecological and sustainable meals

Healthy trends in kitchen project 1

- Deals with organic and sustainable aspects of food in restaurant cook education
- Develops a module for cook education with EU countries DE, FR, FI, EE
- Focus on the use of
- Regional food
- Seasonal food
- Organic food
- Nutritionally balanced food
- Vegetarian food
- Fresh food
- Ethical food including aspects of fair trade within the country and between countries

Cooperation with iPOPY project

- The project maps the basic understanding of sustainable food among the teachers and students
- As part of research, the teachers and students plan a sustainable menu in spring 2009 based on information about food qualities from iPOPY project
- The school buys ingredients representing conventional and organic production for menu preparation
- The students learn about differences between conventional and organic food, including the life cycle, taste and structural properties of food
- The meals are evaluated and results inform further use of organic food in education and businesses

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Other aspects of EfS

- The school has environmental group consisting of teachers, storage personnel, and students in the future, active in developmental efforts
- Educational activities for learning about waste management e.g. collection of hazardous waste
- The group mapped environmental activities which were consequently developed e.g. source separation for reuse and recycling, treatment of biowaste by pulper, optical water fixtures, energy conservation, decrease of disposable mugs
- School offers coffee in one own mug 50 c (any size), school's mug 80 c, paper mug 1 €

Challenges in EfS

- To organize mapping of practices and to develope activies in projects needs extra motivation, energy, knowledge, connections and funding
- Creation of new courses is demanding as well as their scheduling and implementation
- Changing practices is tough in hectic and burdened educational work
- Waste management is often perceived as negative duty for students – to wash the biowaste storage 'resembles a punishment'
- Source separation has been developing positively, though

Educational responsibility for EfS

- Omnia has a SD statement which is currently being developed into educational applications
- The EfS concerns social aspects like harassment, discussed with students with positive results
- The students feel concerned about negative future developmental trends and want to resist them by their own activities
- What to do is not always clear on a sector where work is physically and mentally, perceiving dependance on the income from customers
- The challenge of EfS is met by identifying influential factors which are dealt with one by one or as nexus – with expectedly positive results!

Organic food in congregational activities as part of environmental program

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Organic food in congregational activities as part of environmental program

Jukka Lehti, Pastor
Congregation of Espoonlahti

Congregation of Espoonlahti

- Approximately 34 000 members
- 70 employees, 13 pastors, 9 youth workers
- One church, three chappels
- 3 recreational facilities
- 550 years of congregational activities in six congregations of Espoo
- Confirmation education for approximately 500 young people annually

Ecotheology 1

- Gen.1:28-29: God said "Be fruitful, multiply, fill the earth, and subdue it. Have dominion over the fish of the sea, over the birds of the sky, and over every living thing that moves on the earth. Behold, I have given you every herb yielding seed, which is on the surface of all the earth, and every tree, which bears fruit yielding seed. It will be your food.”

Ecotheology 2

- Christianity has been accused for entitling the relentless and wreckless use of natural resources and living nature.
- How ever, the basic idea of Christianity is to protect nature and use responsibely it´s resources.
- Gen.2:15: ”Yahweh God took the man, and put him into the garden of Eden to dress it and to keep it.”

Ecotheology 3

- Today Christian theology is increasingly working with environmental and sustainability issues.
- ”Christian faith includes centrally the relation of man and God´s nature” –Joseph Sittler, lutheran theologist
- Environmental issues are about sin, grace and repention. -Panu Pihkala, lutheran pastor
- The activities of the church aim to implement environmentally friendly ways of operation.

Action for sustainability in Espoonlahti

- The congregation follows environmental program of the Evangelic-lutheran church of Finland
- Environmental program includes 14 different topical criteria for environmentally friendly operations
- For example, waste minimization, reuse, recycling, biking and the procurement of environmentally friendly products (Nordic Swan label).
- Organic, local and fair trade products used in congregation.

Food service in Espoonlahti

- Coffee, fresh milk and pastries served after Sunday service
- Special occasion lunch service, for example mission, mothers and fathers days and donation meetings
- Regular twice a week lunch by church social work
- Week end retreats for adults and young people include five meals or snacks per day

Food and young people

- Young people think about their food consumption choices in terms of environment and ethics
- Young people experience the contradiction of higher costs of organic food compared with conventional food
- Young people recognize the Camelot moment of choice (exceptional situation) and are willing to consider their choices
- Young people appreciate the use of organic and fair trade products in congregation

Co-operation with the iPOPY project

- Congregation is interested in developing their activities more environmentally friendly
- Co-operation with the project offers the possibility to critically investigate the sustainability qualities of food and make changes based on scientific research results
- Young people´s views include critical questions and uncertainty about sustainability qualities of food
- Camelot moment (informed choice) is made use of by youth activities in cooking and purchasing of food
- The project supports intermediate mediating strategies of congregation towards more sustainable future

School goes to the farm - Knowledge, skills, experiences, participation

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1 Background

In the modern, technology based service society the citizens have become gradually detached from the basic facts and praxis of life and living. Personal experiences are increasingly based on virtual reality and on the services of the commercial adventure production. Technical devices often even replace personal contacts in human relationships. Globalisation of the food systems has increased the complexity of the food markets. The choice of processed products has expanded and products are available from all over the world. Food is global, and consequently its route from field via fork back to field is blurred, as are the associated processes and impacts. People in general, and children and young especially, are losing their ties to rural areas and to agriculture, and the idea of the balanced interaction between man and nature is distant. The phenomenon is not restricted to the big cities, but is met increasingly also in the countryside.

The task of the school is to prepare the pupils to become active citizens who are able to make conscious decisions about the matters concerning their own lives. The schools should provide the pupils with the basic knowledge and skills in various school subjects, and at the same time they have to keep pace with the information flow. With the knowledge increasing in an accelerating tempo, this is already a mighty challenge.

Modern life also requires dialogue between school and society; information needs to be considered in relation to the social reality the school is part of. This widens the perspective, and often the disciplinary borders between the school subjects are crossed. In addition, the UN has devoted the ongoing decade 2004-2013 to sustainability education. Through the government agenda this is to be accounted for also in the schools.

In Finland the share of agriculture from the gross national product is only about one per cent, and its share from the employed labour force is about 3% (Statistics Finland 2008). In a society where the status is based mainly on economic performance, agriculture is not valued especially high. However, the total economic turnover of the food sector is tenfold compared to that of agriculture (Niemi & Ahlstedt 2006), and thus the indirect contribution of agriculture to GDP and employment is considerable. It is also easily forgotten that through food production agriculture has a marked impact on national health and welfare. This is evident in the number of illnesses and deaths caused by the food-borne diseases, and in the occurrences of the various food crises worldwide.

Beside food production farming has other functions as well; as by-product it provides the society with so called public commodities. These are the rural cultural landscape and the various ecosystem services (Brunstad et al. 1995, Daily 1997, Cahill 2001, MMM 2001, OECD 2001, Brunstad et al. 2005). The Finnish cultural heritage and national identity are firmly rooted in the rural landscape. This landscape together with the surrounding nature constitutes an essential part of the diversity at different levels, and the interaction between man and nature is plainly visible in the countryside.

The aims of the School goes to the farm- project [1]was to promote socio-cultural sustainability and education for sustainable development by increasing dialogue between school and the society and by improving knowledge among children and youth about the relationship between nature and culture and about the role of food and rural areas in the society. This was done by developing local co-operation between schools, farms and the regional nature centres. This paper discusses experiences from such co-operation and its suitability to the schools' curricula.

2 Project description: Farms as learning environment

There are many ways of using farms as learning environment, and farms already are used in outside-classroom teaching in many schools, although the practices have not been necessarily recorded in the curricula (Risku-Norja 2006). The School Goes to the Farm -project focuses explicitly on local co-operation between schools and nearby farms. In the pilot project, there were ten farm-school partners and one regional nature centre in Finland. In Estonia, the three participating farms were located within the Karula National Park and the schools were the local lower grade schools nearby.

The starting point is co-operation between schools and farms located in the vicinity of the schools. There are no ready made teaching packages, but the farmer and the teacher plan the activity in mutual understanding and by paying attention both to the specific needs of the school and the pupils, and to the possibilities of the farm. In the co-operation, the teacher has the pedagogic responsibility and the farm provides the framework for outside- classroom teaching. Continuity refers not only to temporally enduring co-operation but also to continuity across the disciplinary borders of the school subjects in order to help the pupils understand the intermingling of the ecological, economic and socio-cultural aspects of sustainability.

The local approach focuses in treasuring and improving community-based cohesion and co-operation. It is also a pragmatic matter. The costs for the school are minimised which is an important aspect in the reality of the continuously shrinking resources of the school. In the pilot phase the participating farm entrepreneurs received a small compensation which was funded from the project. The purpose of the co-operation is to introduce the pupils to the practical aspects of the farm life. This is done through active participation in various everyday duties on the farm, there is no need for fancy or expensive facilities or specific rearrangements. When running smoothly, the school visits are scheduled so that the pupils´ contribution is not just demonstration, but they really provide helping hands.

Educational benefits are considered within the framework of comprehensive and contextual learning (Figure 1). *Comprehensive learning* means that knowledge, activity, emotions, senses and values are all involved, and the focal role of personal experiences, emotions and social interaction for learning is acknowledged (e.g. Palmer 1998, Chawla 1999). Ethical principles are similarly necessary, as the values and norms are formulated according to them and they, therefore, define the attitudes towards the various questions (Jeronen 1995). In addition, one needs to know the means and channels of the citizen activity. Only then can the knowledge be concretised into practical actions {{;532 Åhlberg, Mauri 2005; 544 Seregeladin, I. 1996; }}. Learning becomes a process in which emotions, empiria, esthetics, ethics, epistemology, "the five big E:s", are intermingled in a continuous flow (Venkula 2005).

[1] The project is carried out in collaboration between MTT Agrifood Research Finland, the WWF, the local Vihti 4H association and the University of Tartu. The financiers of the project are the European Community Initiative Programme for Southern Finland and Estonia INTERREG III A, the State Provincial Offices of Southern and Western Finland and the Estonian Ministry of Internal Affairs.

Contextual learning on the other hand, means that the new things are learned by deepening and expanding the existing knowledge, so that the pupils are interested in the things to be learned and understand the links to their previous knowledge and are able to apply what they have learned in practical situations, in their everyday activity (Cantell & Koskinen 2004).

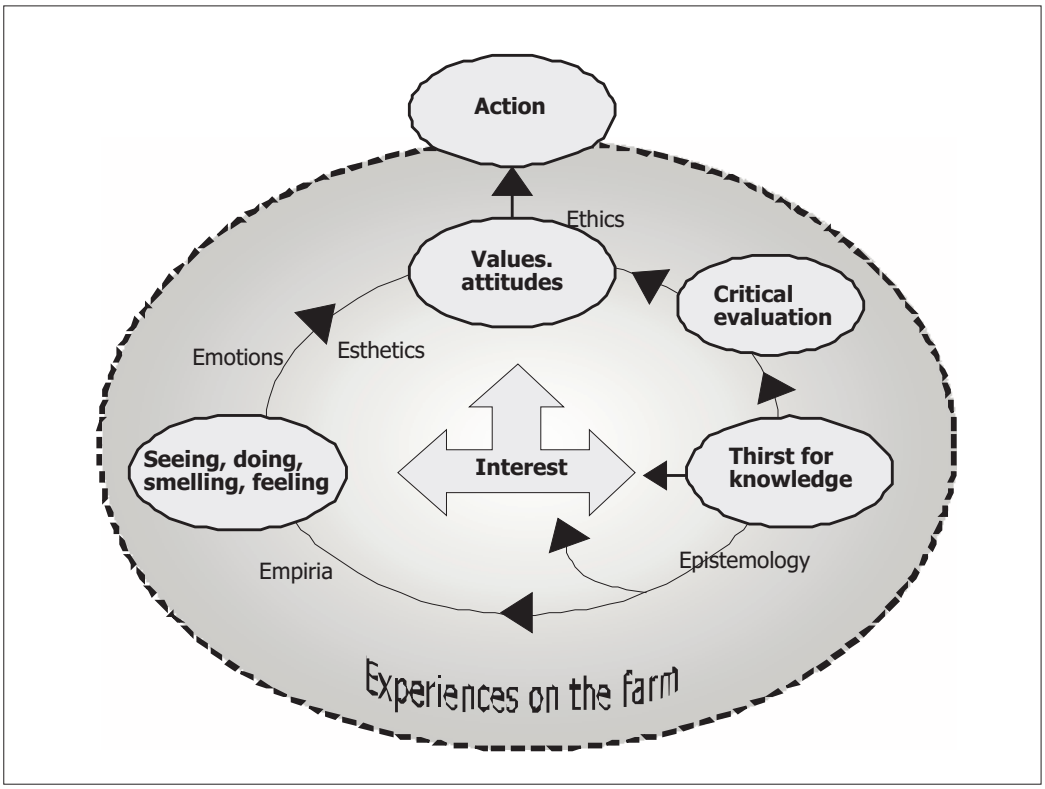

Figure 1. The educational basis for school-farm program is comprehensive and contextual learning.

3 Experiences from the project

The leading principles are locality, continuity and active participation. Local approach increases interaction between school and the local community. It improves children's knowledge about their home district, which is important for identity formation. It also increases the commitment of both the farmers and the teachers. Enduring co-operation allows long term planning so that the activities build up a coherent continuum, and are at the same time reasonable also in view of the farmer's needs. Active participation exploits pupils' experiences, emotions and senses in teaching, stresses learning by doing and practical application of what is learned.

Learning by doing together with other pupils allows the pupils to use their abilities and skills comprehensively and to learn through their own experiences. Through positive experiences and concrete situations even the difficult matters become understandable with practical examples. When education is tied to the local environment and community, the significance of what is learned is obvious and the pupils have possibility to apply what they have learned in practice. Education is situational and contextual, and it is spiced with emotions, personal experiences and collective activity. Personal experiences on the farm provide pupils with a cognitive foundation making it easier to receive and assimilate new knowledge and information. It is up to the teacher's professional skills, probably also to coincidence, how these experiences can be utilised to support pupils' learning.

School-farm co-operation allows combining the concepts of comprehensive and contextual learning. Farm experiences comprise both physical and social levels, the farm and the surrounding nature, the people, their activity and the impacts on the local and societal level. New experiences obtained via different senses arouse the interest and the thirst to know more. New knowledge has to be reconciled with the existing knowledge and evaluated against it. This initiates active knowledge processing. Interest, knowledge, empirical activity and critical evaluation shape and modify values and attitudes creating basis for conscious behaviour and choices, which take expression in practical life situations.

The national curriculum for basic education stresses interaction of the school and the society, and beside the subject-specific goals pays attention also to cross-curricular themes (NCCBE 2004). Responsibility for the environment well-being and sustainable future, own roots, cultural heritage, entrepreneurship and growing as a human being are easily incorporated into the activities in the farm. The farms, thus, provide an environment, where cross-curricular approach can be realised comprehensively. When carefully planned the activities in the farm give the pupils a possibility to many-sided learning and provide an option for the normal classroom teaching.

Beside the specific subject matters, co-operation with the farms brings along also other aspects which the teachers value highly. Activities on the farm strengthen the co-operation skills: the children learn to work together, to help each other and to take collective responsibility. The pupils also learn to behave in a reasonable way in new situations and with new people. Taking care of the young animals is an emotional and particularly enriching experience. It teaches empathy and arouses the need to caress and to nurture. Such profound experiences are crucial for adopting ethical values. It also improves appreciation of the countryside, because children's experiences increase also understanding and knowledge among their parents.

For the farmers the co-operation is above all an effective means for PR: Getting to know something inevitably increases understanding. Outsider view on the farm work helps the farmers to see things from another perspective and to adjust the communication accordingly. The idea of the co-operation is active participation in various everyday duties on the farm. If the school visits are planned carefully and scheduled to the needs of the farm, the pupils are welcome. They are not used as farm workers, but the activity is based on the win-win principle so as to give the farmer helping hands while the pupils get new experiences and possibilities to learn by doing.

Co-operation should not be dependent on individual teachers' personal interest and activity, but the aim is that the farm will become established as a learning environment in outside classroom education. It should be incorporated into the schools' curriculum; when explicitly stated in the curriculum, the farm-school co-operation is perceived as important, it becomes transparent, directs the activities and necessary resources are secured for its realisation.

Co-operation demands extra effort and time from the farmers' side. As an entrepreneur he is entitled to reasonable compensation. In addition to the need to develop the practicalities and mutual honest feed back, the challenge is to find permanent funding which covers both the schools' extra expenses and the reimbursement for the farmers.

The first experiences of both the teachers and farmers on co-operation were by and large positive. The reserved comments dealt mainly with the lack of practical routines in organising the co-operation. Without exception the pupils were enthusiastic.

4 Conclusions

Rural based education for sustainable development excellently meets the needs of the contextual, situational and experiential learning. It is in compliance with the goals of the integrative teaching and is, therefore, easily justified with educational arguments. From the school's point of view the co-operation is a way to develop education by expanding the learning environment. From the farmers' point of view the co-operation deals with diversifying the farm activities as a means of their survival strategy. The overall benefit for the society is in improved social cohesion brought about by the increased interaction and dialogue among the local actors.

The major challenge is to widen the pilot phase experiment in southern Finland and Estonia to cover other areas as well. The goal is to implement the action model of the farm-school co-operation as a part of the schools' educational programs so that it is accounted for already in the schools' curricula and necessary resources are secured for its realisation. In view of the future, it is urgent to find permanent funding that guarantees reasonable compensation also for the farmers.

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The Danish 'Organic Food in school' campaign – Lessons learned and project continues

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1 Introduction

The project 'Organic School Meals – information and inspiration' in 2008 was intended to increase the visibility of organic food as a key element in the official and general efforts to promote health of children and young people. The main result is a significantly greater opportunity for information and inspiration on organic school meals, and the launching of an active work in a number of municipalities and schools. Results are achieved through the 5 areas of the project description:

Information over Internet
Guide to decision makers and stakeholders.
Information Materials - including teaching
Marketing
Press

2 Information over the Internet

The aim was to ensure increased visibility of organic school meals, as well as to provide help and inspiration in order to develop a healthy school meals system where organic food is a key element. A toolbox designed for schools, teachers, pupils and parents with arguments, facts, step-by-step, cases / best practice, teaching has been developed. The user can select from the following menu options:

5 existing models – what can we do?
Get Started!
Where can we buy?
Who can help?
Skolefrugt
5 days with organic's in your packed lunch
Why Organic?
Benefits of ecology
Statements
Press / News
Education 'What's organic?'
Downloads & Links
F.A.Q.
Contact

3 Information for decision makers and stakeholders

The intention of this effort was to offer a tailored and practical guidance on how organic food can be a key element of a school system. The focus has been on helping people to find the right model for more organic food in school meals at each school, and to show them that it need not be more expensive if you deal with it in the right way.

Based on the particular educational and professional advice from the Danish University of Education the concept moved away from the term 'decision makers' because it appeared that decisions on school meals rarely are taken by a few persons. More often, it is a wide range of stakeholders that are involved in decisions about school meals. Guidance in the form of a meeting with an advisor should instead be flexible and tailored to the recipient and, above all, allow for participation by everybody involved - especially the students. Free guidance and dissemination of information on ways to increase the amount of organic food in school meals has been offered and implemented in the following categories:

1. **Telephone / email**: Guide for parents, teachers, canteen managers. Often guidance in using the website information forward in the process and an invitation to return for further guidance. (More than 100 contacts)

2. **Advisory assistance:** Guide to the cafeteria manager at the school – possibly, along with administrative manager, on how to get started or move forward. This guide is provided by experienced consultants (30 schools have ordered and received a visit from a consultant)

3. **Guide for municipalities:** Guide to municipalities, including briefings, interviews survey of cafeteria managers vedr. barriers and opportunities for more ecology, preparation of action plan and idekatalog. Aarhus Municipality, Roskilde Municipality, Gladsaxe Municipality, Kværs School and Studsgaard Friskole in Herning, have received guidance on information to large groups of canteen managers, managers or parents (total of 27 schools).

At www.okologi.dk / school meals - 'How can you do?' five examples of different models for meals with a greater or lesser proportion of organic food are described. All 5 models can provide a meal for 20 DK/kroner, which is said to be the maximum price parents will pay for a child's school meal. The price of the meal is primarily dependent on the design chosen. It is not organic food that makes the big difference in price. A healthy meal with 100% organic ingredients can be produced for app. 9 kroner. The selling price depends on funding for the costs of catering, wages, packaging and transportation. In general, it can be stated that the organic school meals are rare in Danish schools unless the school is located in Copenhagen, Roskilde, Gladsaxe municipalities. Moreover, there is a 'bias' in the country in the sense that the few suppliers of organic school meals are situated on Zeeland. The current suppliers in Jutland expres the point of view, that they have enough to do to in order to survive by selling non-organic school meals. Therefore, they are not interested in taking the organic food into the kitchen. As parents, however, demand organic food, the project has offered a kind of 'system export' between Zeeland and Jutland. The project team has also found inspiration and knowledge in Malmö (esp. Djupadalskolan).

Anyway - packed lunch is still the fastest and easiest way to increase the amount of organic food for most Danish students – You can do it tomorrow !

4 Organic fruit

Organic fruit is an important point in the guide. It does not require large investments in facilities and the effect in order to minimize the intake of pesticide residues is high. Organic fruit is generally more expensive than conventional fruit, but with a classbased fruitsystem where carrots and cucumbers can also be included, it is possible to implement organic fruit of the same price as conventional. The model is that one or more classes are supplied with a box of fruit 2 times per week. From the box (which is chilled) pupils themselves take a piece of fruit each day. At a school in Aalborg, all students are enrolled in such as fruitsystem and school administration settles with supplier 'Bonoa'. Parents settles to the school for half or full year. This model is a benefit for children and young people's health and should be far more disseminated than it is.

5 Conclusion of 'Organic food in school meals - Information and inspiration'

Based on experience gained in the project, Økologisk Landsforening concludes that the best and cheapest school meals are nutritioncalculated, organic - and produced in the school kitchen by a trained professional. But it is far from all schools in Denmark, which has the ability to realize this model. Hence the need for guidance on other solutions. Guide for more organic food in school meals should be given both on the short and long term. 'Short term' deals with your packed lunch for the next week. 'Long term' is about finding the model that suits the school, which then must obtain funding for the necessary investment in staff training, facilities, kitchen equipment, operations and salaries.

The project shows that there remains great need - and great power - to implement the guidance in the form of telephone / mail, personal guidance, advice to municipalities, where many more schools are to move forward in the process towards more organic food in school. Very few are declared opponents of more organic food in school meals. But many parents are opponents of making 4 og more lunch packs every day. Therefore, the biggest barrier is, to establish a healthy and attractive meals system with a fair price-model. In terms of the choice of model, the project offers valid guidance on the homepage. Anyway, the crucial question is the funding and the relation between public and private share of the costs. These questions need to be resolved politically before there can be a breakthrough in this field in Denmark. This clarification is extremely urgent in order to avoid the development of a poor and expensive meals system, based on massive catering of pre-fab meals, that have travelled a lot of foodmiles.

6 New Project - Continuity 2009-2010

Økologisk Landsforening has by 1.februar 2009 been granted a continuation of the first project on 'Organic school meals' from the Ministry of Food, Agriculture and Fisheries. The novelty of the project is that it will be the first time that teaching materials for all ages will be marketed nationwide. It is also the first time for an intensive nationwide marketing of the information and guidance on the organic school meals, developed with support from the Danish Ministry. This means that several counties that have not yet seen the new educational material 'What's organic' will be informed about the new, free, resources, and offered information and guidance about more organic's in school.

In addition, the educational effort is now fully integrated into the dissemination of knowledge on healthy and organic school meals. The knowledge-related platform in relation to children and youth, is represented by the new teaching materials. Here the emphasis is on the basic concepts of organic food and food production, so that the students thereby achieve an understanding of why the positive interaction with nature is a prerequisite. By putting up the reflection on these elements, the goal is that students form their own attitudes to various forms of food production. In combination with the developed and the new information materials on organic school meals the new project will represent a lever for more organic food and more organic knowledge to children and adolescents, in order to ensure health and a sustainable Denmark in the future.

Moreover, recent research on organic food and organic school meals will be used and incorporated into the project. This will be done to achieve a maximum supportive effect in relation to project objectives and goals. Cooperation in this field will be 'Project IPOPY' DTU, Food Institute in Denmark. Similarly, expertise will be obtained from 'Research for Environment and Health Education', National University of Education. Cooperation is crucial in all stages of the new project. Thus, there is an agreement with 'Ecology group Dogme Municipalities' (www.dogme2000.dk) on cooperation regarding information to parents on organic school meals and training for canteen staff in organic canteens.

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Young peoples' voice on organic food and health in schools

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1 Introduction

Adult habits become established during a person's childhood or early youth. The same goes for health habits. Therefore it is important that children are provided with a solid foundation for making sound decisions in relation to health and that health aspects be incorporated into their daily life. In this connection, public schools are important health promoting platforms due to their potential for encouraging interest, knowledge and learning about health related issues.

The central idea for the study has been to address pupil perceptions and not merely to emphasise a narrow professional approach. In order for health initiatives, offered in connection with public schools, i.e. initiatives aimed at the available food selection and class room teaching, to impact children's day-to-day health, the basic assumption has been that pupils must see the initiatives as relevant. Therefore it is important that these initiatives address the children's interests and values in connection with ecology and health. Thus children can be engaged as stakeholders in a way that encourages healthy behaviour and delegates shared responsibility for their own individual health.

Devising and implementing different health promotion efforts often originate in a professional settings and i.e. decision makers such as health professionals, teachers and civil servants approach the tasks according to their professional background and specific agendas. However, in an active social field such as a school, the narrow administrative outlook collides with a completely different and disorganized everyday outlook. It may be assumed that children view issues such as ecology and health entirely dependent on their individual values and attitudes. This collides with traditional administrative logic. An administrative outlook expects strategies and interventions to be governed by rational motives and evidence. Public administrative bodies are expected to be able to provide objective and proven facts that justify strategies and interventions based on well-established expertise within a well defined technical or scientific domain. Such areas of domain expertise are created and justified on the grounds of the traditional scientific disciplines characterized by stable well defined rules determining which theories and methodologies are accepted as making sense. These domains of expertise are furthermore characterized by particular preferences for paradigms from either the natural or social sciences. Such paradigms are seldom compatible with the reality of the everyday life of pupils where concepts and meaning intermingle.

The study forms part of the larger European research project, iPOPY (Innovative Organic Food Procurement for Youth). iPOPY is a joint project undertaken by Denmark, Finland, Italy and Norway and the aim of the iPOPY project is to uncover relevant strategies toward key players in the catering profession in order to promote strategies for sustainable food provision and widen the range of healthy organic meals from which children can chose in schools and care centres . iPOPY consist of five work packages where Package Five is managed by the Danish National Food Institute at DTU. The package emphasises the nutritional aspect of organic school food programmes , and the purpose of the package is to ascertain whether switching to organic food in public food provision will lead to altered food habits, which in the long run may lead to healthier diets among school children. The current study has been part of an internship completed by Stine Andersen, Anna Burkal and Malene Olsen, all of whom specialize in human nutrition and health communications. The study was completed in a period of six weeks from late February till early April, 2008.

2 Purpose

The main purpose of the study has been to shed light on primary and lower secondary pupils' everyday experience with ecology and health in connection with the public organic school food programmes in the municipality of Copenhagen. Moreover the aim has been to investigate to which degree the pupils experience a connection between the organic food program and the underlying organic supply chain and classroom initiatives in subjects related to ecology and health.

3 Methodology

In February 2008, we approached a public school which proved willing to participate in our study. Subsequently, over a four week period, we designed an interview guide used to conduct the focus group interviews which were then transcribed. During the last week of March and first week of April, we analysed the interviews made and completed the working paper. The organisation of the focus group interviews originate in Krueger and Morgan's methodology development, meaning that the development of the interview guide, the planning of the focus group interviews, and the moderator's (interviewer's) role have all been taken into account. When developing the interview guide, we have also benefited from Steinar Kvale's writings on how to organise such a guide. Lastly, the processing of the collected data has been conducted with Kvale's writings on meaning condensation in mind.

The humanist tradition constitutes the underlying basis of this study. We therefore use qualitative data collected at our own initiative. Since the goal was to access the lifeworld of the pupils, the reference point for the focus group interviews has been the phenomenological tradition within scientific philosophy. This means that the study has sought to establish how pupils themselves perceive, describe and relate to the world . The purpose of this approach was to specify which phenomena emerge in relation to the main focus of the study. Through qualitative interviews, phenomenology clarifies the content and structure of individual human beings. In this regard it is interesting both to illuminate what emerges and in which form it appears. When attempting to describe and determine the character of a lifeworld, the personal lifeworld accounts generated during the course of a phenomenological interview are to be studied in a neutral manner without prejudice.

The data has been collected through focus group interviews with pupils aged eleven through fifteen (n = 21). The pupils were recruited from the 5th and 7th grades respectively at a Copenhagen public school – participants from the 5th grade were from two separate homeroom classes while the 7th grade participants were from the same homeroom class. Homeroom teachers selected pupils for interview participation. Upon our request, participants were grouped in four different focus groups, all of them homogeneous groups based on sex and age. Homogeneous groups are desirable when interviewing children in focus groups, since younger children often experience friction with the opposite sex, whereas older children/teenagers may be attracted to the opposite sex. These emotions may impact negatively in a heterogeneous focus group made up of children. Prior to the focus group interviews, the size of the groups was decided in order to allow for a probable chance of at least two to three children participating in the discussion. Therefore five to six children were recruited for each interview. This number was chosen due to the fact that the discussion among the children can be marked by interruptions and loss of concentration. Our choice of cluster – i.e. the participating public school – was based on prior expressed interest on behalf of the school in participating in research. The issue of ecology being essential to the study, we chose a public school located in the municipality of Copenhagen where organic food programmes have been introduced to the majority of the municipality's public schools. Following

two enquiries among possible candidate schools, a public school, located in Østerbro, agreed to participate in the study.

As mentioned, the participants in the focus group interviews were recruited from the 5th and 7th grades. We reckoned that it would be interesting to gain insight into the 5th graders knowledge about ecology and health since they have yet to try running the school food stall, which is run by 6th graders. Conversely, interviewing the 7th graders was interesting, since they have had experience running the school food stall.

The interview guide makes use of the questions concerning ecology and what is taught about ecology, but we have expanded the guide so it also deals with questions concerning health, nutritious food, school food, meals and the pupil's own interest in ecological and health related issues. According to Krueger, one needs to obtain feedback when devising an interview guide since misunderstandings quickly arise in relation to questions and the way they are phrased. The initial questions in the interview guide are short and engaging questions aimed at getting the participants talking. Following this, the questions requiring more discussion are put to the participants. We have emphasised maintaining the same line of questioning for both grades since it is concomitant with the study's aim to compare and uncover differences and similarities between the 5th and 7th grades. After conducting the focus group interviews, the interviews were transcribed and analysed. Our method for analysing the data originates in the concept of condensed meaning.

4 Results

The findings from the focus group interviews show a broad interest in subjects relating to ecology, organic foods and health. A few of the findings will be reported here. The full analysis will be made available as an iPOPY working report.

The results show that the ecological supply chain behind the KØSS food programme does not seem to have triggered greater involvement on the part of the interviewed pupils regarding the organic agenda. Respondents said that they had felt them selves being involved in the decision making process concerning the school's organic food programme. This was the case for pupils from both the 5th and 7th grades. Most of the 5th grade pupils knew why the food sold in the school food stall was organic and indicated that it was because their school was part of the KØSS food programme because the school is located in Copenhagen. A single pupil knew about the link between the initiatives ties to another municipal campaign:"Ecology is nothing but pure water". The 7th graders similarly agreed that school food is organice due to the fact that the school participates in the KØSS programme. When asked who they thought had made the decision to introduce organic food in schools, the Copenhagen municipality, City Hall and the dairy company, Arla, were mentioned. Likewise, several pupils believed that the school had been part of the decision making process.

The pupils mentioned a number of different courses where the two subjects, ecology and health, had been part of what they were taught. Nevertheless, it was not clear to greater part of the pupils whether these subjects were a regular part of the course or not. They pupils gave different indications of when they had been taught on ecology and health. And they mentioned that the subjects of ecology and health have been introduced in home economics, Danish, math, nature and science, social science and geography.

Teaching in the 7th grade has been more project oriented teaching with an emphasis on what is healthy and unhealthy. Pupils have been assigned the task of making posters in order to illustrate

these qualities. The attitude of the pupils toward health and ecology were that these subjects basically concern our world – the body and world outside it. This makes it important to acquire knowledge about these subjects. The majority of the pupils indicated that they found the subjects personally relevant:

> *"It's all about our world, right? What we put in our mouths, our body and environment, that's pretty serious"* (7th grade girl)

Another participant pointed out that the subjects make up part of the concept labelled general education.

> *"It's something you just gotta know"* (5th grade girl)

5 Conclusions

The analysis so far indicate that

The pupils are very much interested in ecology as a subject, but it seems that they do not see a very strong connection between the healthy, organic meals offered at school and class room activities related to health and ecology.

The pupils did not feel involved in the decision to establish organic and healthy food procurement.

The organic and healthy food procurement was not highly sought among on the part of the pupils. And, they do not feel very committed or engaged in the project.

This appears to justify a distinction between the outlook that on-the-scene actors have, including pupils, and the outlook that politicians and planners have behind the scenes.

There appears to be a mismatch between the politically determined, administrative goals set for the food programme and the sense creation generated by on-the-scene actors at schools.

There appears to be grounds for distinguishing between three planes in the pupils' understanding and sense creation in relation to meals, nutrition, health and ecology in school.

The front plane contains the experience of what is taught; the middle plane contains the experience the pupils have as being part of the social environment in school; and the plane to the back is the school food service offered to the pupils.

Pupils indicate that they see ecology and health as related.

On the basis of these findings, it is possible to put forward the following suggestions to enhance the teaching on ecology and health along with the food supplied.

There also appear to be untapped possibilities for learning.

There also appear to be untapped potentials for creating a clear connection between the organic and healthy food procurement and what goes on in class room teaching.

Finally, there appears to be a need for greater involvement on behalf of the pupils and on-the-scene actors when planning activities related to the curriculum and the food procurement.

There appears to be a need for reorientation in the instructive platform in home economics and the subjects of ecology and health. This implies a cross-curricular approach which involves the essential subject areas in connection with food culture, eating habits, ecology and health.

Does organic supply and healthy eating go hand in hand? The new Gladsaxe municipal school food case

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1 The school food concept of Gladsaxe Municipality

Until 2004 the school food for the schools in Gladsaxe Municipality was produced centrally at one of the municipal care centers and subsequently delivered to the schools. Here unskilled employees handled the food by defrosting and heating it in microwave ovens and then served it for those pupils who bought it. The healthy school food was predominantly organic and was consisting of a few well known dishes and included the option of purchasing additional berries and fruit.

The service resulted in economic deficit, because not enough pupils used the service which therefore became too expensive; eventually the service was closed down. Even though the pupils had been testing the food they judged it as "flight food" or "elderly food" and therefore perceived it not particularly attractive.

Since 2004 Gladsaxe Municipality has focused on a school food program, where decentralized school canteens are being constructed at the schools, to produce school food primarily from non-processed food. The service acts as an alternative to lunch packs and the parents cover the expenses for the food supplies.

In the new school food program presentation of the food, including wrapping and branding, is of great importance, as well as the pupils' eating environment. With the new Agenda- 21 plan for 2009-2012 the focus on organic food is increased. In this period the schools must reach a level where at least 25% of the food budget must be spend on organic products.

2 Guidelines on healthy school food

In the everyday work, the school food is made in accordance to guidelines on healthy school food based on the Danish Veterinary and Food Administration's recommendations on school food. The guidelines deal with both the nutritional value of the food supplies but also prescribe serving sizes, selection and variation.

Most of the guidelines on securing healthy school food are identical to the reorganizing advices used in organic food production.

Keypoints are

- Use seasonal vegetables and fruits, when they are low-priced and contain a higher level of vitamins and minerals. Ensure that the selection includes a great portion of fruit and vegetables.
- Ensure to include less and leaner meat in the selection. E.g. substitute some of the minced meat with vegetables; it makes the food healthier and cheaper.
- Bake your own bread, it is cheaper and use wholemeal flour, so the pupils eat more fibers which fills better.

3 The challenges on organic and healthy school food

Facing a number of challenges makes it difficult to produce healthy organic school food, despite the support the guidelines on healthy and organic food offer for the work.

3.1 Operation

In Gladsaxe Municipality the individual schools are responsible for the school canteens but they do not basically have the qualifications for running canteens. However, this responsibility gives the advantage for the schools that the service becomes adjusted to the culture of the individual schools, which therefore more easily can be linked with the school's teaching and overall activities. The challenges are, how to make the schools to take the ownership to the assignment despite the politically determined guidelines, and to prepare the schools for running the canteens professionally.

3.2 Employees

During the great progress in Gladsaxe Municipality there have basically been no changes in number of employees or staff turnover. At one time employees were recruited among the cleaning staff, but because of the assignment's development those employees do not possess the requisite qualifications. They have poor experience, both personal and professional, with organic food and health that characterizes their work on school food. This is the greatest challenge, and Gladsaxe Municipality is therefore working on changed employee profiles, increasing the working hours and a continuous development of the employee's qualifications.

3.3 Supply

Many organic suppliers are idealists and run a business being based on a "holistic" idea – the idea that organic products are better for the animals, the environment or the consumers. Not many of them, however, are good businessmen and that makes the companies vulnerable. The organic suppliers are often small companies, who might find difficulties in delivering to all the institutions in Gladsaxe Municipality. Too often the school canteens have had to come to terms with the fact that a great deal of the food delivered is frozen, that supplies only can be delivere a few times a week or foodstuff hygiene is poor.

The experience from Gladsaxe Municipality demonstrates, that it is not enough to focus on one area e.g. organic food or health, but various areas need to be taken into consideration. The success with the pupils highly depends on sale, wrapping and eating environment having been considered, if the healthy and organic food are to be sold. Therefore, it is crucial that school's management, canteen employees and representatives for other school employees all are educated and supported in professionally running school canteens with healthy and organic food.

Does organic food intervention in the Danish schools lead to change dietary patterns? Results of a web based questionnaire survey among Danish school food coordinators

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1 Introduction

Obesity and overweight rates among children and young people is increasing throughout Europe (Mu, 2008), and this tendency is a real challenge for European countries. The school meals program is one of the strategies to promote better, healthier food and eating habits for the youth. This study is concerned food interventions in school meals and their interrelation with organic strategies. Previous research has shown that supportiveness of organic food procurement is associated with an increase availability of health food items in work place canteens (Mikkelsen et al 2007). The purpose of this research study is to explore the relationship public organic food procurement strategies and food nutrition strategies in relation to food service in public school settings. Public Organic food Procurement policy (POP) refers to a policy, in which a particular amount of specified foods are expected to be organic, which are practiced in public organizations offering food. (Mikkelsen et al 2008). Food & Nutrition Policy (FNP) is a set of written and adopted principles that aims to fulfill nutritional needs of pupils at schools, and ensure availability and accessibility of healthy foods (Mikkelsen et al 2008). The survey was undertaken in public primary schools (grade 1-9) in Denmark through a web-based questionnaire (WBQ). In addition to the possible indications of associations between organic food strategies and healthy eating strategies the outcome of the questionnaire will be a detailed mapping of school food environments, the current "praxis" including serving practices in relation to healthy eating and the attitudes and practices of organic food procurement and policies.

2 Methods

A quantitative survey using a Web based questionnaire (WBQ) was performed in Denmark among school food coordinators (Surveyxact, 2008). Both the organic schools - the schools which base the provision on a certain amount of organic food provision – as well as non-organic schools which base the provision on conventional food supply were asked to answer the WBQ. The potential participants weren't only school food coordinators but could also be the school headmaster or school food caterer, etc (see Table 1). The pre-test was carried out in 2 Danish schools, one organic school and the other a non organic school. Finally, a total number of 93 organic schools and 86 non organic schools were selected and expected to complete the questionnaire. The sampling were done based on a previously developed database on the school food praxis (Landbrugsrådet, 2007) combined with the authors knowledge on existing organic and non organic school meal systems. The web link to the WBQ and the invitation letter to the participants were sent to the developed e-mail list.

Table 1. Informant inventory, the possible participants for answering the WBQ.

Informants	**Responsibility**
School headmaster	The principal of the school.
School coordinator	The coordinator between the municipality and the school environment, and also determine entities to operate the school meal system.
School kitchen operators	The person who is responsible for preparing school food and carry out serving practices, etc.
School food caterer	The person to ensure the quality and variety of school meals, and cooperate with food suppliers or catering company.
Teachers	They involved as school kitchen operators.

Since non-respondents might have different views and practices and thus introduce a risk of bias, dropout rate is a critical issue in surveys.

However, around 50% of the schools took part in the research, thus half of schools didn't respond to the WBQ. There are several possible reasons for survey dropout: 1) some of the school respondents replied that they weren't willing to participate in the research, 2) some of the school respondents answered that they were too busy to fill out the questionnaire, 3) some of the schools didn't have a food coordinator or someone responsible for answering the questionnaire, 4) for a certain amount of schools, their e-mail address no longer existed.

3 Analysis

In this section, the gathered data of the WBQ is presented and the results are analyzed respectively based on parts of the attitude of school food coordinators, existing policies, and serving practices. Data shows, there were 92 out of 179 Danish schools that responded to the WBQ. 20 of these respondent schools have a POP policy and rest 70 schools have no POP policy.

3.1 Attitude of school food coordinators

In order to draw a clear figure, the schools were categorized based on whether they have a POP policy or not. The schools which have a POP policy are named POP schools. On the contrary, the schools which don't have a POP policy are named non POP schools.

As figure (see Figure 1) shows respondents from POP schools and non POP schools have a positive attitude towards the four questions, regarding the espoused responsibilities of the schools. As could be expected the respondents from POP schools have more positive attitudes on the aspect of having a responsibility to promote organic foods through school meal provision than the respondents from non POP schools. The respondents from POP schools also have more positive attitudes on the aspect of having a responsibility to promote organic foods through curricular and educational activities than the respondents from non POP schools.

But in addition and as the right hand side of the figure shows, the POP schools also feel more responsibility for promoting healthy eating habits through school food service. The POP schools also feel more responsibility for promoting healthy eating through educational and curricular activities.

The data also allows for comparison of the organic supply with the healthy eating issue. It seems that both the POP and non POP school respondents agree more with the point that the schools are willing to build a healthy eating habit through the school education and food service, than to promote organic foods through school environment. This indicates that the healthy eating issue seems to be higher on the agenda among school food coordinators.

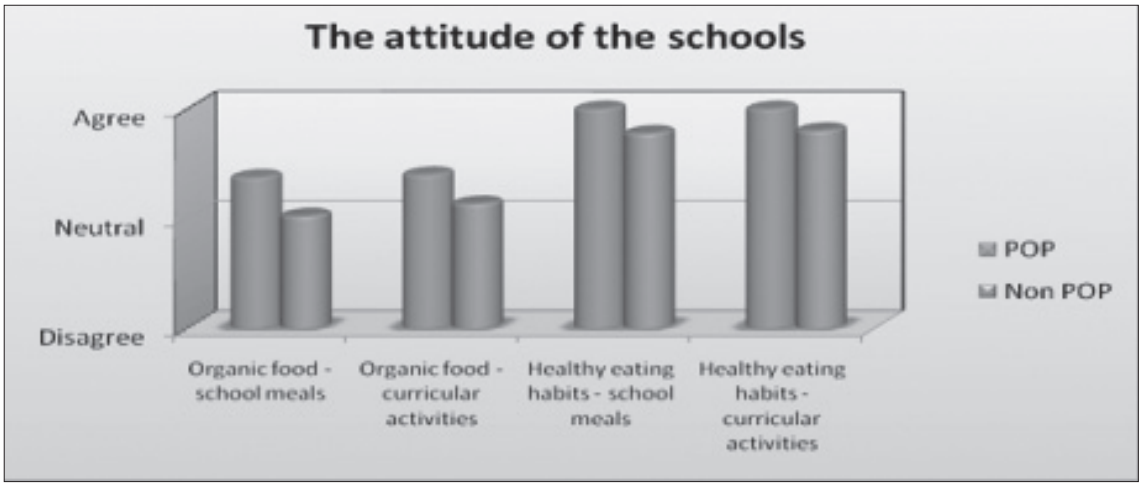

Figure 1. Attitudes of POP and non-POP respondents to organic and healthy eating strategies. The figure shows the extent to which respondents agree/disagree to be positive towards organic food strategies (far left), positive towards curricular organic food strategies (middle left), positive towards healthy eating strategies (middle right) and curricular healthy eating strategies (far right).

3.2 Existing policies

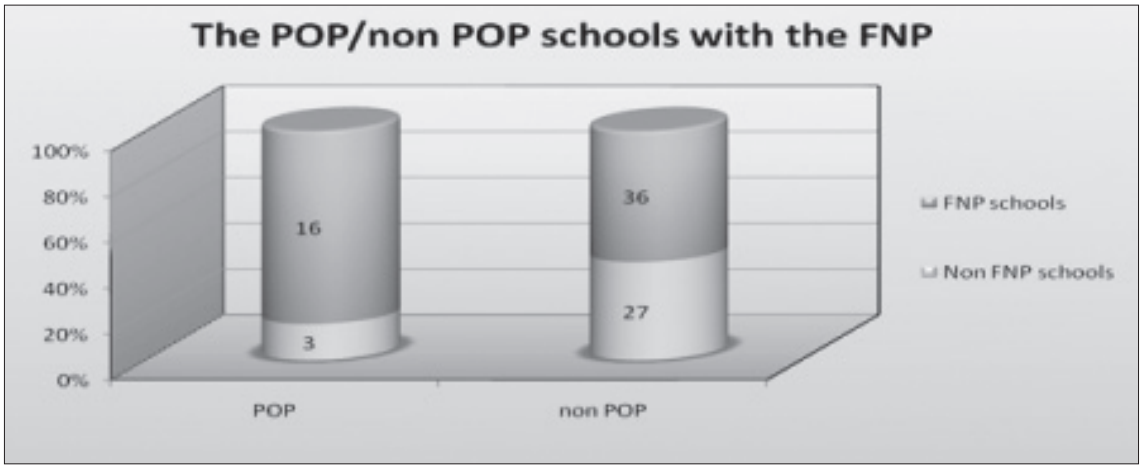

Figure 2. The number of POP/non POP schools with the FNP.

The analysis asks question about the possible association between having an organic policy and a healthy eating policy. According to the school respondents there were 20 Danish schools which have POP policies relating to the school food. Most of the other schools answered that they don't have a POP policy, and a small number of the respondents didn't know whether the school had a POP policy or not. Since the WBQ also asked the respondents about prevalence of food and nutrition policy surveys in the schools, it is possible to link these to types of information.

Although the content of policies varies depending on the schools, an existing FNP can be expected to be a good indicator of healthy eating. A FNP can contain routine on how to procure, prepare and make healthy school foods available, but also procedures on how to get pupils involved in the educational activities. As the results indicate, there were more schools with the FNP than the schools which have the POP policy. There were 52 Danish schools in the survey have a FNP. The number of FNP schools (the schools have a FNP for pupils) was 23% more than the number of non FNP schools (the schools don't have a FNP for pupils). This indicates that POP schools more frequently adopt and maintain a FNP than non POP schools. Few of the respondents failed to give the information on whether the school has a FNP policy.

3.3 Serving practices

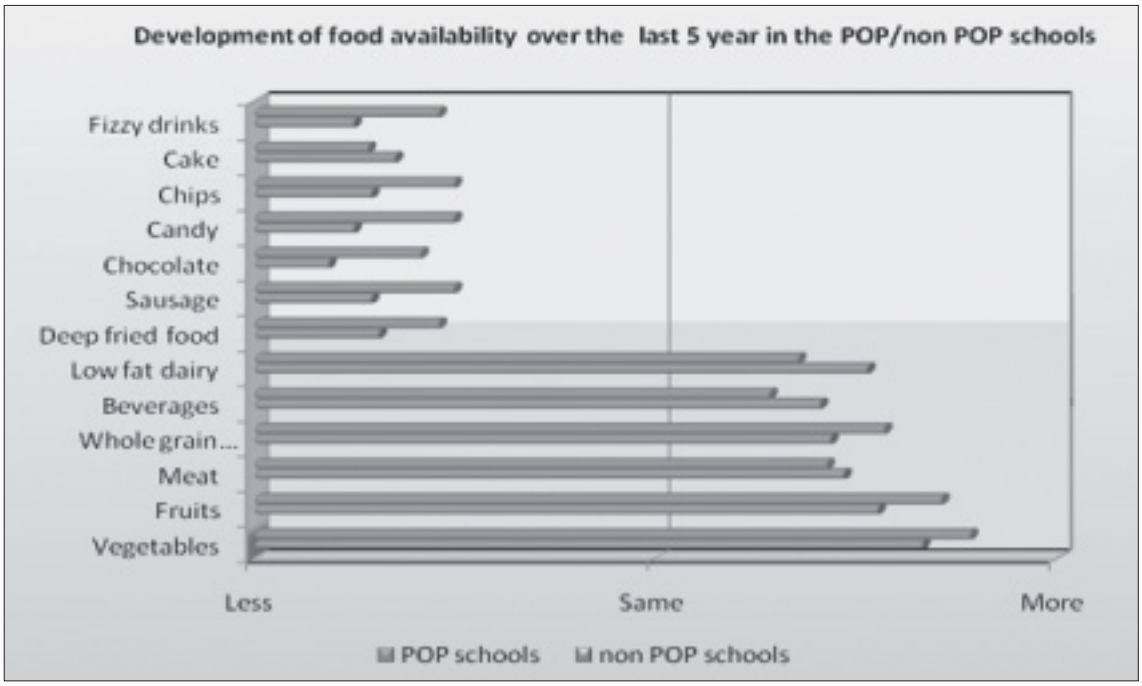

Figure 3. Trends in healthy eating practices in POP versus non POS schools. The figure shows a comparison between the POP/non POP schools on the development of food items over the last five years.

The serving practices are probably the most direct way to find out the trend of food offered in schools. 13 food items were provided in both POP and non POP schools over the last five years. The values in the diagram (see Figure 3) show, that both types of schools served healthier food items and reduced the amount of less healthy foods.

Firstly, for healthier low-fat, cholesterol-free food options, the POP schools have increased more on most items than the conventional schools. Apart from low fat dairy and beverages, the non POP schools have promoted more than the organic schools. Secondly, for the less healthy food items except for cake the organic schools were lower than the conventional schools, while the others were opposite. Moreover, candy, chips and sausages items in POP schools were served much more than in the conventional schools. This outcome is only half of the anticipated result, because the organic procurement schools were expected to offer less high sugar/fat/calorie content food than conventional schools. It can therefore be explained that the POP schools have endeavored to promote healthier food to pupils over the last five years. Meanwhile, these schools didn't pay enough attention to reducing less healthy food like the non POP schools.

These results demonstrate that there is a positive relationship between serving practices for healthy eating and the organic procurement policies at schools. It shows the consumption of healthy food is proportional to the organic procurement policies. Therefore, the POP schools seem to consider healthy issues more for children than the conventional schools.

4 Conclusion

Data from the WBQ survey seems to indicate that there are differences in the attitudes, the strategies and the practices of school that base their supply on organic foods and schools that don't. Despite the fact that organic school food supply in many cases seems to be decided in the background by civil servants and politicians (Andersen et al, 2009), it seems that stakeholders at the school - in the foreground – have attitudes, policies and practices that comply to a certain extent with the background strategies.

Data also shows that POP schools seem to be more actively involved in adopting and maintaining FNP´s than the conventional schools. Since a FNP has shown to be associated with more healthy eating practices at school (Vereecken et al 2005), the POP school might very well provide better environments for healthy eating and thus increase the likelihood of healthy eating.

As data shows also the practices of POP schools seem to have developed more rapidly in favor of healthy eating than does the practices of non POP schools.

In general this research indicates that organic food strategies at school seem to fit very well with the healthy eating strategies. It appears that the issues of health and organic food are moving in the same direction, in other words, it might be an ideal way to combine both agendas in order to create a healthy school.

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Does organic food provision go hand in hand with organic curricula? Insights from the New Nordic School Food case at Værebro School

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1 Introduction

Responsibility for children's health and well-being lies first and foremost with their parents, but schools and after-school care centers should assist parents in their efforts to keep their children healthy and fit. That is the idea behind Værebro School's approach to nutrition and healthy living. A school must be an active partner in shaping the attitudes of its pupils in relation to health matters. And the school should provide opportunities for making healthy choices. These choices should be based on a positive understanding of health issues acquired through both practical and theoretical health instruction. Knowledge gained from books and physical activity does not exclude each other. Rather, both are important prerequisites for achieving more knowledge and a healthier lifestyle on the part of the pupils. Combining instruction and experience, Værebro School wishes to enhance children's awareness of healthy cooking, good ingredients, farming, nature and our shared environment.

Værebro School strives to activate pupils physically on a daily basis. Whenever and wherever possible, we want pupils to have physical learning experiences. We do not see physical activity as being restricted to gym class alone. In addition to our overall goal of giving pupils the maximum amount of physical activity, we have yearly recurring events such as school fun runs, forest outings, game days, P.E. days, rhythmic, dodge ball tournaments, theater dance projects, and teaching new pupils during their introductory periods how to move about using fitness obstacle courses.

The school has several play areas and natural playgrounds which the pupils eagerly use. You can also find asphalt and grass covered game courts, a labyrinth and outdoor table tennis tables. When faced with poor weather during winter term, the school gym opens for recesses between classes. Both indoor and outdoor recess activities are monitored by teachers.

2 The Værebro approach to learning - Course outlines

(The lesson plans below are based on the following aims laid down by the Danish Ministry of Education).

The main aim for the introductory period in the subject, nature and science, is for students to gain insights through personal experience into important facts and see how they are interconnected. This process should aim at developing their ability to think and express themselves in concepts that contribute to the value of their everyday life.

Courses should aim at developing an understanding of the interdependence between man and nature, and thereby a sense of responsibility for nature that promotes personal involvement and positive action.

Pupils must master the ability to:

- pose simple questions and predict events on the basis of observation, experience and minor examinations.
- conduct simple experiments, in class, in labs, in nature and in the local community.
- recognize important names and simple elementary technical concepts.
- communicate their own findings and experiences, using drawings, storytelling and drama.

The main aim for the subject, Danish, is for students to master the ability to:

- write simple texts about their own experiences, as well as compose their own texts using inspiration from pictures and other texts.
- write in general
- spell and write words that are spelled according to their sound and recurrent words from their own texts.
- write on a PC
- listen to others reciting their texts as well as reciting their own texts in smaller groups.

Physical Education

- Pupils should have the opportunity to experience the thrill and pleasure of physical movement. This should contribute to the aim of understanding the importance of lifelong physical fitness, interacting with nature, and their own culture and society of which they form a part. Pupils must gain insights into and an understanding of the basic preconditions for health and good body culture.

- Teaching in PE should enable pupils to:
  - carry out basic variations of running, jumping and throwing
  - master basic movements predominantly walking, running, jumping, skipping and turning.
  - carry out simple balancing acts and cross-functional movements
  - participate in simple athletic games
  - participate in games
  - know the nutritional needs of the body in connection with physical activity.
  - understand the importance of conditioning for health and wellbeing.
  - familiarize them with different types of exercise
  - explain the connection between nutrition and physical aptitude
  - be aware of the importance of sports for a person's quality of life, health and lifestyle.

3 "How does food end up being food?" A course in nutrition for the 2nd grade.

Essentially, the main aim for this 2nd grade class is to learn about food that is locally produced, environmentally sustainable and healthy. First, pupils will make observations on field trips, then they will prepare their own food to taste; lastly, they will share the lessons learned and what knowledge they have gained amongst each other and with pupils from other grades.

- Livestock: Hens, cows, pigs, sheep and fish
- Fruits and vegetables: Emphasizing apples and root vegetables

The first week exposes the pupils to poultry: How does a hen end up looking like the ones in refrigerated displays in the supermarket? Where do eggs come from? What came first – the hen or the egg? What kind of meals can you cook using chicken?

While visiting an organic hen yard, owned by a pupil's family, the class will witness the slaughter of three hens. Pupils will participate in rinsing, plucking and scalding the hens. Entrails and eggs will be examined. The following day, back at school, the hens will be cooked with various vegetables. On the third day, three different dishes will be prepared, all of them with chicken as the main ingredient. The pupils will set a fancy lunch table using porcelain tableware and wine glasses. A seating plan will be made, along with name cards to seat the pupils. Dishes will be properly introduced, commented upon and served. All pupils and teachers are allowed to taste and enjoy the delicious food, and a few pupils will give short speeches.

The following week the emphasis will shift to fruits and vegetables – which vegetables do the pupils already know? And where do these vegetables grow? Which vegetables can be obtained locally and what do they taste like? What does the word "organic" mean?

The class will visit the farm, Grantoftegaard, where the class will get a look at the livestock. Also, the class will visit a home farm, "Seasonal Foods", where the class will attend the course, "Tasty, nutritious vegetable gardens".

Back at the school, the class will prepare pumpkin soup and squash cakes, using the vegetables harvested by the pupils during their earlier outing. The class will cook plenty, and surplus food will be stored in the freezer.

We will be sure to spend enough time in order to understand the basic conditions required for vegetables and fruits to grow. We will also test whether fruits and vegetables taste differently if prepared in different ways – and which of vegetables can be eaten in their raw form? The class will find the answers to these questions by experimenting in the school kitchen. In addition to this, the pupils will pick a vegetable that they want to study closer. They will do this by drawing and describing the vegetable. The end result will be one big poster depicting a kitchen garden.

The week after, fish will be the main topic. Early in the morning, the class will visit the fish market. Here, the pupils will see, feel, and especially, smell and taste fish.

Pictures will be taken throughout the visit by teachers and pupils alike. These pictures will be used as a shared reference for a later class discussion of the event. Pupils will pick a picture and give a written account of what is taking place on the picture and how it relates to what they have learned.

These accounts are compiled into a class booklet with the following chapters explaining every link in the food production process: "How do you turn chickens into chicken soup?", "How do you turn cows into beef?", "How do you turn grain into baked goods?" and "How do you turn a fish into a meal?"

To complete the course we will invite the preschoolers and the 1st grade to our class, doing a show and tell and performing the song: "How does food become food?" The 2nd grade will present a slide show while the class shares all the knowledge gained. Finally, the 2nd grade will serve some of its own cooking in the form of squash cakes.

4 "Physical fitness" – An introductory course spanning approx. 6 weeks in spring and fall

In spring and fall, grades in their introductory period attend physical fitness classes. 15 min. are allotted to this activity daily. Four circuits are set up where pupils have to run, jump, balance, and drive all terrain buggies. Upon completing a circuit, pupils are handed a colored peg. Collecting four colors means that the pupil has finished and may begin his or her regular recess.

In addition to this, pupils have weekly runs around a lake in the marsh area near the school. It is possible to run 2-6 rounds around the lake, which is one kilometer in circumference. The 2nd grade is responsible for keeping track of the total number of rounds that each grade completes.

"You got to burn it to earn it" is a fun race that focuses on the intake and burning of calories. This is an all-school event that takes place once each school year.

The aims of the fun race are to:

- make pupils aware of how many empty calories they actually take in.
- teach pupils to choose the healthiest food, or at the very least, to know that exercise is a prerequisite for keeping your body fit and healthy.

The pupils are allowed to choose whichever food they like from a large buffet. However, they are told the consequences of their choices, i.e. how far are they willing to run in order to burn off the consumed calories? They might be tempted by a coke, some pastry or sugar rich yogurt – but they also have the choice of alternatives such as crisp bread, carrots or unsweetened yogurt. Depending on the calorie count of the food they choose, pupils have to run a shorter or longer distance.

Pupils quickly become aware of how many calories they have to burn off to keep their body well balanced. And, when they become thirsty, they choose water instead of other drinks because they know they do not have to burn off extra calories. They frame it in the following way: "Water is a free treat".

"You got to burn it to earn it" has been tested on all grades with great success.

5 School Cafeteria Project: Grades 3rd through 8th

During the first recess of the day, children and grownups at Værebro School are able to buy homemade rolls, fruit and vegetables (organic when possible). At lunch, a daily special, a hot meal, is offered along with a salad bar and a wide selection of vegetables and vegetable dishes.

The cafeteria not only serves the pupils, but also involves them in the making of the food.

Grades 3rd through 8th are each year responsible for a three week cafeteria project. During the time of their cafeteria project a grade is divided into three teams, each responsible for one week's work in the cafeteria, while the remaining two teams have class. Pupils participate in planning, making, arranging and selling the daily special and the salad dishes. They also participate in cleaning and tidying up after meals. Teaching in the cafeteria is handled by the manager of the school cafeteria, a trained chef and teacher. Working alongside the chef is a cafeteria counselor,

who is one of the teaching staff. Before starting work in the cafeteria, pupils receive instructions in hygiene. Following these instructions, pupils are equipped with a cookbook comprising the dishes they will help prepare.

These efforts are aimed at giving pupils positive experiences with food and sound nutritional knowledge, which the school hopes will shape their habits and their desire and ability to make healthy choices. That is why it is important to teach pupils the skills necessary to making healthy and delicious food at school. The school's food policy should engage both the pupils' practical abilities as well as their attitudes toward health and food. Pupils should learn to associate a meal with something both enjoyable and important. Through experience we have learned that pupils are not as picky and conservative as one might imagine, as long as they actively participate in choosing and preparing their food.

Could organic food supply in schools go hand in hand with an educational approach? A case study from four Norwegian Schools

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1 Introducing organic food in Norwegian schools

Organic food consumption continues to grow in Norway, and the government has as goal of increasing the country's organic food production and consumption to 15% by 2015. In order for this goal to succeed, there needs to be a consistent consumer base for these organic products; one way to create this steady market is to serve organic food in public institutions (Løes *et al.* 2007:1). In recent years, some schools in Norway have started serving organic food to their pupils; in some cases, these foods are also being used as teaching tools. In Norway, pupils generally bring their own lunches to school. Despite not having a school meal system, organic food is being introduced in Norwegian schools in a few different ways. School Fruit (*Skolefrukt*) and School Milk (*Skolemelk*) subscription programmes are available to all Norwegian schools (up to grade 10) and are partially subsidised by the government, with parents paying the remainder if they choose to subscribe. Since the autumn of 2007, the *Skolefrukt* programme has been fully subsidised by the government for all lower secondary pupils (grades 8-10), who now receive one free fruit or vegetable per day at school. Some schools or municipalities have chosen to supply organic fruits and vegetables rather than conventionally grown ones. Topics about organic food are starting to appear in Norwegian school curricula; the new textbook for Food and Health class includes sections about ethical and sustainable food consumption, food safety and different types of food labelling, including organic (Ask *et al.* 2006). The extent to which these topics are covered in the classroom depends on a variety of factors, such as how involved the local community and municipality are with organic food and environmental themes, and whether there are staff members at the school who are interested and engaged with these topics.

This study examined *Skolefrukt* as one way to introduce organic food in schools, while also looking at different paths that schools can take to introduce organic food to their pupils. The general aim of the *Skolefrukt* initiative is to improve or maintain individual health of the pupils; in schools which combine this programme with organic or local food, the aims expand to include environmental health as well.

2 Research methods

My study involved research in four lower secondary schools (*ungdomsskoler*) in different regions in Norway. I chose to focus on lower secondary schools primarily because they are the ones receiving free *Skolefrukt*. The four schools I chose are making a particular effort to integrate organic food education into their school and teaching plans. In order to gain an in-depth perspective of how organic food education is being brought about in some schools in Norway, I chose to perform a qualitative study using methods such as an open-ended surveys, semi-structured interviews, focus group interviews and observations at the schools.

3 The schools and their pupils

All four of the schools where I performed my research serve some organic food on a regular basis, each having their own approach to this. Through interviews with school staff members, I got an overview of how organic food is being introduced at each school.

Møre og Romsdal This school in Møre og Romsdal county currently orders their *Skolefrukt* through an organic supplier. They also subscribe to the *Skolemelk* programme, and have decided to give families a choice of ordering conventional or organic milk for their children. With encouragement from some parents, the school's grade nine Food and Health teacher is the main advocate for them having organic food and milk. This teacher was one of the first associations that both teachers and pupils at this school had with the word 'organic'. She often includes some organic ingredients in her cooking classes, and has also introduced pupils to local food sources. This teacher is interested in organic food and farming primarily because of environmental reasons. Organic food topics have also been touched on in the Social Studies class at this school, in the context of informed consumption and making informed decisions. The school cooperates with the local organic agriculture research centre, where pupils have visited the organic garden along with having researchers visit the school.

Oppland This school in Oppland county began getting *Skolefrukt* for the first time in the autumn of 2007. The school's principal decided that the school would order organic produce. The principal was described as being very "green" and he told me that he chose to have organic food primarily for environmental reasons. He is also a supporter of local food, and hopes that ordering their *Skolefrukt* through a local company will eventually lead to increased organic production in the region. The principal finds that organic food is not very accessible in Norwegian grocery stores and therefore believes that if he wants pupils to be introduced to organic food at all, it has to happen at the school. At this school, the fruit and vegetables are distributed by assistants and by the pupils, and the teachers are not involved in the *Skolefrukt* process.

Rogaland Organic *Skolefrukt* has been a staple at this school in Rogaland county for several years. The school also has an organic certified canteen, where the sandwiches and salads that the pupils can buy are made of about fifty percent organic ingredients. The canteen is run by teachers and pupils who volunteer during lunch hours to make and sell the food, getting a free lunch in exchange for their work. Some pupils have also had the opportunity to grow some foods in a local garden or to help out at a nearby organic farm. It is also clear that this school places an emphasis on environmental topics and they have taken part in various local, national and international environmental campaigns and projects. Staff members and several pupils who I spoke with saw the organic food at the school as a part of their overall "green" goals.

Østfold This school in Østfold county orders conventional *Skolefrukt* and is starting up its own lunch programme with a focus on organic and local ingredients. The assistant principal whom I spoke with was doubtful that organic produce would be available at the same price as the conventional *Skolefrukt* ; he was also skeptical about the quality of organic *Skolefrukt* and did not want to turn his pupils off organic food with potentially bad quality fruits and vegetables. After several years of planning, the school started their organic and local lunch programme in the autumn of 2007, where meals are partially subsidised by local goverment funding. The meals are prepared by pupils who volunteer to work in the kitchen. The school's assistant principal – the school's main advocate for organic and local food – sees organic school meals as being a potential way of increasing local organic farming and believes that organic school meals are an important and realistic way of accomplishing Norway's goal of 15 percent of its agriculture being organic by the year 2015.

The pupils' perspectives

Through the survey and focus group interviews with the pupils, I learned about the pupils' opinions, perspectives and knowledge about organic food and environmental issues. The *Skolefrukt* scheme is popular among the pupils, with over 90 percent of those I surveyed saying that they liked it for various reasons: they like the tasty fruits and vegetables, it is healthy, it is convenient, and it increases their energy and concentration in class. The main associations that the pupils made with the idea of 'organic' were with health and with fruits and vegetables. Slightly more than half of the pupils surveyed said that they had learned at least a little bit about organic food at school, mostly in Science, Social Studies and Food and Health classes. While about 75% of the pupils found it important to learn about the environment and over half said that they had learned about this topic at school, most of them did not draw strong connections between organic food and environmental topics.

While many themes were common among the four schools, there were of course some differences between the pupils' opinions and knowledge about organic food and farming. The amount of pupils interested in organic food and farming varied quite significantly: in Rogaland, about half of the pupils who completed the survey said that they were interested in the topic, while in the other schools only a quarter or a third of the pupils were interested. The primary reason for not being interested in organic food was that the pupils found the taste of food to be more important than any other factors. Those who were interested most often associated organic food with being healthier than conventional food. In addition to the survey results, high levels of interest in organic food were evident in the focus group interview in Rogaland, where the pupils brought up several school activities related to organic food and farming. When asked in the survey "What are the first words that you think of when you see the word 'organic'?" pupils in Oppland, Rogaland and Østfold most commonly brought up topics about health, or said that they think of fruits and vegetables; in Møre og Romsdal, over half of the pupils said that they thought of the Food and Health teacher who is the school's main advocate for organic food. In Rogaland and Østfold, more pupils make connections between organic agriculture and environmental issues than at the other two schools. Despite the differences between the four schools, what they do have in common is that they are all making an active effort to introduce organic food to their pupils.

4 Consumer perceptions of organic food

In analyzing and contextualizing my research findings, I used a variety of consumer studies about consumers' perceptions of organic food, looking at themes such as taste, personal health, the environment, local food, and skepticism about organic food.

Taste Not surprisingly, the taste of food is a dominant factor influencing food choices in consumers of all ages (Bissonnette & Contento 2001; Magnusson *et al.* 2001; Roos 2002). The most common reason for liking *Skolefrukt* is because it tastes good; pupils said that the taste of food is more important to them than whether or not it is organic. This is an important factor for school meals. As the assistant principal in Østfold pointed out, the success of a school's organic meal programme depends on the pupils enjoying the food; it does not matter if the food is organic if the pupils will not eat it.

Personal health Personal health is another factor which strongly influences consumers' food decisions. Many previous studies have found that consumers believe organic food to be inherently healthier than conventional food (Bissonnette & Contento 2001; Magnusson *et al.* 2001; Magnusson *et al.* 2003; Hughner *et al.* 2007). Many pupils in my study also held general beliefs

about organic food being healthier. *Skolefrukt"*s main overall goal is at promoting health, so it is no surprise that the pupils who receive organic fruits and vegetables link organic directly with healthiness. Fruits and vegetables in general are viewed by consumers as being very healthy foods (Paquette 2005:S16), and it is natural that the pupils made the same connection.

Environment Magnusson *et al.* (2003) discuss the differences between egoistic and altruistic motives in food purchase decisions; egoistic motives such as personal health were more likely to influence food decisions than altruistic motives such as environmental concerns. The pupils in my study were much more likely to be interested in organic food because of perceived health benefits than due to environmental issues. On the other hand, the teachers and school administrators who were leading the organic school food programmes were generally choosing organic because of environmental concerns. As the Food and Health teacher in Møre og Romsdal said, "You don't eat organic just for yourself, but for the environment!" These organic food programmes are quite new and peoples' perspectives cannot be changed overnight, but the fact that their environmental aims are not yet making it through to the pupils is something that the schools can take into consideration when planning how to approach the topic of education about organic food and agriculture.

Local Local food and organic food are concepts which are often brought together, and many pupils in my study believed them to be synonymous. In northern Europe, a focus on local food has been motivated by concerns for "the health of agriculture" (Holt & Amilien 2007:¶ 29). Working with and supporting local agriculture was important to the four schools: in Møre og Romsdal and Rogaland the schools cooperate with with local farms and gardens, while in Oppland and Østfold the school administrators I spoke with hoped that having organic food at their school would lead to increased organic food production in their regions.

Skepticism towards organic The reasons given by the pupils for skepticism towards or lack of interest in organic food were very similar to reasons found in previous consumer studies: organic food does not always look as nice as conventionally grown food (Bissonnette & Contento 2001:75), they are satisfied with the taste and quality of the conventional food that they usually eat and therefore see no cause to change to organic (Magnusson *et al.* 2001), and they lack knowledge about organic food and agriculture (Hughner *et al.* 2007:104). The pupils and consumers in general have broad knowledge about organic food and agriculture, but their opinions and beliefs are often based on widely-held misconceptions. This points to a need for more education about organic food and farming.

5 Inspiration from environmental and nutrition education

Theories from environmental education and from food and nutrition education are relevant in discussing education about organic food and farming. Themes included taking holistic approaches, learning by experience, and informed consumption.

Holistic approaches Consistency between what is taught in the classroom and what the pupils experience in the general school setting is important so that the pupils do not receive mixed messages or find the school to be hypocritical (Higgs & McMillan 2006:39-40). The *Skolefrukt* scheme, whether organic or conventional, gives pupils a consistent message about the importance of eating fruits and vegetables: they are not only taught that fruits and vegetables are healthy, but they are given a free healthy snack every day. Consistency between environmental topics covered in class and those put into action at the school is evident at the school in Rogaland, where a "green" theme is woven into the whole school setting. Integration is also an im-

portant concept especially in the area of environmental education, since environmental topics are complex and should be studied from a variety of perspectives and disciplines (Mogensen & Mayer 2005:12-13). Topics about food and agriculture are also beginning to be integrated into various parts of the school day, helping pupils to understand the whole picture of where their food comes from.

Learning by doing Many studies have shown the importance of enriching classroom learning with activities and experiences outside the classroom; by experiencing for themselves the things which they have learned about in class, pupils learn and retain more about these topics (Hillcoat *et al.* 1995; Burke 2002; Graham *et al.* 2004; Vereecken *et al.* 2004; Mogensen & Mayer 2005; Poudel *et al.* 2005; Sandås 2005). This is important in environmental education and food and nutrition education, as well as education about organic food and farming. Pupils at the four schools had taken part in various hands-on activities such as visiting and helping at local farms and gardens, gathering food from the local forest, visiting a flour mill and so on. Pupils also helped with distributing the *Skolefrukt* or with cooking and preparing food for the school meal programmes. Through these activities, pupils build relationships with and an understanding of the food system.

Informed consumption The topics of informed consumption and decision-making are important in terms of food choices as well as in the context of environmental issues. Forming healthy food habits in childhood is important for healthy lifestyles in adulthood (Burke 2002; Roos 2002; Vereecken *et al.* 2004). Informed decision-making and forming habits are also relevant in terms of organic food consumption (Bissonette & Contento 2001). Knowledge about the different food options available is essential when making informed consumer decisions (Vermeir & Verbeke 2006). Some pupils said that they wished to learn more about organic food and some others noted that they had become increasingly interested in the topic since they began receiving organic food at school. Teaching young people about organic and sustainable food sources is likely to influence them to buy such products when they start making more of their own food purchase decisions (Løes*et al.* 2007:1). Staff members at the schools expressed similar motives for introducing organic food to their pupils. Through having organic food at their schools, they also hoped to inform parents and the school community about organic food and farming.

6 Conclusions and suggestions for future research

There are various ways in which organic food can be introduced in Norwegian schools. The *Skolefrukt* programme provides a pre-existing framework in which to introduce organic food; schools' own organic food programmes allow for more flexibility and control, but require more effort and innovation. Activities and school trips related to food and farming help pupils to learn by experience and to build relationships with the food system; involving pupils and a variety of staff members in these activities helps to integrate food themes in the school setting. Topics relating to food can be integrated into the teaching plan in various discussions relating to, for example, food transport, farming practices across the world, geography, informed decision-making, etc. This helps pupils to contextualize these topics in their daily lives and to make the topics relevant to them.

A wide range of future research can stem from this study. A similar study could be performed comparing schools with organic food with schools that do not have organic food. Schools in urban and rural areas could also be compared. In order to gain an insight into what Norwegian youth in general know and perceive about organic food could be done using a large-scale survey method. There are many ways in which organic food can be introduced in school, and more research could be done to provide suggestions and guidelines to schools hoping to introduce organic food.

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Projeto mexendo na comida

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PROJETO MEXENDO NA COMIDA

(Projekt „Das Essen Rühren“)

Por Marie Christine Lafosse-Falkenhahn

Vivemos numa era de paradoxos.
(Wir leben in einer Ära von Paradoxen)

Nunca a comunicação foi tão facilitada como nesta era da internet, mas nunca o homem foi tão solitário.(Nie wurde die Kommunikation so vereinfacht wie in dieser Zeit des Internets, aber nie war der Mensch so einsam)

Nunca o homem desenvolveu tantas armas, mas nunca se sentiu tão inseguro.(Nie hat der Mensch so viele Waffen entwickelt, aber nie hat er sich so unsicher gefühlt)

Nunca a medicina chegou a resultados tão eloqüentes sobre a longevidade, mas nunca o homem esteve tão doente. (Nie ist die Medizin zu so eloquenten Ergebnisse über die Langlebigkeit gekommen, aber der Mensch war nie so krank)

Nunca a indústria alimentícia faturou tanto e nunca o homem comeu tão mal.(Nie hat die Lebensmittelindustrie so viel Umsatz gemacht und nie hat der Mensch so schlecht gegessen)

Marie Christine Lafosse-Falkenhahn

A civilização moderna vem engordando. (Die moderne Zivilization nimmt zu)

Crianças tornam-se (Kinder werden)

- Obesas (dick)
- Alérgicas (allergisch)
- Hiperativas (hyperaktiv)
- asmáticas etc (asmathisch etc.)

„CONFORTO“ é hoje sinônimo de “ mexa-se o menos possível”

(“Komfort” ist heute ein Synonym von “bewege dich so wenig wie möglich”)

Vida moderna

(Modernes Leben)

- TV
- PC
- Carros
  (Autos)
- Entrega domiciliar
  (Hauslieferung)
- Snacks

A vida moderna excita, deprime, provoca stress, polui.
(Das moderne Leben regt auf, deprimiert, verursacht Stress, verschmutzt)

Stress + má alimentação
(Stress+ schlechte Ernährung)

O homem não sabe o que come.
(Der Mensch weißt nicht, was er isst)

Precisa de mais informações
para escolher a melhor opção de
alimentação.
**(Er braucht mehr Informationen,
um die Auswahl seiner Ernährung zu
verbessern)**

"A escola é o novo ambiente de desenvolvimento dos jovens, de promoção de saúde e prevenção de doenças"
(Die Schule ist das neue Ambiente für die Entwicklung der Jugend, die Gesundheitsförderung und die Krankheitvorsorge)

(Dr. José Outeiral, psicanalista)

Poucas escolas brasileiras preocupam-se com a alimentação dos alunos.
(Wenige brasilianische Schulen machen sich Sorgen um die Ernährung der Schüler)

Nenhuma tem um programa de Educação Alimentar.
(Keine hat ein Ernährungserziehungs-programm)

PROJETO MEXENDO
NA COMIDA
(Projekt „Das Essen Rühren“)

OBJETIVOS
(Ziele)

1. Capacitar o aluno a:
(Den Schüler befähigen:)

- aplicar na vida prática o conceito "alimentação saudável / maior capacidade de produção intelectual e física"
(im praktischen Leben das Konzept „gesunder Ernährung / grösserer intellektueller- und physischer Produktionsfähigkeit zu applizieren)
- exercitar sua responsabilidade individual sobre sua saúde através de seu comportamento alimentar
(die individuelle Verantwortung über seine Gesundheit durch sein Essverhalten auszuüben)

2. criar condições escolares para evitar a obesidade infantil e desordens alimentares
(in der Schule besondere Bedingungen zu schaffen um Adipositas und Essstörungen zu vermeiden)
3. criar a disciplina
"EDUCAÇÃO ALIMENTAR"
(das Fach „Ernährungserziehung"
zu erschaffen)

Iniciativa pioneira no Brasil
(Pionier Initiative in Brasilien)

Um programa de ensino e um centro de informações especializadas em conexão com instituições nacionais e internacionais.
(Ein Lehrprogramm und ein spezialisiertes Informationszentrum mit Anbindung an nationale und internationale Institutionen)

No programa, especialmente orientado para cada idade, temas como:

(Im Programm, mit besonderer Orientierung für jedes Alter, Themen wie)

- diferença entre fome e vontade de comer
  (Unterschied zwischen Hunger und Lust auf Essen)
- alimentos no mundo
  (Lebensmittel der Welt)
- por que comemos?
  (warum essen wir)
- utensílios de cozinha
  (Küchenutensilien)

- situações alimentares
  (Ernährungssituationen)
- alimentação em casa e fora de casa
  (Ernährung im Haus und ausser Haus)
- produção de alimentos
  (Lebensmittelproduktion)
- erros alimentares
  (Ernährungsfehler)
- heranças alimentares
  (Ernährungserbe)
- aulas práticas de culinária
  (praktischer kulinarischer Unterricht)
- riscos alimentares
  (Ernährungsrisiken)
- cultura da comida
  (Esskultur)

À tarefa de educar crianças e jovens pertence a firme postura de garantir-lhes a saúde.
(Der Auftrag Kinder und Jugendliche zu erziehen erfordert eine feste Haltung, um ihnen die Gesundheit zu garantieren)



Planejamento e organização
do restaurante e cantinas
do Colégio
(Planung und Organisierung der Restaurants und Kantinen der Schule)

Envolver toda comunidade da escola:
(Einbeziehung der gesamten Schulgemeinschaft)

- Professores
  (Lehrer)
- Pais
  (Eltern)
- funcionários
  (Angestellte)

Programar palestras e mesas redondas
(Vorträge und Rundtischgespräche organisieren)

EVENTOS
(Veranstaltungen)

- Feiras gastronômicas
  (gastronomische Messen)
- "Jovens na Cozinha"
  („Jugend in der Küche")
- Duelos culinários
  (Kulinarische Duelle)
- Outros
  (Andere)

O CENTRO DE INFORMAÇÕES produzirá

(Das Informationszentrum wird produzieren)

- material didático **(didaktisches Material)**
- fotos **(Fotos)**
- audio-visuais **(audio-visuell)**
- Filmes **(Filme)**
- Cartilhas **(Fibeln)**
- Conferências **(Konferenzen)**
- Pesquisas **(Forschungen)**
- livros **(Bücher)**

"1 em cada 4 crianças, nascidas depois do ano 2000, morrerá antes de seus pais, vítimas da desordem alimentar"

(1 von je 4 Kindern, die nach dem Jahr 2000 geboren wurden, werden vor ihren Eltern sterben, Opfer von Essstörungen)

(Center for Eating Disorders and Obesity - Yale University)

"Comer nutritivamente é hoje um aprendizado necessário"
(„Nahrhaft essen ist heute ein notwendiges Lernen")

Marie Christine Lafosse-Falkenhahn

CORE Organic

Innovative Public Organic food Procurement for Youth (iPOPY)

Abstract

The main aim of iPOPY is to identify and describe efficient ways of implementing organic food in public serving outlets for young people. Young people are the future daily food shoppers and guests for the out-of-home eating sector, and most European governments search for strategies to foster sustainable nutrition, including an increased consumption of organic food. As the youth resides longer in public institutions and eating habits are often unsatisfactory, school meals attain large public interest as a lever for change. School meal systems are the main practical cases in the project, and hindrances and promoting factors for organic food to be consumed in schools are explored in Denmark, Finland, Italy and Norway. The school meal systems in these countries are highly diverse. Whereas Finland and Italy have well developed systems with warm lunch served daily for all pupils, Denmark and Norway rely on a packed lunch brought from home. Italy and Denmark have ambitious goals for the consumption of organic food in schools, whereas Finland and Norway have not focussed much on organic food in schools so far. The project has four explorative work packages, studying policies, supply chains and certification, the young consumers' perception and learning about sustainability and organic food, and health effects of organic menus. A coordinative work package ensures project management and draws the main conclusions. More information, newsletters and publications are found at the project web site, www.ipopy.coreportal.org.

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iPOPY