The iPOPY project – a research commitment to more sustainable public food

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Abstract

The schooldays of European children and youth tend to get longer, and their eating patterns, especially during school hours, are often unsatisfactory. Healthy school food is a logic response to this situation. Organic food contributes to sustainable nutrition, and hence is an interesting starting point for healthier menus and food education. The research project "innovative Public Organic food Procurement for Youth" (iPOPY) studies efficient ways to implement organic food in public serving outlets for young people. Out of the four iPOPY funding countries, Finland and Italy serve a warm school meal daily for all pupils, whereas Denmark and Norway rely on packed lunch from home. Italy and Denmark have ambitious goals for organic food in schools, whereas Finland and Norway have not (yet). In Germany, different states have very different school meal systems, but the interest for organic food is generally high. We argue that school food served in "captive catering" such as found in Finland, financed by the public and made by organic or otherwise sustainable products, has the largest potential to support a sustainable nutrition and -development.

1. Introduction

Schools are the most important public arena for young people. In these institutions they spend most of their active time, get friends and are educated both socially and skillfully. Considerable shares of public resources are used for education (Fig. 1), and in line with the increased focus on competition in society, countries compare their costs and benefits in the educational sector and struggle to produce the most efficient and competitive workforce. With increasing focus on school efficiency in terms of learning output, e.g. by PISA tests (OECD Programme for International Student Assessment), school days tend to become longer. For instance, the average number of educational lessons per pupil per year in the primary and secondary lower schools (grades 1-10) in Norway increased from 720 in 2001-2002 to 774 in 2008-09 (Utdanningsdirektoratet 2009). Longer school days are an important argument to ensure that the pupils are properly nourished while they stay in school. A range of other arguments can be identified in favor of more and/or better school food and more public engagement in school food systems, such as to reduce obesity and malnutrition, establish healthy eating habits during childhood, and create a better social and learning environment. Within Europe, strikingly different school food systems are found, and represented in the iPOPY project. Initiatives for reforming publicly organized school meal services and improving their quality are flourishing, with successful programs e.g. in Rome (Morgan & Sonnino 2008). The EU has recently decided to implement a daily free fruit school program (EC 2008), aimed at improving the health of young people. Public food serving is utilized to achieve healthier eating and more sustainable

consumption patterns. The aim of this paper is to present the systems of school food found in the Denmark, Finland, Italy, Norway and partly Germany, and to discuss where these systems have their strengths and weaknesses to support a sustainable development and nutrition.

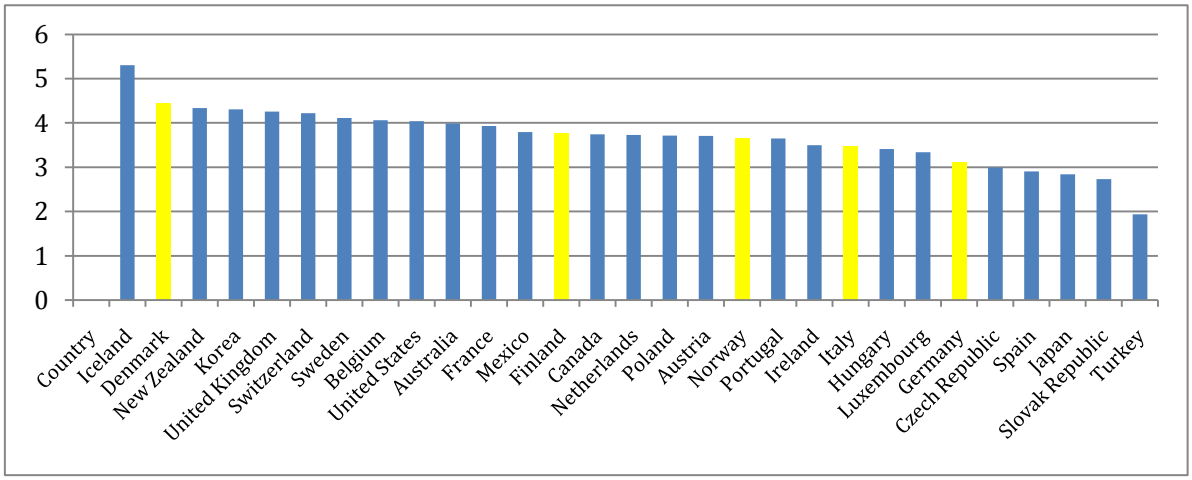

Fig. 1. Expenditure on educational institutions (primary and secondary) as a percentage of GDP (gross domestic product) in the OECD countries in 2006 (OECD 2009). Countries of special interest in iPOPY are highlighted.

2. Background

2.1 The iPOPY project

The research project "innovative Public Organic food Procurement for Youth", iPOPY (2007-2010) belongs to the European Research Area network CORE Organic I, which initiated eight pilot projects in 2007. iPOPY is one of two projects working with market research, to increase the consumption of organic food in Europe. The projects are funded by the CORE Organic I funding body network. Funding for iPOPY is raised by Denmark, Finland, Italy and Norway. The Research Council of Norway also funds the participation of German researchers, who mostly focus on the conditions in the funding countries but partly also in Germany.

The main goal of iPOPY 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. Four explorative work packages study policies, supply chains and certification, the young consumers' perception and learning about sustainability and organic food, and health effects of organic menus. Public organic food procurement for youth (POPY) is defined in iPOPY as follows: "*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." (Nölting *et al.* 2009a).

2.2 Sustainability and organic food production

In the report "Our common future", the United Nations-appointed Brundtland commission in 1987 brought forward the term of sustainable development, and defined it as a development which "meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). Since then, the terms of sustainability and sustainable development have become so mainstreamed that people now tend to use the word sustainable without mentioning the development, and it is likely impossible to find a politician not agreeing that any development should be sustainable. Hence, some argue that the term is completely worn out. However, the original ideas of the term remain important, and e.g. within agriculture, there is a battle about which production systems that deserve the ownership of sustainability. Organic farming methods are defined by law, which sustainable farming methods are not. Hence, both organic and conventional production systems may argue that they work towards sustainability, and they debate intensively about a practical definition of this term within agriculture. The term *sustainable nutrition* demonstrates the way the term sustainable is used in modern science. Consumers need simple solutions for sustainable nutrition that easily fit in their everyday life (Eberle *et al.* 2006). Organic food is only one element of combined, easily accessible offers of sustainable nutrition; other elements are fair trade, regional food, less meat, competences in cooking and healthy eating, adequate options of out-of-home-eating etc. However, as shown for sustainable agriculture, when the term sustainable nutrition is used alone, without its holistic definition, it implies a dichotomy where nutrition that is not sustainable must be considered as non-sustainable. To avoid the dichotomy-thinking, we should not forget that "sustainable" is usually meant as an efficient way of saying "sustainable development", and keep in mind that processes and efforts to achieve more sustainability is the crucial point; sustainability can never be a status quo.

Organic production is based on four central principles of health, ecology, fairness and care (IFOAM 2009), and is recognized by many European governments to support a sustainable development. For instance, the homepage of the European commission (EC) hosts a web site with the slogan: "Organic Farming: Good for nature, good for you" (EC 2009). Organic production has less negative impacts on the environment (e.g. Wivstad *et al.* 2009), and organic food may have a higher quality (e.g. Brandt & Mølgaard 2001). The introduction of organic food in catering often implies that more focus is set on healthy eating (Mikkelsen *et al.* 2006). Due to relatively high premium prices on organic meat, organic food strategies often include "less meat, more vegetables" adaptations, which are usually nutritionally sound. Danish consumers using more than 10% of their food budget for organic products spend relatively more on fruit and vegetables, and less on meat, coffee and butter (Krarup *et al.* 2008), which demonstrates a close

relation between organic eating and healthy eating. This illustrates that organic food may contribute to a sustainable development as well as a more sustainable nutrition. In chapter 4 we will discuss how different school food systems, and the implementation of organic food in these systems, contribute to this.

3. Methods

POPY is a complex phenomenon, demanding an interdisciplinary and multi-perspective research approach. In iPOPY, four explorative work packages (WPs) analyze policies, organic supply chains and certification, the young consumers' perception and participation, and health effects of organic menus. A separate WP manages the project and draws the final conclusions, based on input from all WPs. Both qualitative and quantitative research methods are used, in accordance with the various research questions. Data are collected in the four iPOPY countries Denmark, Finland, Italy and Norway, and partly also in Germany, by structured and open questionnaires, interviews, focus groups and observation. Useful information is also found in public statistics, websites and reports. Four national reports, describing school meal systems and to which extent the food is organic, were an important initial outcome (Bocchi *et al.* 2008, Hansen *et al.* 2008, Løes *et al.* 2008, Mikkola 2008). Thanks to German co-funding, even for Germany a national report has been produced (Nölting *et al.* 2009b).

Relevant cases of interest are studied in the iPOPY countries, mostly municipal school meal systems, but also a congregation, a group of military camps and a music festival. The multiple methodological approaches allow for a comparison between countries and an interdisciplinary integration of results, and contribute to generate a holistic understanding of POPY.

4. Results and discussion

4.1 Different countries – different school food systems

Strategies, structures and practices in the school food systems studied in the five studied countries vary considerably. This chapter is mainly based on the four national reports. A full meal service is offered to Italian and Finnish pupils, and is a well rooted and popular practice in these countries. In Denmark and Norway, an additional food service is complementing the dominating packed lunch brought from home. In Germany, no common system exists. Eastern former GDR-states (German Democratic Republic) tend to practice the old systems of serving meals at school, whereas western states usually have shorter schooldays and children bring a packed lunch, buy lunch at school or eat at home. Due to food culture traditions and a high awareness about environmental problems, Italy has become a pioneer in Europe to use organic and local products in school meals, whereas in Finland, both economy and lack of attention restrict the use of organic products. In most Danish and Norwegian municipalities, the only organic school food offered is subscription to milk with a premium price, and in Norway, even this is only offered in a few regions. However, some large Danish municipalities have established ambitious school

meal systems emphasizing organic food, and Norway was the first European country to implement a free fruit serving in public schools, in 2007. As in Denmark, the interest for organic products is relatively high in Germany and e.g. in Berlin, ambitious aims about organic shares in the public school meals have been set. An important structural difference among the countries is that school lunch is fully paid by tax money in Finland, whereas the meals or food items are only subsidized in the other countries.

For the purpose of iPOPY, three central scales can be identified (Fig. 2), along which each country may be placed according to how large the share of organic food is in the school food that is offered, to which extent school food is paid by the public, and to which extent food serving is arranged by the school. The variation between the school food systems in the five countries discussed here represents the total variation found within this sector, at least for European conditions.

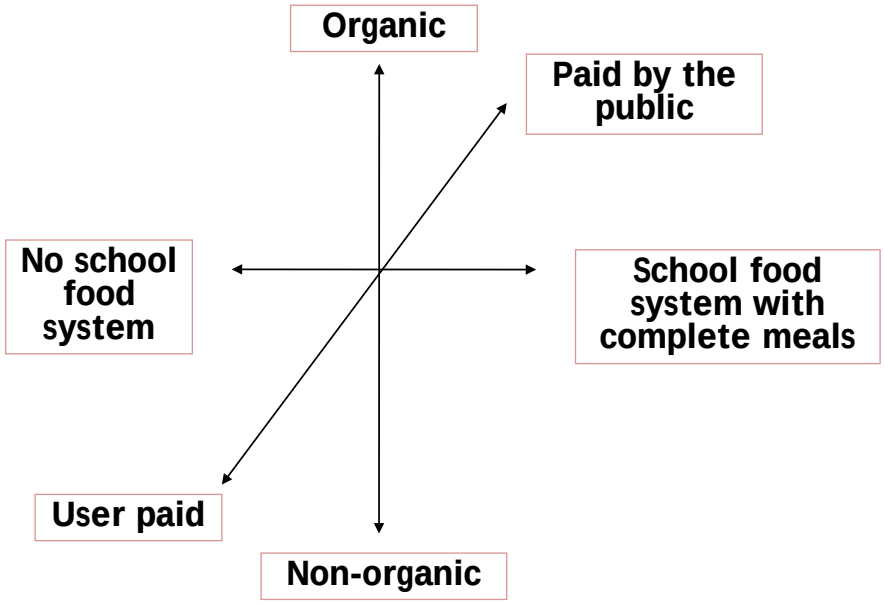

Fig. 2. Scales to differentiate between countries with respect to (organic) school food systems.

Based on the information achieved by national studies, an approximate value (1-10) has been assigned to each scale for each country, producing the picture shown in Fig. 3. With each scale,

the value was decided relatively to the country that had the lowest score; e.g. for Organic, the Norwegian value was 1 and the Italian 7. This should not be interpreted as if Italian school food has a 70 per cent organic share. If the ideal situation would be a fully organic school meal, all paid, prepared and served by the public, Finland seems to be in a good position because increasing the organic share is likely easier to achieve than to increase the public funding, e.g. in Italy.

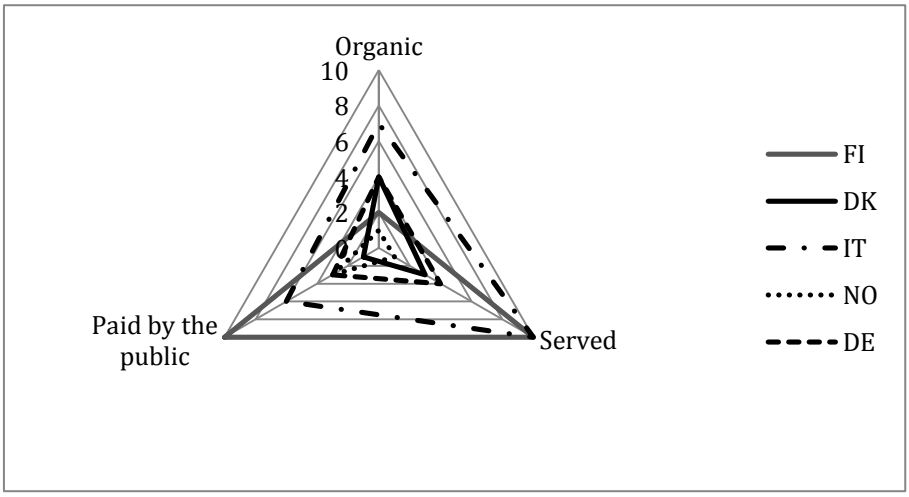

Fig. 3. Important differences between school meal systems in Denmark, Finland, Germany, Italy and Norway, illustrated by assigning approximate values (1-10) on scales as shown in Fig. 2.

Central elements for the use of organic school food have been identified as active local stakeholders, food quality requirements, management of organic supply chains, and complementing educational programs (Løes & Nölting 2009). A political decision about organic food consumption is not enough to ensure a successful consumption of organic food. Committed actors are required, as well as increased cooperation and creativity among actors along the whole supply chain from field to dining room. There are a lot of practical problems to tackle, which demand enthusiasm and go-ahead spirit. However, introduction of organic food in public settings for young people implies a good opportunity to inform and educate them about food production, quality and culture. Also the adult actors in the school system will be influenced. Integrating the organic food in a larger effort to increase the sustainability of the school, municipality or other relevant unit may take time, but in the long run it will likely be more effective than only offering the food without any education, information or other efforts to root the organic initiative among the daily users.

4.2 Strengths and weaknesses of each system to contribute to sustainability

For simplification, we will now discuss the strengths and weaknesses of system extremes. Based on the extreme points of the three dimensions shown in Fig. 2, eight systems may be identified

(Table 1), ranging from the paid by the public, organic and served, to privately paid, conventional and home-made.

Table 1. Eight theoretically possible school food systems, with indication of the iPOPY countries and Germany as examples in superscript.

	Organic		Conventional	
Paid or subsidized by the public	Served[IT]	Home-made	Served[FI, DE-Eeast]	Home-made
Privately paid	Served[DE,DK, projects]	Home-made	Served	Home-made[NO, DK, DE-West]

As explained in chapter 2, all systems with organic food should contribute to a sustainable nutrition and development. However, this view is challenged e.g. by Finnish caterers who claim that local is more sustainable than imported organic, and that conventional may in some cases be more healthy than organic e.g. due to additives of vitamin D in conventional milk (Mikkola, 2009). In line with this, Italian policy equalizes organic products and products of local origin such as PDO (protected destination of origin) and PGI (protected geographical indication) (Bocchi *et al.* 2009). This supports the concept of Eberle *et al.* (2006) that sustainable nutrition comprises more than organic food. Organic food production should aim at implementing new fields of demand to defend their status as the right and best choice for consumers wanting to support a sustainable development. Still, we will argue that organic school food will contribute significantly to a sustainable nutrition and development, especially if awareness of this is integrated in the school culture and teaching.

A “captive catering” school food system, where the choice among food items is limited, all pupils participate and eat together, and qualified persons manage the menus to ensure healthy and attractive food, implies several interesting opportunities to educate pupils about food culture, healthy eating and sustainable nutrition. The Italian approach is to focus on food culture, and pupils are treated as restaurant guests. In Finland and some German states, the pupils line up in a queue to help themselves, watched over by adults. The Italian system may be more efficient to learn manners and social behavior; however, the amount of waste produced by left-over food and the large work force required to serve makes this system less sustainable both ecologically (waste) and economically. Even if school meals bear the risk of becoming associated with boring, cheap, unhealthy and maybe even unpalatable food, we will argue that a serving that is free and aims to comprise all pupils has a much larger potential to support sustainable development than the opposite system, where people have to arrange their own school meals. However, the system should aim at reducing wastes, e.g. by letting the pupils decide themselves what food items to eat and how much. This point of view is supported by Morgan and Sonnino (2008), who also state that it is crucial to reduce unsustainable offers in the school meal situation.

Danish experiences with projects designing and distributing simple, often organic, dishes for heating in a microwave oven and selling in a school booth are mixed. Schools have been reluctant to participate in these activities because teachers consider themselves as overloaded with work already. Pupils complain about too short lunch breaks and lack of appropriate, cozy rooms to eat their food. So far, the large efforts put into the establishment of kitchens etc. have not caused much successful output on school level; only few pupils buy the food (He and Mikkelsen 2009). The best experiences seems to be achieved where kitchens, dining personnel and dining rooms are developed locally; that is, where the systems become more comparable to the Finnish and Italian "captive catering" (He and Mikkelsen 2009).

People have various incomes and family size varies, whereas daily food demands per person are about equal. To contribute to a larger social equality, school meals should be paid by the public via taxes, as in Finland. The introduction in 2007 of a free fruit daily in Norwegian schools with 8-10 grades levels has been quite successful, even if some municipalities have chosen to use the governmental funding meant for fruit to other tasks related to the schools. However, even such a simple food serving as a daily fruit demands a well planned system of delivery, storage, preferably some peeling and cutting to increase the desirability, distribution among the pupils and management of the wastes. Many people feared that free fruit would cause heaps of half-way eaten apples in corridors and school yards. However, it seems that most schools have been positive and co-operative, and managed to avoid that. Even systems such as the Danish, where food is sold in schools at a modest prize, are heavily subsidized by public funding for development, infrastructure and administration. It is likely impossible to create a system serving or offering to buy some kind of food items in schools that is 100 per cent funded by private payments.

5. Conclusion

A "captive catering" school meal system, aiming at including all pupils and school staff, paid by the public and produced from organic, local, seasonally available and otherwise sustainable products, will be the most efficient to support sustainable nutrition and –development. Coordinated and well informed efforts are required to overcome the hindrances posed by lack of funding, personnel resources, appropriate supply chains, infrastructures like school kitchens and dining rooms and not least, root the changed food system among all the involved actors. School food systems are complex and involve very many actors and stakeholders. Hence, communication, cooperation and professionalism along the whole supply and food chain are important keywords for well functioning school food systems.

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