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# Organic and conventional public food procurement for youth in Denmark - a national overview

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<b>Summary:</b> <p>This report is a mapping of the activities within public procurement of organic food for youth in Denmark, with a special focus on school meals. In Denmark, it is voluntary whether local municipalities or schools arrange school meals or not. Until lately this was also the situation for meals in daycare institutions, but in 2008 a new legislation made it mandatory for the municipalities to offer a lunch meal in all daycare institutions, though this is still mainly financed by user charge. This change in legislation received much public attention, and has been heavily debated.</p> <p>School meals in Denmark were first introduced around 1900 as a social project for children in poverty, and have since been undergoing many changes. In the 1930's the warm meal was replaced by a cold lunch. During the 1970's free meals for malnourished children was gradually replaced by food stalls, selling milk, bread and fruit. Until the beginning of the 2000's such food stalls were widely spread, and in the 1980's and 1990's it was very common that pupils were responsible for running the stalls, receiving the profit for class excursions etc. In recent years a public and political debate about school meals has again aroused, mainly arguing that the food stalls is often offering a very unhealthy selection of food, and also pointing to the fact that many pupils bring unhealthy lunch from home or from nearby shops. Hence the argument that the public should help to ensure a healthy lunch for the pupils is again beginning to manifest, though there is no consensus on how this should be done and to what extent this should be funded by the public.</p> <p>Over time, more and more schools or municipalities choose to establish school meal systems, but these vary extensively in the way they are organized, what kind of food is served, and how they are financed. This report includes an overall mapping of the different ways of organizing school meals and their dissemination.</p> <p>Organic food has also been increasingly debated in relation to public procurement for children and youth, mainly in relation to meals in daycare institutions. Organic food is used in some school meal systems especially in municipalities inspired by Agenda 21, such as the municipalities in the Green Cities cooperation, but also other municipalities such as Esbjerg, Gladsaxe and Roskilde emphasize organic food. Whether the subject of organic food is discussed and implemented depends on the local values, goals, resources and politics. Hence there are municipalities and institutions with no organic food at all, while others have an organic share of more than 90 %. This is particularly in the municipalities situated in the Greater Copenhagen area. The municipalities in the Green cities cooperation have an average share of 59 % organic in all public procurement. The number is even higher when looking exclusively at public procurement for children and youth. These cases are briefly described in the report, along with a short mapping of other municipalities using organic food in meals for daycare institutions or schools.</p> <p>The report was produced in the iPOPY project, "innovative Public Organic food Procurement for Youth". Similar reports have been produced for the other iPOPY countries; Norway, Finland and Italy.</p>			

### Sammendrag:

Denne rapport er en kortlægning af udviklingen inden for offentlig bespisning til børn og unge i Danmark, med særligt fokus på økologi og skolemad. I Danmark er det frivilligt om lokale kommuner eller skoler tilbyder skolemad eller ej. Indtil for nylig gjaldt dette også for mad i daginstitutioner, men i 2008 blev vedtaget en ny lovgivning, der gjorde det obligatorisk for kommunerne at tilbyde et frokostmåltid i alle daginstitutioner. Dette er dog stadig hovedsageligt finansieret med brugerbetaling. Denne ændring i lovgivningen fik stor offentlig opmærksomhed og har været meget debatteret.

Skolemad blev introduceret i Danmark omkring 1900 som et socialt projekt for børn i fattigdom, og har siden undergået mange ændringer. I 1930'erne blev det varme måltid erstattet af en kold frokost. I løbet af 1970'erne blev de gratis måltider til dårligt ernærede børn, gradvist erstattet af boder, der solgte mælk, brød og frugt. Indtil begyndelsen af 2000'erne var sådanne boder meget udbredte, og i 1980'erne og 1990'erne var det normalt, at eleverne var ansvarlige for at drive boderne, og fik overskuddet til klassens ekskursioner osv. I de senere år er en offentlig og politisk debat om skolemad igen opstået, hovedsageligt på baggrund af argumenter om ernæring. Der argumenteres for, at boderne ofte tilbyder et meget usundt udbud af mad, samt at mange elever medbringer usund frokost hjemmefra eller fra nærliggende butikker. Dermed er argumentet om, at det offentlige skal medvirke til at sikre en sund frokost til eleverne, igen begyndt at manifestere sig. Der er dog ikke enighed om, hvordan dette skal organiseres eller i hvilken udstrækning det skal finansieres af det offentlige.

Over tid vælger flere og flere skoler eller kommuner at etablere skolemadssystemer, men disse varierer meget i måden hvorpå de er organiserede, hvilken mad der udbydes og hvordan de finansieres. Denne rapport indeholder en overordnet kortlægning af de forskellige måder at organisere skolemad og deres udbredelse.

Økologisk mad har også i stigende omfang været debatteret i forhold til offentlige madordninger til børn og unge, hovedsageligt i relation til daginstitutioner. Økologi indgår også i nogle skolemadssystemer, særligt i kommuner der er inspireret af Agenda 21, som eksempelvis "Green Cities" kommunerne, men også andre kommuner som Esbjerg, Gladsaxe og Roskilde lægger vægt på økologi. Om økologi diskuteres og implementeres afhænger i høj grad af lokale værdier, mål, ressourcer og politikker. Derfor findes både kommuner og institutioner helt uden brug af økologi, mens andre har en økologisk andel på mere end 90 %. Dette er hovedsageligt kommunerne i Storkøbenhavn. Kommunerne i "Green Cities" samarbejdet har en gennemsnitlig økologisk andel på 59 % for al offentlig bespisning. Dette tal er højere hvis der udelukkende ses på mad til børn og unge. Disse cases beskrives kort i rapporten, sammen med en mindre kortlægning af andre kommuner, der benytter økologisk mad i madordninger til daginstitutioner og skoler.

Rapporten blev skrevet i iPOPY projektet: "innovative Public Organic food Procurement for Youth". Lignende rapporter er skrevet for de andre iPOPY lande; Norge, Finland og Italien.

Approved

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# Preface

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This report is a systematical mapping of the activities within public procurement of organic food for youth in Denmark. Comparable reports are published from the other countries participating in iPOPY project: Finland, Italy and Norway. A report in German is also available, presenting the status in Germany (Nölting et al., 2009). Preliminary versions of the national reports have been available since 2008, and have informed a comparative analysis (Nielsen et al., 2009a) as well as other papers and reports from the project.

The major focus of the national reports is school meals and the use of and potentials for organic products in this setting. Additionally, some other important settings than schools are included, such as daycare institutions. The perspective is to present the development and state of the art on organic school meals and public organic procurement for children and youth in Denmark by 2010.

A common outline was developed for the first version of the national reports in 2008. In the current versions, the outline has been slightly adapted, because of the different conditions in each country and the various ways that the national project partners have made use of the reports. In Denmark for instance, a recent change in the legislation regarding meals in daycare has made it very relevant to expand the information from these institutions.

We would like to acknowledge Hannah Schmidt for her contributions to the first version of the report in 2008, and also a great thank to Mette W. Hansen and Anne-Kristin Løes for giving comments and proofreading on the present version.

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# 1 Introduction and methodology

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Modern life influences our relation to food, the way we think of food and our priorities on food. Food is no longer a restricted source for modern western societies - one could argue the contrary. As food production represents a complexity in relation to nature, social spaces and economic structures, the food patterns of modern societies represent a major influence on sustainable development.

Public health is also affected by our attitudes towards food; attitudes that are created and developed through our daily life routines, food practices and food production and distribution structures.

The sales of organic products in Denmark have increased since 2004 and the estimated market share in 2009 was 7 % (DKK 4.9 billion).<sup>1</sup> Thereby the consumption of organic products per capita is one of the highest as compared to other European countries and the world in general. The organic production area was 6.4 % of the total farming area in 2009<sup>2</sup>. Dairy production is the largest organic sector in Denmark<sup>3</sup>.

In the spring of 2009, the Government introduced a plan called "Green Growth". This plan incorporated "The Environment and Nature Plan Denmark up to 2020", and a strategy for a green agriculture and food industry undergoing growth. The plan states that the area used for organic production should be doubled by 2020, compared to the 2007 level. This means that 15 % of the Danish farm land shall be cultivated organically in 2020<sup>4</sup>. In order to reach this goal the Danish Ministry of Food, Agriculture and Fisheries (FVM) is currently developing an Organic Policy Vision with focus on challenges and possible solutions, expected to be announced by the end of 2010<sup>5</sup>.

This report maps the background and state-of-art for public organic procurement for youth in Denmark. The report is based on information found in public reports and web sites, scientific publications, interviews with some central actors and case reports from the iPOPY project. All information sources are listed in the reference and literature list at the end of this report, except websites, which are listed in footnotes on each page, and some interviews described below.

The interviews were performed to prepare the first version of the report (Hansen et al., 2008).

Interviews were made with "flying squad" (travel team, dansk "rejsehold") employees from different geographic areas. The "flying squad" is a service provided free of charge under the Ministry of Food, Agriculture and Fisheries, that travels nationwide to lecture about health. Members of the flying squad travel to municipalities, day care facilities and schools that want to work with food and food policies, and provide advice on what a food and meal policy entails.

Interviews were also made with relevant actors from the research project Food+Lab, the non-governmental organization Organic Denmark, the companies 123-skolemad and "Diakonissens Køkken", and the municipalities Roskilde, Copenhagen and Gladsaxe. These interviews were conducted in the autumn of 2007.

Information about specific municipalities or schools has mainly been found on relevant web pages. In two municipalities where such information was not available, information was received through email correspondence with employees in the relevant administrations. In Gladsaxe, Copenhagen, Roskilde and Albertslund, the information for the present report has mainly been gathered through case reports made to analyse these municipalities in the iPOPY project.

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1 [http://www.fvm.dk/Files/Billeder/1Landbrug/oekologi/Debatdag\\_2010/Den\\_okologiske\\_markedsandel\\_i\\_Danmark\\_2000%E2%80%932009.pdf](http://www.fvm.dk/Files/Billeder/1Landbrug/oekologi/Debatdag_2010/Den_okologiske_markedsandel_i_Danmark_2000%E2%80%932009.pdf)

2 [http://www.fvm.dk/Files/Billeder/1Landbrug/oekologi/Debatdag%202010/Det\\_okologiske\\_areal\\_og\\_antal\\_bedrifter.pdf](http://www.fvm.dk/Files/Billeder/1Landbrug/oekologi/Debatdag%202010/Det_okologiske_areal_og_antal_bedrifter.pdf)

3 [http://www.fvm.dk/PDF%27er\\_engelsk.aspx?ID=36916](http://www.fvm.dk/PDF%27er_engelsk.aspx?ID=36916)

4 Agreement on "Green Growth" between the Government and The Danish People's Party June 2009. To be found at:

[http://www.oem.dk/graphics/oem/nyheder/Pressemeddelelser%202009/Gr%F8n%20V%E6kst-aftale\\_final.pdf](http://www.oem.dk/graphics/oem/nyheder/Pressemeddelelser%202009/Gr%F8n%20V%E6kst-aftale_final.pdf)

5 [http://www.fvm.dk/Oekologipolitisk\\_vision\\_2020.aspx?ID=44084](http://www.fvm.dk/Oekologipolitisk_vision_2020.aspx?ID=44084)

## **1.1 Methodological reflections**

### **Difficult to find relevant actors**

- We used the technique of “snow- balling” and found several key actors to interview. However, the network of these actors was usually rather small, showing that these actors were isolated. We did not find any single persons who could give a broad overview of the situation for school meals in general in Denmark, and concurrently on the use of organic products.

### **Lack of trustworthy statistics**

- Although the national statistics on organic production were improved in 2003, there is still no information about organic public procurement. Hence, the referred data are mainly based on qualified estimates.
- This also counts for the general statistics on public procurement. This is a general problem not only in Denmark, since such statistics are difficult to obtain because the sector is rapidly developing, many actors are involved and parameters for easy measurement are scarce.

### **Time limits**

- Public procurement is a rapidly developing and changing sector. Hence, it was difficult to find updated literature. Most of the literature we could find was actually outdated, although it was quite recently published.

### **The organic agenda**

- In the field of public procurement for youth, several agendas are at stake. The organic agenda seems to be subordinated other agendas, especially the health agenda. The discussions of organic food were only appendices to the overall discussions about school meals.

## 2 National conditions for schools and daycare

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### 2.1 Political organisation

The parliamentary system of Denmark builds on the principle of election by proportional representation, with elections at least every four years. Most governments of Denmark have been minority Governments (Folketinget 2009).

Actors representing the Government in the field of public food procurement for youth are the Ministry of Food, Agriculture and Fisheries (FVM), and the Ministry of Social Affairs (SM). SM was established in February 2010, and was formerly a part of the Ministry of the Interior and Social Affairs.

The FVM has made some initiatives to promote school meals and fruit schemes. Among these is the creation of websites ([www.altomkost.dk](http://www.altomkost.dk), [www.madklassen.dk](http://www.madklassen.dk), [www.frugtkvarter.dk](http://www.frugtkvarter.dk)) with a common agenda: Education and information to the children and parents, recipes, teaching material and often a game or a test to make it more attractive. Another initiative is the flying squad from the campaign “Diet in a nutshell” (in Danish: Alt om kost), visiting schools and daycare institutions to give consultancy about nutrition and practical advice on how to set up a meal system. The flying squad has employees in 10 geographically spread cities in Denmark. In 2004 they visited close to 600 schools and day-care-centers (Christensen et al., 2005).

In 2007 a pilot project was initiated under the FVM. This project allocated DKK 22 million (approx 3 million euro) to provide a free school meal for 12 500 children in 38 schools for two months, and for an evaluation. The purpose was to support a development towards the establishment of healthy school meals and to achieve experience and create knowledge about different types of meal systems. As a part of the evaluation the project **EVIUS** was initiated in 2009. EVIUS evaluated the different school meal systems and their effect on the students’ health, well-being and learning ability. Furthermore it examined how school meal systems were established and embedded (Mikkelsen et al., 2010).

### 2.2 Regions and municipalities

Denmark is divided into five regions and 98 municipalities (Danish: ”kommuner”). This structure was established in the administrative municipality-reform, which became effective on January 1, 2007. This reform replaced the 13 counties (Danish: amter) with the five current regions. The former 270 municipalities were consolidated into 98 larger units, most of which have at least 20,000 inhabitants. The reason was to give the new municipalities greater financial and professional sustainability. Many of the responsibilities of the former counties were taken over by the enlarged municipalities. Included in this is the responsibility for health promotion, which has motivated many municipalities to make their own health policy. In some municipalities the school food is included as a part of this policy towards healthier citizens.



Figure 1. The 98 municipalities in Denmark.



## 2.3 Public schools

Danish children attend school in August in the year they achieve the age of 6 years. The Danish public school, "Folkeskolen" is a municipal primary and lower secondary school and free of charge. It covers the classes 0-10, approximately the age of 6-16. About 80 % of all Danish children in this age attend public schools<sup>6</sup>, and there were 1529 municipal schools in 2009<sup>7</sup> with an average number of 377 pupils in 2008/2009<sup>8</sup>.

On the national level the schools are regulated by the public school act<sup>9</sup> and by executive orders from the Danish Ministry of Education. This regards common goals and which subjects to be taught, but also nationally standardised tests, documentation and target management. Such tasks have increased in recent years<sup>10</sup>. The municipalities are responsible for the running of the schools (ensure that all children enter school or other qualified teaching, goals and framework). The headmaster of each school is responsible for the administrative and pedagogical management.

Since decades the Danish schools have been defined as comprehensive ("enhedsskole"), implying that all pupils follow the same education in a long period (10 years) in order to receive equal education and equal possibilities for further education. This reflects a cultural and political consensus which is characterized by common, national goals, guiding curricula and methodological freedom at the local school. According to legal principles the public schools have a relatively decentralised decision process under the given frameworks. At the local school level this means that a board of pupils, parents and employees decide the local policies under the observance of the overall legal conditions. The net operational expenditure per pupil was DKK 64.600 in 2009<sup>11</sup> (EUR 8.671).

## 2.4 Organisation of childcare institutions and schools

It is very common for Danish children to be in childcare from the age of approximately 1 year.

For children 0-2 years, the most disseminated childcare is family day care, where 3-4 children are taken care of by a child minder in her/his private home. Family day care is administered by the municipalities. The child minder does not have to be educated, but must be approved by the municipality. Food is provided by the child minder.

Nurseries, either public or private, are also widespread. A nursery is an institution for children aged 0-2 years, with educated pedagogues, own buildings and (often) playgrounds tailored to fit this age. Public nurseries are run by 47 of the 98 municipalities and there are a total of 193 public nurseries in Denmark by 2009 and 118 private or independent nurseries<sup>12</sup>.

In recent years, age-integrated daycare institutions have become more frequent. These combine nursery and kindergarten in one institution, but often with separate personnel and rooms for children in the age of 0-2 and 3-6 years. In 2009 there were 1885 public age-integrated institutions for children from 0-6 years<sup>13</sup>.

For 3-5 years old children, the most disseminated childcare is private or public kindergartens and age-integrated institutions. By 2009 there were in total 1794 kindergartens out of which 1206 were public<sup>14</sup>. These are spread over 91 municipalities, whereas the remaining 7 municipalities only offer age-integrated institutions for children aged 3-6.

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6 <http://www.uvm.dk/-/media/Files/Stat/Folkeskolen/PDF09/090914%20elevtal.ashx>

7 [http://eng.uvm.dk/-/media/Files/Stat/Tvaergaaende/PDF10/100629\\_TaL\\_der\\_taler\\_engelsk.ashx](http://eng.uvm.dk/-/media/Files/Stat/Tvaergaaende/PDF10/100629_TaL_der_taler_engelsk.ashx)

8 <http://uvm.dk/service/Statistik/Folkeskolen%20og%20frie%20skoler/Elever/Elevtal.aspx>

9 <https://www.retsinformation.dk/Forms/R0710.aspx?id=125580>

10 <http://www.folkeskolen.dk/ObjectShow.aspx?ObjectId=41182>

11 <http://www.uvm.dk/Uddannelse/Folkeskolen/Om%20folkeskolen/Fakta.aspx>

12 <http://www.statistikbanken.dk/statbank5a/default.asp?w=1408>

13 <http://www.statistikbanken.dk/statbank5a/default.asp?w=1408>

14 <http://www.statistikbanken.dk/statbank5a/default.asp?w=1408>

After attaining school, most children 6-9 years attend the “Skolefritidsordning” (SFO, after school care). The SFO is an integrated part of the public schools, and the headmaster of the school is also responsible for the overall administration and pedagogical strategies of the SFO. As an alternative a few municipalities offer Fritidshjem (after-school centre) which is not administratively connected to the schools. In 2009 there were 1482 SFO’s and 124 public after-school centres<sup>15</sup>.

Children aged 10-13 may also attend the SFO and after-school centres, but it is most common that children in this age attend free time clubs. These are also connected to the schools, with adult personnel to look after and activate the children, but children have more self-determination and it is not controlled on a daily basis whether children attend the club or not.

#### *Childcare statistics 2009*

Age in years	0-2	3-5	6-9	10-13
Percentage of children in childcare	66 %	97 %	84 %	11 %
Number of children in different types of childcare	Family day care: 62394	Public kindergartens: 60784	SFO: 165935	SFO: 26234
	Public nurseries: 7992	Private kindergartens: 2909	Public after school centres: 10740	Public free time clubs: 47132
	Private nurseries: 3996	Public age-integrated institutions: 82133		
	Public age-integrated institutions: 41884			

Source: <http://www.statistikbanken.dk/statbank5a/default.asp?w=1408>

## 2.5 Public procurement and regulation of food in daycare and schools

The Danish Food and Drink Federation (DI Fødevarer) has estimated the Danish market for municipal food service to children, youth and elderly to DKK 5-8 billion<sup>16</sup> (EUR: 670 million-1.07 billion). Of this about 790 million (EUR 106 million) is calculated to be the present market share for school food, while the market for food in daycare is estimated to DKK 1,2 billion (EUR 161 million). The market for school food is estimated to a possible increase to 2.5 billion (EUR 335 million)<sup>17</sup>. At present the market is dominated by public companies such as central kitchens owned by the municipalities, but outsourcing to private companies might be more frequent in the future.

### 2.5.1 Recent change in legislation for daycare

Until recently, it was up to the municipalities to decide to offer a meal in the public daycare institutions. Meals were often paid by the parents as an additional fee to the payment for the care, but could also be paid by the municipality. In December 2008, the meal serving was made obligatory with the enactment of the law no. 1148 of 03/12/2008, as a replacement of the former § 17 in the “Day-Care Facilities Act” (dagtilbudsloven, Law no. 501 of 06/06/2007). All municipalities should provide lunch for all children in public nurseries and kindergartens, starting from January 2010. The meals should fulfill the official Danish nutritional recommendations.

<sup>15</sup> <http://www.statistikbanken.dk/statbank5a/default.asp?w=1408>

<sup>16</sup> <http://foedevarer.di.dk/SiteCollectionDocuments/Foreningssites/foedevarer.di.dk/Downloadboks/DI%20Indsig%20-%20K%3%A6mpe%20markeds%20potentiale%20i%20kommunal%20madservice%20til%20b%3%B8rn%20og%20C3%A6ldre%20-%20SEP%202009.pdf>

<sup>17</sup> <http://foedevarer.di.dk/SiteCollectionDocuments/Foreningssites/foedevarer.di.dk/Downloadboks/DI%20Indsig%20-%20K%3%A6mpe%20markeds%20potentiale%20i%20kommunal%20madservice%20til%20b%3%B8rn%20og%20C3%A6ldre%20-%20SEP%202009.pdf>

The legislation was met with massive critique from municipalities, daycare institutions and parents, especially with respect to the very short timeframe for development and implementation of a meal system, as well as a concern about the quality of publicly served meals and the possible increase in payment<sup>18</sup>. Many parents claimed that a packed lunch prepared at home would provide their children with a better lunch. The issue of freedom of choice was also raised, and many expressed that it was their privilege as parents to decide what their children should eat in daycare<sup>19</sup>. In this context some parents were also concerned about the opportunity to choose organic, which might not be included in the public lunch offer<sup>20</sup>.

As a consequence of the critique it was decided in late 2009 to postpone the deadline for the implementation of meal systems until January 2011 (Law no. 1098 of 30/11/2009 §2). In January 2010, an even more radical change was suggested<sup>21</sup>, which makes it possible for the individual daycare institutions to choose whether they will participate in the municipal meal system or not, on the basis of a majority decision in the parent board. At the same time the deadline was pushed once again, so that the municipalities have to offer a lunch meal system only from August 2011. The decision to participate in the municipal meal system or not shall be made at least every second year, and no more than once a year. In practice, these changes imply that the municipalities are obliged to offer a lunch meal system for all public daycare institutions. However, the institutions can choose whether they want to be part of this offer or not, on an annual basis. Obviously, this creates much insecurity in the municipal administrations about the interest for public meal systems, causing organisational and economical difficulties since it will never be possible to make long term calculations on the demand. This has led to new critique from the municipalities<sup>22</sup>. The changes were enacted in the National Parliament (Folketinget) on June 4, 2010.

In December 2009, 74 municipalities expected to offer a lunch meal system in all or some selected childcare institutions during 2010<sup>23</sup>. It is unknown whether these are newly started meal systems as a consequence of the new legislation, or systems that have been running for a longer period

The many changes in legislation and the vivid debate have caused a lot of attention to the day-care area in Denmark, and it has likely contributed to push the focus of the municipalities into this area on the expense of developing school food systems.

## 2.5.2 Food procurement in public schools (6 to 15 years)

According to the Danish Health Administration (Sundhedsstyrelsen 2000) two thirds of all Danish public and private elementary schools had permanent food booths or canteens in 2000. This number covers a broad range of food systems, from a simple booth in the hall selling a very limited selection of bottled drinks, buns, fruit/vegetables and snacks to systems serving full meals cooked at the school. In 2007, 72% of the municipal schools had a meal system offering school lunch for sale, such as salads, sandwiches, toasts etc or even warm meals (Sabinsky, 2007). However, the utilization of the system is often quite low.

### 2.5.2.1 Milk and fruit schemes

Milk systems are widely disseminated in the Danish public schools. 97% of all schools have a milk system and approximately 25% have a fruit and vegetable system, whereas breakfast was only provided in 10% of the schools (Christensen & Hansen, 2007). Breakfast systems typically consist of oatmeal, corn flakes, yoghurt or buns offered to pupils attending school prior to the first lecture. The food is usually paid by the users.

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<sup>18</sup> <http://politiken.dk/indland/article721296.ece>

<sup>19</sup> <http://politiken.dk/indland/article817508.ece>, for examples of discussions on blogs, see: <http://www.facebook.com/group.php?gid=39256968814&v=wall>, <http://blog-dyn.tv2.dk/elros/entry336031.html>

<sup>20</sup> <http://politiken.dk/indland/article720278.ece>, <http://www.facebook.com/okobarn.nu>

<sup>21</sup> <http://www.ism.dk/data/Dokumentertilnyheder/2010/aftaletekst.pdf>

<sup>22</sup> [http://www.kl.dk/ImageVault/Images/id\\_41941/ImageVaultHandler.aspx](http://www.kl.dk/ImageVault/Images/id_41941/ImageVaultHandler.aspx)

<sup>23</sup> <http://www.sm.dk/Nyheder/Sider/Vis%20Nyhed.aspx?NewsItem=420>

Vending machines providing canned drinks were only available in a minority of the schools, whereas ice water machines were available in about one out of four schools (Christensen & Hansen, 2007). It is up to the individual school to establish or enter arrangements such as milk- and fruit and vegetable systems. The Danish Dairy Board (Mejeriforeningen) offers a national milk system called "Mejeriernes Skolemælksordning" - the dairy companies' school milk system, which 69 % of the schools have entered.<sup>24</sup> It is possible to choose organic milk. Mejeriernes Skolemælksordning is a subscription paid by the users, but the system is subsidized by the European Union with 18,15 EUR per 100 kg<sup>25</sup>. Other milk systems can receive a similar support. This support has been running for at least 30 years<sup>26</sup>. In Denmark only low fat products receive support.

By 2010, 48.9 % of the school milk consumed in Denmark is organic<sup>27</sup>.

Despite the fact that fruit and vegetables are offered at many schools, the sales of vegetables are generally very small. The most popular food products at the Danish schools are bread dishes such as pizza, 'sausage buns', sandwiches and buns (Christensen & Hansen, 2007).

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24 <http://www.skolemaelk.com/skolemaelk/ommejeriernesskolemaelksordning/>

25 [http://europa.eu/legislation\\_summaries/agriculture/agricultural\\_products\\_markets/l11092\\_da.htm](http://europa.eu/legislation_summaries/agriculture/agricultural_products_markets/l11092_da.htm)

26 [http://www.bmj.com/cgi/content/extract/337/jul15\\_1/a829](http://www.bmj.com/cgi/content/extract/337/jul15_1/a829)

27 [http://www.foodculture.dk/2010/14/Ugens\\_graf.aspx](http://www.foodculture.dk/2010/14/Ugens_graf.aspx)

## 3 Organic food in daycare and schools - how much?

Little statistical data are available on organic food in institutions. Statistic Denmark does not collect data about the use of organic foods in catering systems or institutions. The latest available data were collected by Organic Denmark, about sales in 2008 (Organic Denmark & Promar, 2008).

This estimates the sales of organic products in Danish institutions to 10 % of the total turnover, which is about DKK 120 mill. (EUR 16 mill.). The relatively large number is partly a result of the Copenhagen institutions, which have an organic share of more than 85 % (see later sections for further details).

In educational institutions, the organic share of the total food sales was estimated to 8 % in 2008, which is about DKK 70 mill (EUR 9.3 mill.). This number is mainly a result of the milk subscription schemes, of which half is organic.

The organic share of total food sales in public food service was estimated to 3 % in 2008, which is about DKK 460 mill (EUR 61.7 mill.).

### 3.1 Public organic labeling and certification in large scale kitchens

In January 2009 a new organic state controlled label system for large scale kitchens called “spisemærket” (The Eating Label) where introduced. The label symbol is the same as the “Ø-mærke” (the official Danish label for organic certification), and comes in three colors: Bronze, silver and gold. Each colour represents the use of a different amount of organic ingredients (in weight or cost).



Figure 2. The Danish labeling system for food serving, building on the Danish national organic label, which is a red “Ø”. In Danish, organic is “Økologisk”. Source: [http://www.oekologisk-spisemaerke.dk/Information\\_in\\_english\\_s33.html](http://www.oekologisk-spisemaerke.dk/Information_in_english_s33.html)

The label was created in order to make it possible for kitchens to market and prove their use of organic ingredients despite this might not be a 100 % organic kitchen. The labels can be used by restaurants, canteens or kitchens in schools, daycare institutions etc.

By May 2010, 1 school and 4 daycare institutions were certified with the new label, and these have all achieved the gold version<sup>28</sup>. One restaurant has achieved gold and another has achieved the bronze version, 5 canteens have achieved silver, while one care home has achieved silver. In the category of café, cafeteria, inn and take-away, 4 labels have been given (one gold, one silver and two bronze).

The low use of the labels can be due to the fact that it is still quite new and might be unknown. Another discussion is the attractiveness of the bronze and silver labels. For some institutions or restaurants the actual percentage of organic products might not be something to market if you want to give an impression of an organic profile. But compared to other categories, the use of the label in

28 <http://www.oekologisk-spisemaerke.dk/map.php?do=showListe&typeld=4>

institutions for children is relatively high, which might be a sign of higher interest in organic food for children than for adults.

## 4 Food in schools

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### 4.1 The history of food in schools

The history of school meals in Denmark take its beginning around 1880 when it first started to gain attention as a way of helping children in poverty. In 1902 the debate resulted in a law stating that municipalities had the option to subsidize the provision of free meals for school children from December to March. In this way, the first school meals were organized for social reasons and in the beginning the service was primarily in the large cities. In the beginning only warm meals were served but in the 1930's some Danish municipalities adopted the Norwegian "Oslo lunch", which was based on new knowledge about nourishment needs. This type of lunch consisted of milk, vegetables, fruit and full grain bread (Benn 1996) and eventually became the most common model for Danish lunch in general. In the 1950's, municipalities were obliged to provide meals for malnourished children, but during the 1960's many municipalities ceased to provide school meals. In the 1970's a school meal debate arose again. It was critically discussed whether free meals were necessary and in many schools, food stalls were set up, allowing students to buy milk, bread and fruit.

Throughout the 1980's and 1990's, school meal systems vanished. Most schools had food stalls, selling side dishes such as fruit and bread. Often, the students were responsible for running the stalls, taking turn among the highest classes, and received the profit to use for class excursions etc (Benn, 1996).

In the absence of school meals such as found e.g. in Sweden, the home-brought packed lunch has a central position in Danish school food. However, the preparation of packed lunches is time consuming, and children may think that the packed lunches are boring and unpalatable after several hours without cooling. Danish schools usually have no facilities for eating the home-brought food and in 2000 only 7% of all Danish schools were able to offer a refrigerator in each classroom, however, the number increases to 53% when accessible refrigerators, e.g. in a nearby kitchen, was estimated (Sundhedsstyrelsen, 2000).

### 4.2 Organisation of different types of lunch meal systems

There are quite many types of meal systems in the Danish public schools. Most of them only serve as an addition to the packed lunch. Many pupils bring their lunch from home most days of the week, and buy food at the school a few days a week.

**The most common meal systems are:**

- Small booth: Pupils prepare and sell the food/drinks. It is not possible to find statistics for the distribution of this model, but it is very widespread.
- School canteen without kitchen, with food delivered from a kitchen not located at the school. The school/municipality cooperates with an external local, regional or national level supplier. This system is used in approximately 63 % of the schools that have a meal system offering school lunch (Sabinsky, 2007).
- School canteen with kitchen: serving food cooked at the school, by employees or pupils. This system is used at approximately 18 % of the schools with a meal system (Sabinsky, 2007).

#### 4.2.1 Organised by school or municipality

School meal systems can be arranged by the municipality or by the individual school. Systems arranged by individual schools are often challenged by a lack of funding (and other resources). There is often no public support to establish or maintain such school meal systems, and the schools usually do not have the needed resources to organise a meal system that is deeply rooted in the school structure or succeeds to obtain a feeling of ownership among the school personnel or students. The foundation for most school meal systems in Denmark is that the users pay for the food, and have a free choice when

buying it. This implies that it is difficult to plan and establish optimal facilities for cooking and eating because the demand is difficult to foresee. It has shown to be difficult to implement pedagogical perspectives in the meals, and to find the resources for involvement of pupils and school staff. The flying squad employees interviewed for this report mentioned that the success of a certain meal system in many schools depends on one or few “fiery souls” - a teacher, parent, or canteen employee - who makes a personal effort to accomplish a meal system of high quality in spite of lacking resources. In line with this problem, the school food evaluation project EVIUS recommends that the responsibilities for a school meal system should be placed in a team of relevant actors, and also recommends cooperation between school and municipal actors (Brinck et al., 2010).

In 2000 The Danish National Board of Health made a questionnaire survey in 1500 Danish schools which showed that the most important reasons why schools did not install food stalls and canteens were unsuitable buildings, economic limitations and lack of political interest within the municipality (Sundhedsstyrelsen, 2000). Another relevant problem is the absence of suitable dining halls. Only 10% of the schools can offer the pupils a place to eat their food outside the classrooms.

Municipally organised systems may face fewer challenges with the funding, but these systems often experience great challenges to become embedded in the local school structure. This is described by Colquhoun (2005) as a general challenge in health promotion projects established from outside the school, because of too fixed pre-consumptions of problems and solutions, and a lack of understanding of the local culture. Lack of ownership among employees and students was shown by Andersen et al. (2010). The EVIUS project recommends that relevant actors (pupils, parents, school staff) should become involved already during the phase of formulating the goals and the organisation of the school meal system (Brinck et al., 2010).

#### ***4.2.2 External suppliers or preparation at schools***

Due to the lack of established canteen facilities and the lack of resources to employ canteen staff, many municipalities / schools choose to get the food delivered from an external supplier, such as institutional kitchens, or traditional catering companies, or even supermarkets, butchers and bakers, delivering sandwiches and salads etc. In recent years, private companies specialized to deliver school meals have been established, e.g. Frydenholm, 123skolemad.dk, godskolemad.dk, skolekantinen.dk, and even a few organic companies specialized in organic school meals e.g. Frydenholm, Diakonissen. However, these only operate on a local/regional basis, and Frydenholm stopped their production of school meals in 2009.

Some suppliers deliver a complete meal system ready to eat, whereas others deliver semi cooked meals to be finally prepared at the school.

In some cases the meals are sold on a day-to-day basis in a canteen at the school, in other cases the meals have been preordered and paid over the Internet by each user.

A study by Bruselius-Jensen (2007) shows that schools, with internal preparation of food, have a more well-developed and integrated food culture, than those schools that receive food from an external supplier.



A few municipalities or schools have given the school food a high priority and chosen to establish kitchens and hire canteen employees to cook the food.

#### ***Two examples of meal systems***

*In the municipality of Kerteminde the school meals are prepared in a kitchen on a nursing home, by citizens with flexible jobs for people with a reduced ability to work. The food is packed in lunch boxes and transported to the schools where they are handed out to the students that have ordered a meal. The students order meals using an order form each month (<http://www.skolemad-nu.dk/svar/Kerteminde.doc>).*

*In the municipality of Gladsaxe the food is prepared at each school. There is one educated canteen employee, often with a professional bachelor's degree in cooking, and one assistant on each school, to purchase of ingredients, plan, cook and serve the meals. Pupils may volunteer to help with the final preparation and sales. The municipality has made a handbook for the canteen employees with guidelines and inspiration on how to make healthy food that the students want to eat.*

*Gladsaxe municipality has chosen to invest in school food as a strategy to support the health and educational environment of their young inhabitants. Further, they want to help the children to establish good eating habits, and to respect and enjoy the food. They believe that the pupil's interest in the food will grow if they know the person cooking it. The municipal budget for 2010 also states that the school canteens should enhance their use of organic products to at least 25 % by 2012 (<http://www.gladsaxe.dk/Default.aspx?ID=46892>).*

### **4.2.3 Strategies for embedding school food**

There are different degrees of pupil involvement in the different school food concepts, ranging from the role of merely consumers, to full involvement in the food preparation. The most common kind of involvement is easy preparation tasks such as making sandwiches, heating food and participation in the sales.

Many studies show that involving the users is valuable and positive (Vogt-Nielsen et al., 2010; Bruselius-Jensen, 2007), but it can be a difficult task for the schools to accomplish if they are not supported with extra resources.

Our travel-team informants explained that schools often find it challenging to find the resources for an employee to lead the kitchen when pupils are involved in the preparation, since this takes extra time and pedagogical abilities. Furthermore, most pupils have no skills in cooking and cleaning, which makes it even more resource demanding to involve them (Hansen, 2010; Sundhedsstyrelsen, 1999). Some schools have experienced that pupils in charge of sales may cheat by giving away free food to their friends to an extent where it causes problems with the financial accounts. The required control by adult staff may be costly.

### **4.2.4 Economic models in school food**

Denmark does not have a national school food program today as many other countries like Sweden, Finland, USA and others. School meal systems in Denmark are financed by the municipality, the school, and the users. The user payments seldom cover all the costs related to serve a meal or maintain a school booth. There is no national financial support, except the support given in 2007-2009 to 35 schools for 40 days of free school lunch in order to kick-start the school lunch system on schools that did not have any lunch offers<sup>29</sup>. The support was given from the state and was only given to cover

<sup>29</sup> <http://ferv.fvm.dk/Skolemad.aspx?ID=36475>

direct food expenses, not to establish canteens. The idea was to achieve experiences with different kinds of meal systems that could be useful by establishment of further systems in other schools. It is optional for the municipalities and schools to give financial support to a school meal system.

Less than 1/3 of the Danish municipalities gave any kind of financial support to the school meal systems in 2007, while more than half of the schools with school meal systems choose to support these financially (Sabinsky, 2007). Financial support is most commonly given by covering the costs for establishment, maintenance<sup>30</sup> or both, while the cost for ingredients are paid by the consumers (parents/students).

A survey from 2007 showed that more than half of the adults found a reasonable price for a school meal to be less than DKK 15 (EUR 2) and only 11 % thought that a price higher than DKK 20 (EUR 2.68) was reasonable (Food Culture, 2007). Another report (Vogt-Nielsen 2010) also showed that most adults find prices as low as DKK 14-15 (2 €) to be reasonable to pay for a school meal. The report also showed that almost 2 /3 of the pupils stop buying school meals if the price exceeds DKK 20 (EUR 2.68). This amount is not enough to cover the full costs for producing a significant meal, and therefore this could be an argument for supporting the school meal systems to increase the share of children using the lunch offer, which is currently low.

### 4.3 Four different models of school meals

Arguments supporting school meals in Denmark are concentrated around a few specific aims of interest. This has led to the identification of four different types of school meal systems, with different values embedded in the system, leading to different ways of organisation. In reality these are often mixed, but they can serve as an analytical tool to distinguish between primary goals and ways of organisation. The four types of school meal projects described below builds upon the findings in the EVIUS project (Brinck et al., 2010), and are supported by other studies (Sundhedsstyrelsen, 1999).

#### 4.3.1 A service project

Schools often experience a request from parents to give children access to buy food at school as a replacement of or supplement to the homemade lunchbox. Many schools, municipalities and parents find it important that children are offered some kind of healthy food choice when not bringing lunch from home. School meals are then seen as a service to busy families. However, the school does often not wish to spend resources on this. In such cases, the school meal systems are organised with a minimum of involvement by school and pupils, most often by choosing an external supplier offering a full concept.

#### 4.3.2 A health project

One of the most dominating arguments in support of school meal systems is the need to overcome the increasing problem of obesity amongst children and youth. Furthermore, healthy food is also being connected to the pupils' ability to learn. Children are believed to gain higher concentration skills when they are offered healthy meals as opposed to buying unhealthy alternatives or not eating at all.

School meal systems developed with this argument as a main leading force usually have some kind of educational approach, trying to inform the students about the importance of healthy eating, combined with a mainly healthy selection of products. The school is typically involved, but many tasks can also be managed by a supplier. For example, the school meal company 1-2-3 Skolemad offers teaching materials in connection to the school meals.

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<sup>30</sup> Salary for employees, maintenance of the equipment, administration etc.

### *4.3.3 A social project*

A school meal system can be established to support the social intercourse on the school. In such cases, the school meal has to involve pupils and teachers already by establishment to make it a shared project and achieve a high degree of ownership.

A "social project"-school meal concept may also have the purpose to provide a healthy meal to marginalized children. In such contexts it is important to organise the school meals in a way that captures the needs of these children with respect to the systems of ordering and paying, and by offering a selection of food that is desirable for this target group.

### *4.3.4 A pedagogic project*

School meals can be utilized educationally. Actors advocating such projects argue that by involving the pupils in the preparation, their consciousness about food will be strengthened. Focus is not only on the health related aspects of food, but also the cultural, ethical and aesthetic values, sometimes including a focus on sustainability and production.

School meals as a pedagogic project will have to involve students and teachers on a profound level. This can be done by ensuring coherence between lessons and school meal system, so that they support each other, and by integrating the school meals in the teaching by involving the students in planning, preparation, sale and cleaning.

Most of the school meal projects evaluated in the EVIUS project were categorized as service projects (Brinck et al., 2010). Hence, the actual Danish government approach to school meals seems to be mainly built on the user-paid and free choice model, rather than as an integrated part of the school tasks. The school food model differs from the day-care food initiative where the first legislation was without any possible free choice. However, this "captive catering" model caused heavy debate and the initiative was reformulated in several steps (delays, more user involvement and flexibility etc) as described above.

# 5 Organic lunch meal systems

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## 5.1 The history of organic food in catering, institutions and schools

Expanding production and consumption of organic food are important strategies for reducing environmental consequences of general food production. A number of governments in Europe as well as the EU Commission have developed Action Plans and established goals and supportive measures for converting conventionally farmed areas to organic, and measures to support marketing and distribution (Znaor, 2001). The distribution strategies initially focused on the retail sector, but in recent years the catering market has received increased interest. Professional consumers and purchasers in the catering sector in the West-European countries represent between 25% and 40% of the market for food (Hamann, 2002), and this market is supposed to expand. The major reasons for this are the growths in private catering, in the number of elderly people and in eating out of home (Sundstrøm, 2003).

A starting point for bringing organic food on the agenda in many Danish municipalities was the implementation of a subsidy for organic food in public institutions. The government at that time was a coalition between the Social Liberal Party and the Danish Social Democrats. The 'agreement of understanding' of 5.3 € mill was negotiated by the government and the Socialist party and the Red green Party in November 1996. The idea behind the subsidy was in line with the Second (Danish) Action Plan for promoting organic agriculture (Strukturudvalget, 1995). In this plan the industrial kitchens and public purchases were presented as one of several key areas to develop the Danish organic food sector. In connection to the implementation of the water-environment plan II (Danmarks Miljøundersøgelser 2003) another agreement was made in 2002 of € mill 1.3 to support organic production by public procurement. The money was paid in 2003, and afterwards the plan stopped. It was only possible for public caterers and kitchens to apply for 50% of the food costs, so the municipality had to finance the remaining costs (Niras 2004).

Between 1996 and 2001, 47 projects of public organic procurement - mainly rooted in different municipalities - were supported by the FVM with a total funding of 50 mill DKK (6,7 mill €). The initial projects focused on smaller institutions such as day-care, while the later projects also included larger institutional kitchens.

Altogether, this public support had a significant impact on the development of the organic market in Denmark. New concepts were introduced, e.g. in employment where titles such as "conversion-consultant" were introduced and kitchen staff could participate in "organic-conversion"-courses. Many of the conversion-consultants are still involved in the development of the organic market. More important, an almost *uniform* understanding of a successful implementation of organic foods was established, although most of the projects later faded out and stopped using organic foods.

Another important tool to increase public procurement of organic food is a bilateral agreement between the municipal authorities and the government, called "Grønne indkøb" ('Green Purchases'). The agreement deals with environmental and energy issues concerning purchases in small municipalities and counties, and the parties have agreed to work for the accomplishment of an environmental and energy conscious purchase policy. The point is that the institutions during the purchase phase should take environmental and energy concerns into consideration on the same level as for example price and quality. Some municipalities include organic food as criteria for environmentally conscious purchase, e.g. Fredericia and Albertslund (Nielsen et al., 2009b).

### 5.1.1 Barriers for introducing organic food in public procurement for youth

The use of organic ingredients in Danish school meal systems is not very disseminated. In general the debate about school meals is characterized by a discussion about the food and health, and the environmental issues connected to the food supply are not in focus. Our flying squad informants have

experienced that in those schools where the use of organic ingredients is discussed, it is usually the parents who put the issue on the agenda. In some cases, the municipalities mention organic ingredients in the municipal nutrition policies or in environmental strategies, often linked to an “Agenda 21”-strategy. Such policies often suggest that institutions use organic basic ingredients, but our informants expressed that this is often not put into practice.

Schools may have many reasons for not using organic ingredients. The main arguments received from our informants were firstly, that schools lack resources. The schools have many challenges with teaching and administration, therefore implementing and running conventional meal systems is already a difficult task. Further, organic certification entails a lot of administrative tasks, which the schools cannot cope with. Suppliers of organic ingredients may be difficult to find, and the economy is a large barrier, since organic ingredients are more expensive than conventional.

Additionally, lacking knowledge about how to plan organic menus, and unstable and incomplete deliveries and assortments, were mentioned. The latter however, has been improved during recent years, as the market for organic products has grown.

The economic barriers for introducing organic ingredients seem to be stronger in school meals than in daycare, since the school meals are most often sold on a day to day basis. This means that the pupils have a very large and direct influence on what can be sold and at what price. Since organic is often not an argument that enhances the pupil's willingness to buy, the expense of selling organic products has to be covered elsewhere.

Only when the municipality is the principle originator of the school meal system, it seems to be possible to use large shares of organic ingredients. This is due to the fact that the municipality can make demands that the schools have to follow. Besides, the municipalities often support the organic school meals financially, and by offering education and information to the institution and the kitchen staff. This can be supportive on a practical level, but can also help to raise commitment and positive attitudes towards the use of organic ingredients.

## 5.2 Dissemination of organic products in public procurement for youth

### 5.2.1 Green Cities

One of the initiatives playing a significant role in increasing the use of organic products in Danish public procurement is the “Dogme- 2000” project. Dogme 2000 was initiated in 2000 as a co-operation between the municipalities **Albertslund**, **Ballerup** and **Copenhagen**, all at Zealand. This cooperation was expanded with **Fredericia**, **Herning** and later **Kolding** (municipalities in other regions) and **Malmö** (in Sweden). The cooperation was led by a steering committee consisting of politicians and public servants from the Dogme municipalities.

The municipalities agreed on three dogmas:

- The environmental “footprint” of the municipalities should be measured
- The municipalities should set up an action plan for improvement of the environment (*Agenda 21*)
- The environmental work should be anchored locally.

As a sub-point to the second dogma it was clarified that the public sector should act as a driving force in the conversion towards sustainability, and this included an organic share of at least 75 % of the public food procurement<sup>31</sup>.

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<sup>31</sup> [http://www.miljokommunerne.dk/t2w\\_794.asp](http://www.miljokommunerne.dk/t2w_794.asp)

In January 2009 the cooperation changed its name to “Green Cities” and was expanded with the municipality of **Allerød**. At the same time the three dogmas was replaced with 10 areas of sustainability<sup>32</sup> and 16 common goals attached to these areas, in a binding agreement. The participating municipalities' effort is to be revised every year. A municipality can be forced to leave the cooperation if the steering committee assesses that the municipality does not work seriously to comply with the agreement. The goal towards 75 % organic (in kg) was kept as one of the 16 common goals and should be reached in 2012<sup>33</sup>.

In order to achieve the organic share of 75 % the municipalities have established a working group on organic procurement. Among their tasks is to ensure the exchange of knowledge and experience, to ensure an annual net based measurement of the use of conventional and organic ingredients in all public institutions, to ensure that the statistical data is comparable among the municipalities, and to provide information about the progress<sup>34</sup>.

So far the 75 % share has only been accomplished by Albertslund, who begun using organic food already in 1995. The green City municipalities on average bought 59 % organic in 2009. However the percentage is higher when looking exclusively at institutions for children (daycare and kindergartens) in 2007<sup>35</sup>, for the municipalities where specific information is available: Fredericia 63 %, Ballerup 75 %, Albertslund 94-97 %, Herning 45 % and Copenhagen - 85 % in daycare and 75 % in kindergartens.

Hence the Green Cities clearly can be seen as front-runners in context of POP.

## 5.2.2 Daycare

The use of organic products in daycare institutions is more disseminated than in schools. As a consequence of the new legislation (section 2.3) many municipalities are now developing a meal system for daycare. About 1/3 of the municipalities have mentioned organic ingredients in their nutrition policy, but only a few municipalities have declared specific goals.

### 5.2.2.1 Danish municipalities with aims of organic food in daycare

There are no reports or individuals who can give a complete overview of which municipalities use or set goals to use organic food in daycare. Below is listed all municipalities with specific goals on the use of organic food that we could find, based on internet search and correspondence with relevant actors<sup>36</sup>.

**Aalborg** has set a goal to reach 30 % organic ingredients by 2015 in all public institutions. This is concluded in the municipality's “strategy for sustainability 2008-2011”, and the argument for organic procurement is hence rooted in an environmental context<sup>37</sup>.

**Esbjerg** municipality has a long term goal to reach 80 % organic in the meal systems of institutions for children 0-3 years (800 children) (Esbjerg Kommune 2002). This was decided as a part of the municipal Agenda 21 strategy in 2000. The project “Green Institution Esbjerg - organic food” (Grøn Institution Esbjerg - økologisk kost) was initiated in the same year with economic support from the Danish Food Industry Agency. The goal was reached in 2009 with an average organic percentage of 83 % in institutions with a kitchen<sup>38</sup>. A consistent and thorough education of the kitchen staff has been a central element of the project. The choice of a supplier who could deliver the necessary products has also been an important factor for the success. Esbjerg now aims at expanding this strategy into the kindergartens (3-6 years).

<sup>32</sup> Earth, groundwater, air, climate, nature, noise, chemicals, waste, planning and embeddedness  
<sup>33</sup> [http://www.miljokommunerne.dk/Billeder/Samarbejdsaftaler/samarbejdsaftale\\_2010\\_dk.pdf](http://www.miljokommunerne.dk/Billeder/Samarbejdsaftaler/samarbejdsaftale_2010_dk.pdf)

<sup>34</sup> [http://www.miljokommunerne.dk/t2w\\_794.asp](http://www.miljokommunerne.dk/t2w_794.asp)

<sup>35</sup> [http://www.miljokommunerne.dk/t2w\\_616.asp](http://www.miljokommunerne.dk/t2w_616.asp)

<sup>36</sup> Organic Denmark, travel team employees and researchers.

<sup>37</sup> [http://www.aalborgkommune.dk/om\\_kommunen/baeredygtig\\_udvikling/documents/dok%20nr%202008-174266%20-%20b%C3%A6redygtighedsstrategi%202008-11%28endelig%20udgave%29.pdf](http://www.aalborgkommune.dk/om_kommunen/baeredygtig_udvikling/documents/dok%20nr%202008-174266%20-%20b%C3%A6redygtighedsstrategi%202008-11%28endelig%20udgave%29.pdf)

<sup>38</sup> Presented by Bodil Ankjær Nielsen, Klimachef (climate manager) Esbjerg Kommune. Organic-congress 2009.

**Frederiksberg** began a new meal system for daycare institutions in January 2010, aiming at a share of 75 % organic from the beginning<sup>39</sup>. Most of the municipality's institutions are preparing food in the institution and a small number receives readymade meals.

**Køge** has recently started a new municipal meal system and has a goal of 50 % organic<sup>40</sup>. 18 institutions receive meals from the private company "Fru Hansens Kælder" and 31 institutions produce the food themselves<sup>41</sup>. The use of organic products has been a subject in the local "Agenda 21" committee and they have looked to the municipality of Ishøj for inspiration on how to accomplish the conversion.

**Hillerød**: Some daycare institutions in the municipality have had a meal system for years, and these have had an organic share of approximately 75 %<sup>42</sup>. As a consequence of the new legislation the municipality started to develop a meal system for all institutions. Food for the nurseries is produced in the institutions, whereas the kindergartens receive food from a newly established municipal production kitchen. Hillerød has a goal to include as much organic as possible, but there is no specific percentage<sup>43</sup>.

**Ishøj** have implemented a goal to serve 95 % organic meals in day care and schools in the end of 2010 in the municipal principals for nutrition for children 0-16 years.<sup>44</sup>

**Odense** has an environmental policy that states that all food served in public institutions should be a 100 % organic in 2025, and for institutions for children this should be reached by 2015.<sup>45</sup>

**Gladsaxe** does not have a policy for a specific percentage, but they do have a goal to use as much organic as economically possible.<sup>46</sup> In 2005, 44 % of the daycare institutions bought between 75 and 99 % organic food<sup>47</sup> and the municipality seeks to increase this through educating the canteen personnel.

**Roskilde** does also state in their nutrition policy for schools and day care institutions that the main part of the served food shall be organic<sup>48</sup>.

**Århus** also mentions organic food in their nutrition policy for children in daycare, but they do not have an exact goal for use in percentage. Instead they claim that "*organically grown ingredients are to be preferred for the sake of the children's health and the environment*"<sup>49</sup> (translated from Danish).

### 5.2.3 Municipalities with substantial organic meal shares in schools

Different municipalities vary significantly when it comes to how they emphasize the use of organic food products in school meals. Gradually, the subject of organic food is taken up in the public debate, as expressed by our informant from 123skolemad who stated that this (conventional) company is experiencing an increased request for organic products. However, compared to concerns about ensuring *healthy* food for children, concerns for the environment takes up very little space in both the public and political debate.

Amongst the most comprehensive municipally organised, organic meal systems is the large city of Copenhagen, which will be presented here in somewhat more detail.

39 <http://www.frederiksberg.dk/OmKommunen/Nyheder/Udbud/NyeUdbud/2009/4/-/media/E368A9B44E664D229737BC9D117E183B.ashx>

40 <http://www.koege.dk/edoc/dagsordenpublicering/aabendagsorden/k%C3%B8ge%20byr%C3%A5d/24-06-2009%2017.00.00/referat/26-06-2009%2015.10.43/1349788.PDF>

41 <http://www.koege.dk/da-DK/Service-til-dig/Boern-unge-og-familie/Dagtilbud-0-6-aar/Madordninger/Pressemeddelelse%20om%20madordning>

42 [http://www.hillerod.dk/upload/boern\\_familie\\_kultur/dagtilbud\\_boern/pdf/politisk%20beslutning%20madordninger.pdf](http://www.hillerod.dk/upload/boern_familie_kultur/dagtilbud_boern/pdf/politisk%20beslutning%20madordninger.pdf)

43 [http://www.hillerod.dk/sitecore/content/Subsites/koekkenet/For\\_boern/Maden.aspx](http://www.hillerod.dk/sitecore/content/Subsites/koekkenet/For_boern/Maden.aspx)

44 Ishøj kommune 2009 ernæringsprincipper

45 [http://www.odense.dk/Topmenu/Erhverv/Nyheder/-/media/BKF/BKF%20fra%20roden/Miljoepolitik/Miljoepolitik\\_bog\\_web%20pdf.ashx](http://www.odense.dk/Topmenu/Erhverv/Nyheder/-/media/BKF/BKF%20fra%20roden/Miljoepolitik/Miljoepolitik_bog_web%20pdf.ashx)

46 «Mad til børnehavebørn» <http://www.gladsaxe.dk/Default.aspx?ID=42572>

47 <http://www.gladsaxe.dk/Default.aspx?ID=10411>

48 [http://www.roskilde.dk/everest/tmp/080410082752/Den\\_overordnede\\_kostpolitik.pdf](http://www.roskilde.dk/everest/tmp/080410082752/Den_overordnede_kostpolitik.pdf)

49 <http://www.aarhuskommune.dk/-/media/Dokumenter/MBU/VST/Kost/Aarhus-Kommune-Kostpolitik-2004.ashx>

### The Copenhagen school food

Since the beginning of the nineties, Copenhagen has experienced with the use of organic food, and today the municipality has one of the most ambitious agendas in this area. In 2006, the public food serving in Copenhagen achieved an organic share of 45 %, rising to 57 % in 2009.

As a part of the efforts to increase the public procurement of organic food, the KØSS project was established in 2002 (Københavns Sunde Skolemad/Healthy school food of Copenhagen). The project was later replaced by the "EAT" project, also aiming at healthy and organic school food. As a part of the EAT project, three "food schools" were introduced in 2009. These schools have their own production kitchen, and work as food laboratories, where new ideas can be tested. Besides these three food-schools, 44 schools are by May 2010 provided with food using a special concept developed in the EAT project (<http://www.kk.dk/eat.aspx>). The remaining schools will be included in the food service within 2011. The former project "KØSS" ("Copenhagen Organic and Healthy School Meals" later changed to "Copenhagen Healthy School Meals") aimed at increasing sustainable public consumption and advancing healthy eating habits for school children. However, the project faced serious challenges, in spite of significant resources used for developing the food system. In 2006, a recently established food centre, "Madhuset" (The Copenhagen Food-house) strongly criticized the KØSS project for being unhealthy, having a lack of culinary experiences, and being a waste of money. Afterwards the food centre started to improve the school food concept, inspired by what is called a "Godfather"-group of five celebrities (chefs, food-critics etc) declaring the so-called Godfather-manifest, in which Ten Commandments were made<sup>50</sup>:

1. The food should be fresh, simple and 75 % organic
2. Meat, fish and chicken should be produced under high animal welfare standards
3. Changes in seasons should be reflected in menus
4. The food should be tasty, varied, up-to-date and reflect culture
5. Unite taste with modern knowledge on public health and welfare
6. The food need to have a high nutritional value
7. The people involved in food production need to understand food quality
8. The brand need to be modern and comfortable for the pupils (cf. the proposed label: EAT)
9. The eating environment need to be comfortable and
10. The pupils selling the food need an incentive to sell the food to their friends

One of the changes from KØSS to EAT was that EAT operated with three different food "ages" and matching meals. Another change was that EAT developed "lounges" for the oldest classes in order to create an appealing "eating-place" for the age group usually being most difficult to involve in consuming healthy school food.

Although there have been a political consensus on the use of organic food in Copenhagen, the whole schools food project is still fragile. The main challenge is an extremely low number of sold meals. The latest figure says 9 % of the pupils buy school food each day or almost each day<sup>51</sup>.

For many years the municipality of **Roskilde** had a contract with an organic supplier dealing with the delivery of processed and unprocessed organic food for all the municipal schools. This cooperation ended in 2009 when the supplier stopped the production of school meals.

At this time the municipal administration was very busy organising the daycare meal system, due to the new legislation. Due to this conjunction of events, the school meal situation was unresolved and by May 2010 it is still unknown how the system will develop.

For the municipalities participating in the **Green Cities** cooperation, the goal of 75 % organic of all public procurement does also apply to the school meals. But opposite the situation in daycare institutions, many schools do not have a meal system, apart from small stalls selling snacks and buns.

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<sup>50</sup> <http://www.kbhmadhus.dk/files/pdf/fadmani.pdf>

<sup>51</sup> <http://www.kbhmadhus.dk/files/pdf/salg23.pdf>



### 5.2.3.1 Best-practice examples of schools with substantial organic shares

Vejlebroskolen in the municipality of Ishøj serves food with at least 90 % organic ingredients. The meal system is financially supported by the school and municipality, and only the cost for ingredients are financed by the users. To support the conversion to organic the canteen employees attended a course that helped them to operate an organic canteen and further they participated in meetings with other canteen employees to exchange experience. They keep the costs down by reducing waste, baking their own bread and using the ingredients of the season<sup>52</sup>.

Vridsløselille skole in the municipality of Albertslund is the only school in Denmark who has received the organic-gold certification “spisemærket”. The school has an organic share of approximately 96 %. The school canteen is an employment project and the employees are hired by the local job centre. To keep costs down the menu is mainly vegetarian and is created in connection to the current supply of organic products.<sup>53</sup>

In the municipality of Gladsaxe it is stated in the Agenda 21 strategy that school canteens should offer healthy, organic food, and the municipality has also used much resources to provide all schools with canteens, with educated staff. The cost for organic ingredients should amount to at least 15 % of the food budget for the school canteens in 2010, and 25% by 2012<sup>54</sup>. To support this strategy, one school has been chosen to initiate the process; hence the rest of the canteens will be able to draw upon experience from this test school. The municipality prepares material for inspiration and information, such as recipes<sup>55</sup>.

The municipality of Esbjerg is also working to introduce organic food in school meals. In 2006 15 % of the ingredients in school meals were organic<sup>56</sup>.

## 5.3 Major intermediaries and projects occupied with organic lunches and meals

### Organic Denmark

Organic Denmark is a non-profit association with about 45 employees involved in marketing and foreign trade, PR, lobbying, and advising on organic farming. They represent 800 organic farmers, 100 organic companies and consumers<sup>57</sup>.

Organic Denmark has in recent years had a great focus on organic procurement for youth and particularly the subject of school meals has been in focus. The association makes arrangements directed towards a broad range of actors (children, teachers, parents, scientists, kitchen workers and so forth). For example they have made a webpage (<http://okologiiskolen.dk>) giving very detailed information and advise on how to get started when initiating an organic school meal system, and how to increase the use of organic ingredients. Further they have arranged study trips to «best-practise» schools, and participated in the producing of teaching materials directed towards different groups of age. They also offer personal consultancy to the school canteens in the initial phase.

### Private companies

In connection with an increased interest for lunch meal systems in public schools, a number of smaller or larger catering firms have appeared. They offer different types of “ready made” meal systems and may potentially play a significant role in the distribution of organic food products if they choose to focus on this. Today most of these companies do not include organic products. In the further text, we briefly describe companies offering organic products and with experiences in organic food.

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<sup>52</sup> <http://www.okologiiskolen.dk/Skolemad725.asp>

<sup>53</sup> <http://www.e-pages.dk/albertslundposten/125/2>

<sup>54</sup> <http://www.gladsaxe.dk/Default.aspx?ID=46892>

<sup>55</sup> <http://gladsaxe.dk/Default.aspx?ID=10411>

<sup>57</sup> <http://organicdenmark.dk/About+Organic+Denmark.10.aspx>

**Frydenholm A/S:** Frydenholm A/S is an organic wholesaler established in 1996. They deliver ingredients and products as well as semi-prepared and ready made meals. Until the end of 2009, Frydenholm delivered organic food to the schools in Roskilde. Currently, they deliver ingredients and / or meals to kindergartens and other institutions, in total about a 1000 institutions<sup>58</sup>. They are certified with the official Danish organic label and show priority to Danish and particularly locally produced ingredients.<sup>59</sup>

**123-skolemad:** One of the largest catering firms specialised in school meals is “123-skolemad” established in 2005. The company delivers school meals to approximately 40 schools. They mainly use non-organic products, but have begun to include some organic food products in the menu, mainly snacks and drinks. The company furthermore has some focus on spreading information about organic food and agriculture. On their website this is expressed in a sub menu for children focusing on this subject.<sup>60</sup>

The company recently expanded with a meal concept for daycare institutions called “Fru Hansens Kælder” (litteratly translated: Mrs Hansen's Basement - from a children's rhyme). In this concept at least 50 % of the food is organic: dairy and break feast products is always organic, and so are most of the bread, fruit and vegetables<sup>61</sup>.

There are a few 100 % organic suppliers, mainly of raw or processed ingredients. Here we will mention:

**Solhjulet:** This wholesaler was founded in 1972, focusing on local (Danish) and / or quality products, and with an aim of reducing pollution from transportation. This company has a special focus on biodynamic products. They deliver to all VAT registered companies, among which are canteens and central kitchens.<sup>62</sup>

**Biogan:** Founded in 1996, delivers to specialty stores and catering (primarily canteens, institutions, folk schools and co-housing schemes. Wholesalers specialised in processed food and dry goods.<sup>63</sup>

**Flint & Hvid's:** Founded in the early 1990's. Wholesaler to kitchens, institutions, restaurants, cafes, shops and companies. In 2005 the company expanded with canteen management and catering for special arrangements such as weddings.<sup>64</sup>

**Grøn Fokus:** Wholesaler to restaurants, canteens and large-scale kitchens. Prioritises local producers and producers that are 100 % organic.<sup>65</sup>

**ØGT:** Delivers to institutions and specialised in supporting institutions in the process of conversion to 100 % organic cooking. Gives high priority to Danish supply, for example they deliver Danish meat solely (including cold meat for sandwiches etc.), and Danish fruit/vegetables when in season, but also carry out their own imports. ØGT has started an organic fruit scheme for Danish schools where pupils / parents can order one or two pieces of organic fruit each day. When possible this will be from Danish fruit growers and will be delivered to the school once or twice a week.<sup>66</sup>

**Tingstrøm:** Specialised in delivering meals for canteens. Approximately 50 % organic ingredients used in the meals. Currently delivering to 14 canteens in Copenhagen.<sup>67</sup>

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58 [http://www.frydenholm.dk/info/Om\\_Frydenholm\\_114l1.aspx](http://www.frydenholm.dk/info/Om_Frydenholm_114l1.aspx)

59 [http://www.frydenholm.dk/info/Om\\_Frydenholm\\_114l1.aspx](http://www.frydenholm.dk/info/Om_Frydenholm_114l1.aspx)

60 <http://www.123skolemad.dk/page.php?id=91>

61 <http://www.fruhansenskaelder.dk/page.php?id=226>

62 <http://solhjulet.dk/kunden.asp?undermenu=kunden>

63 <http://www.biogan.dk/?id=28&parent=28>

64 <http://www.flintoghvids.dk/>

65 <http://www.gronfokus.dk/index.php?id=69&menuid=201>

66 <http://www.okobyen.nu/bib/skole.asp>

67 <http://tingstrom.dk/maden/>

## 6 Conclusion

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The report shows that the share of organic food in public procurement for youth in Denmark varies extensively. Hence there are municipalities and institutions with no organic food at all, while others have an organic share of more than 90 %. Particularly the larger municipalities and the municipalities in the Greater Copenhagen area, have experiences with organic food, or set up ambitious goals in policies regarding food in schools and daycare.

In this report we have had a focus on procurement, and it is clear that there are many agendas with influence on how meal systems are organized. This is due to the fact that there is no overall national legislation or guidelines on what kind of meal systems should be implemented in daycare or schools. Hence the food culture, the political and pedagogical ideals about what and how should be taught and the specific challenges and resources in each school, institution and municipality play a significant role in determining the local meal system. Hence some meal systems have a goal to merely provide services to busy families; others include a health dimension, while others even include pedagogical perspectives and / or deals with social inequality in health.

Whether the subject of organic food is implemented in the meal system depends on the local values, goals, resources and politics. Consultants, scientists and politicians play a great role in introducing the subject of organic food, and particularly consultants play a significant part in guiding the local kitchens through a conversion to more organic food. Hence, the discussion about meal systems for youth are increasingly dealing with the subject of organic food, and in recent years more organic food have been implemented in meal systems, particularly in daycare, but also in some school meal systems.

The development towards more organic food in public procurement for youth has happened over time, through a close interaction between food professionals, municipalities, state, interest groups, scientists and organic stakeholders.

## 7 List of references

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- Andersen, S., Burkal, A., Olsen, M.F. & Mikkelsen, B.E. (2010). *Pupils' Conception of Organic Foods and Healthy Eating in School*. Bioforsk Report Vol. 5 No. 37 2010. Bioforsk Organic Food and Farming, Tingvoll, Norway.
- Benn, J. (1996). *Kost i skolen - skolekost I, En undersøgelse af forhold, tilbud og muligheder i forbindelse med skolernes spisepause i dag. Fra fattige børns bespisning til sundhedspædagogiske projekter*. Danmarks Lærerhøjskole, København.
- Brinck, N., Kristensen, N.H. & Hansen, M.W. (2010). *Forankring af skolemadsordninger*. EVIUS Projektrapport DP4. Aalborg Universitet.
- Bruselius-Jensen, M. (2007). "Når klokken er halv tolv har vi spisning." - Danske skoleelevers oplevelse af mad og måltider i skoler med madordninger. Fødevareinstituttet, Afdelingen for Ernæring, DTU.
- Christensen, L.M., Boeskov, S. & Christensen, S.M. (2005). *Evaluering af "Alt om kost"-rejseholdet*. Danmarks Fødevareforskning. Afdeling for Ernæring.
- Christensen, L.M. & Hansen, K. S. (2007). *Kvalitet af skolefrokost - mad- og drikkevarerudbud i danske grundskoler*. Fødevareinstituttet, Afdeling for ernæring.
- Colquhoun, D. (2005). Complexity and the Health Promoting School. In: Clift, S. and Jensen, B.B. (2005): *The Health Promoting school: Internal Advances in theory, evaluation and practice*. Danish University of Education Press, Copenhagen.
- Danmarks Miljøundersøgelser (2003), *Vandmiljøplan II - slutevaluering*, ISBN:87-7772-776-2.
- Esbjerg Kommune (2002). *Grøn Institution Esbjerg - økologisk kost. Redegørelse for projektets forløb og resultater*. Teknik og Miljø.
- Folketinget (2009). *The Parliamentary System Of Denmark*. Localised at: [http://www.ft.dk/~media/Pdf\\_materiale/Pdf\\_publicationer/English/The%20Parliamentary%20System%20of%20Denmark\\_A4\\_Opslag\\_24s%20pdf.ashx](http://www.ft.dk/~media/Pdf_materiale/Pdf_publicationer/English/The%20Parliamentary%20System%20of%20Denmark_A4_Opslag_24s%20pdf.ashx)
- FoodCulture (2007). *Folket kræver madordninger*. FoodCulture, vol. 22:07.
- Hamann, K. (2002). *Danish catering market analysis*. Institute for Agroindustrial Development IFAU.
- Hansen, S.R. (2010). *Skolemad - dannelse eller bespisning?*, Thesis (Speciale), Roskilde University Centre (RUC), January 2010. Available at [http://rudar.ruc.dk/bitstream/1800/4888/1/Speciale\\_f%C3%A6rdigt.pdf](http://rudar.ruc.dk/bitstream/1800/4888/1/Speciale_f%C3%A6rdigt.pdf)
- Hansen, S. R., Schmidt, H.W., Nielsen, T. & Kristensen, N.H. (2008). *Organic and conventional public food procurement for youth in Denmark*. Bioforsk Report Vol. 3 No. 40 2008. Bioforsk Organic Food and Farming, Tingvoll, Norway.
- Mikkelsen, B. E. & Husby, S. (eds.) (2010). *Projekt EVIUS - sammenfattende rapport*. Aalborg Universitet. ISBN: 978-87-92650-05-4.
- Nielsen, T., Nölting, B., Kristensen, N.H. & Løes A.-K. (2009)a *A comparative study of the implementation of organic food in school meal systems in four European countries*. Bioforsk Report Vol. 4 No. 145 2009. Bioforsk Organic Food and Farming, Tingvoll, Norway.
- Nielsen, T., Kristensen, N.H. & Mikkelsen, B.E. (2009)b. *Ecological modernisation in the public catering sector*. In: Nölting, B. (ed): *Providing organic school food for youths in Europe - Policy strategies, certification and supply chain management in Denmark, Finland, Italy and Norway*. Proceedings of the iPOP seminar held at the BioFach February 20th 2009 in Nuremberg, Germany, p 14-18. CORE Organic Project Series Report, ICROFS, Tjele, Denmark.

- Niras (2004) Direktoratet for FødevarerErhverv, *Evaluering af tilskudsordningen Grønne Indkøb - Økologiske fødevarer i offentlige institutioner og storkøkkener*. Juni 2004.
- Nölting, B., Reimann,S. & Strassner,C. (2009). *Bio-Schulverpflegung in Deutschland. Ein erster Überblick*. [Organic school meal provision in Germany. A first overview.] ZTG discussion paper, no.30/2009, Zentrum Technik und Gesellschaft, TU Berlin.
- Organic Denmark & Promar (2008). Økoandele indenfor den offentlige sektor. Working note recieved from Organic Denmark.
- Sabinsky, M.S. (2007). *Statusundersøgelse om madordninger og mad og bevægelsespolitikker i dagtilbud og på skoler*. Fødevarerinstitutionet DTU, Afdeling for Ernæring, Oktober 2007.
- Strukturdirektoratet (1995). *Action Plan for promoting organic agriculture*. Strukturdirektoratet.
- Sundhedsstyrelsen (1999). *Mad og måltider som en del af skolens hverdag*. København.
- Sundhedsstyrelsen (2000). *Mad og måltider i grundskoler og fritidsinstitutioner - hvordan ser det ud? - en landsdækkende spørgeskemaundersøgelse af vilkår og rammer for mad og måltider*. <http://www.sst.dk/publ/Publ2000/spiserapport/kap3.html>
- Sundstrøm, J. (2003) *Delfi storhushållsguiden Delfi Marknadspartner*.
- Vogt-Nielsen, K., Malmgren, M., Larsen, I., Nissen, S.K. & Wahl-Brink, D. (2010). *Det ville være godt med en hotdog om fredagen! - Undersøgelse af den frivillige skolemadsordning blandt elever i 7. klasse og deres forældre*. Casa 2010.
- Znaor, D. (2001). *Overview of development of organic food and farming in the CEE - elements for a regional action plan*. In: Proceedings : Organic Food and Farming -Towards Partnership and Action in Europe. Copenhagen 10-11 May 2001. The Danish Ministry of Food, Agriculture and Fisheries. Available at: <http://www.organic-europe.net/archive/danish-ministry-2001-proceedings-copenhagen.pdf>
- Publications in preparation**
- Hansen, M.W. *Organic foods in Gladsaxe municipality -a case report from the iPOPY project*.
- Nielsen, T. *Organic foods in Copenhagen municipality - a case report from the iPOPY project*.
- Hansen, S.R., Andersen, B. Wertdher, M.N. Laursen, R.P. & Pedersen, D. *Hvad får skolemadsordninger til at overleve - en analyse af 4 skolers erfaringer med drift og brug af mad på skolen*. EVIUS report.

## 8 Further reading with a general approach to sustainable/organic public procurement

---

### Organic foods in foodservice and catering in general

Mikkelsen, B., Kristensen, N.H. og Nielsen, T.: Innovation processes in large-scale public foodservice - Case findings from implementation of organic foods in a Danish county, in *Journal of Foodservice Business Research*, Vol.8, Nummer 2, 2005.

Anonymous: Evaluation of the funding programme Green purchase - organic foods in public institutions and foodservice, [in Danish] *Evaluering af tilskudsordningen "Grønne Indkøb - Økologiske fødevarer i offentlige institutioner og storkøkkener"*

Niraz Consultancy. Prepared on request of Directorate for Food and Agribusiness/ Direktoratet for Fødevarerhverv, Denmark, 2004.

Økologisk Landsforening (2006): *Fra holdning til handling - erfaringer med professionel omlægning til økologi i storkøkkenet.* ([www.ecocater.dk](http://www.ecocater.dk))

Elle, J.C. *The Plate of the Future Challenges for the organic conversion of public sector catering in Denmark, Food: new desires, new concerns and new forms of consumption IRSA 2004, July 25-28, Trondheim, Norway, 2004.*

Mikkelsen, B.E. Kristensen, N.H. & Nielsen, T.: *Organic foods in catering - the Nordic perspective,* Veterinary & Food Administration, Denmark, 2002.

Mikkelsen, B.E. *Organic foods in food service - the Scandinavian experience* Bent Egberg Mikkelsen, *Proceedings from the IFOAM 2000 Conference Basel 28.-31. August 2000.*

### Evaluation of experiences made during conversion from conventional to organic foods

Kristensen, N.H.; Nielsen, T.; Mikkelsen, B.E.: *Anvendelse af økologiske produkter i kommuner og amter,* Fødevarerdirektoratet, 2002.

Nielsen, T.; Kristensen, N.H.; Mikkelsen, B.E.: *Bio-Lebensmittel in der öffentlichen Gemeinschaftsverpflegung.,* *Proceedings from Wissenschaftstagung zum Ökologische Landbau, 2003 februar, Wien.*

Mikkelsen, B.E.: *The Nordic network for organic foods in catering - background and status.* In Mikkelsen, B.E (editor), *Proceedings from Organic Foods in Nordic Catering - a multidisciplinary challenge 28-29 September 2001 in Copenhagen.* Veterinary & Food Administration Denmark, 2002.

Mikkelsen, B.E. (editor): *Proceedings from Organic Foods in Nordic Catering - a multidisciplinary challenge 28-29 September 2001 in Copenhagen.* Veterinary & Food Administration, Denmark, 2002

Mikkelsen, B.E. Kristensen, N.H. & Nielsen, T.: *Food service as a sales channel for organic food - results from a study in the Nordic Countries,* In *proceedings from IFOAM World Conference, Victoria, BC, Canada, 21-24 august, 2002.*

### Learning aspects and school meals - consequences of malnutrition

Lennernäs, M.; *Uden mad og drikke dur helten ikke.* In: Høegh, B. D. (eds.). *Læring kræver næring - Inspiration til udvikling af skolernes spisepauser og elevernes madkultur.* Mejeriforeningen, 2003.

Det Fede Topmøde; *Skolefrokost skal sikre bedre indlæring.* [Online]. Available at: [www.detfedetopmode.dk/flora/user/webfiles/63/Gruppe2\\_Foodlab\\_01.pdf](http://www.detfedetopmode.dk/flora/user/webfiles/63/Gruppe2_Foodlab_01.pdf) [Accessed 08-11-2007], 2005.

Sabinsky, M. S. *Statusundersøgelse om madordninger og mad og bevægelsespolitikker i dagtilbud og på skoler,* Fødevarerinstitutionen DTU. Afdeling for Ernæring, Oktober 2007

Madsen, A. L. (2007). Læring kræver godt brændstof. In: Skolebørn - Udgivet af forældreorganisationen Skole og samfund. Vol. 9

#### **School meals and health aspects**

Rasmussen, S.W. og Mikkelsen, B.E.: Is an organic diet healthier? [in Danish] Er Økomad sundere?. Ernærings- og husholdningsøkonomen, (Danish Journal of Home Nutrition & Economics), p.12-15 nr 8, 2003.

O'Doherty Jensen, et. al.: Organic foods and human health [in Danish], Royal Veterinary and Agricultural University, Denmark. Økologiske fødevarer og menneskets sundhed. Rapport fra videnssynthese udført i regi af Forskningsinstitut for Human Ernæring, KVL, Forskningscenter for Økologisk Jordbrug, 2001

DFFE (2007). Skolemaden skal være sund og lækker. [Online]. Available at: <http://dfffe.dk/Default.aspx?ID=10074&M=News&PID=228538&NewsID=6661> [Accessed 12/11/2007]

Madsen, A. L. (2007). Morgenmad og morgenknus: tanket op før skoledagen. In: Skolebørn - Udgivet af forældreorganisationen Skole og samfund. Vol. 9

Biltoft-Jensen, A., Ygil, K. H., Christensen, L. M., Christensen, S. M. and Christensen, T. (2005): Forslag til retningslinier for sund kost i skole og institutioner. Danmarks Fødevarerforsknings Bräuner, F. (2007) Kost - adfærd - indlæringssevne. Århus, Forlaget Klim

Christensen, L. M. (2007). Grundlag for ernæringsmæssige krav til skolemad. Fødevarerinstitutionen, DTU. Afdeling for ernæring.

Christensen, L. M. & Hansen, K. S. (2007): Kvalitet af skolefrokost - mad- og drikkevarerudbud i danske grundskoler. Fødevarerinstitutionen, Afdeling for ernæring.

DFVF (2007). Ernæringsmæssige krav til skolemad. [Online]. Available at: [www.dfvf.dk/Default.aspx?ID=21615](http://www.dfvf.dk/Default.aspx?ID=21615) [Accessed 12-11-2007]

#### **Policy and strategy articles (economy, users etc)**

DFFE (2007). Betydningen af skolemad skal undersøges. [Online]. Available at: <http://dfffe.dk/Default.aspx?ID=10074&M=News&PID=228538&NewsID=6677> [Accessed 12/11/2007]

DFFE (2007). Betingelser for tilskud til skolefrugtordningen. [Online]. Available at: [www.dffe.dk/Default.aspx?ID=34753](http://www.dffe.dk/Default.aspx?ID=34753) [Accessed 12-11-2007]

FVM (2007). Gennemførte resultater på fødevarerpolitikken i 2006. [Online]. Available at: [www.fvm.dk/Default.aspx?ID=15884](http://www.fvm.dk/Default.aspx?ID=15884) [Accessed 12-11-2007]

Lomborg, G. (2007). Håndbog skal give sundere skolemad. In: Skolebørn - Udgivet af forældreorganisationen Skole og samfund. Vol. 9

#### **Status rapports of school meals, statistics etc.**

DFFE (2007). Skolefrugt-, mælk og mad. Skolefrugt [Online] Available at: [www.dffe.dk/Default.aspx?ID=32913](http://www.dffe.dk/Default.aspx?ID=32913) [Accessed 12-11-2007]

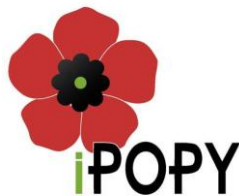
Fagt, S., Christensen, T., Groth, M. V., Biltoft-Jensen, A., Matthiessen, J. & Trolle, E. (2007): Børn og unges måltidsvaner 2000-2004. Fødevarerinstitutionen, Danmarks Tekniske Universitet

FVM (2007) Skolemad. [Online]. Available at: [www.fvm.dk/Default.aspx?ID=18287](http://www.fvm.dk/Default.aspx?ID=18287) [Accessed 12-11-2007]

Fødevarestyrelsen (2006). Gi' madpakken en hånd. Fødevarestyrelsen.

Østerlund, M. (2007). Gør det enkelt. In: Skolebørn - Udgivet af forældreorganisationen Skole og samfund. Vol. 9

Mølgaard, C., Dela, F., Froberg, K. Heitmann, B. L., Holm, L., Holstein, B., Madsen, S. A., Richelsen, B. & Tetens, I. (2007). Forebyggelse af overvægt blandt børn og unge - oplæg til strategi. Motions- og ernæringsrådet.



## The iPOPY project

The aim of the project “innovative Public Organic food Procurement for Youth - iPOPY” ([http://www.agrsci.dk/ipopy /](http://www.agrsci.dk/ipopy/)) was 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 was analysed. The research project was a co-operation between Norway, Denmark, Finland and Italy. German researchers also participated, funded by the Research Council of Norway. iPOPY was one of totally eight projects that were funded through a joint call of the ERA net CORE Organic I in November, 2006.

**Project manager:** Anne-Kristin Løes, Bioforsk Organic Food and Farming

### **Project partners:**

**Norway:** Bioforsk Organic Food and Farming and SIFO, National Institute for Consumer Research

**Germany:** University of Applied Sciences, Münster and Center for Technology and Society, Technical University Berlin

**Denmark:** Aalborg University

**Finland:** University of Helsinki, Ruralia Institute

**Italy:** State University of Milano and ProBER (Association of organic and biodynamic producers of Emilia Romagna)

### **iPOPY Publications:**

All publications can be downloaded from the open digital archive Organic E-prints: [www.orgprints.org](http://www.orgprints.org). Search for the keyword iPOPY.