



Increasing organic food in schools

Common guidelines from the exchange of best practices



Europe for Citizens Programme



Municipality of Meldola



Municipality of Molndal



Municipality of Buje



Municipality of Verteneglio



Municipality of Wolfhagen



Municipality of Scandiano



Municipality of Laives



Province of Reggio Emilia



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The project “Increasing Organic Food in schools” started off from some common aspects shared among the partners.

The importance of education to healthy life style and nutrition and the need to improve the relation that children have to food especially in the school context.

Often children do not accept meals served at lunch time in schools. Such a behavior has four consequences:

1. the lack of education on healthy food education;
2. the lack of respect for the environment,
3. the increasing costs due to the high amount of wastes;
4. scarce attention to the origin of the food products and low respect for the food tradition and typicality of the local territories.

The link between the environmental and education perspectives led the partners to the identification of the following general objectives :

1. raising awareness actions in the target groups;
2. increasing the amount of local organic food in public schools;
3. develop solutions to facilitate the interaction between supply (producers) and demand.

In order to achieve such objectives the project involved during the implementation phase different actors/target groups such as: children, parents, teachers, kitchen staff, policy makers, suppliers and environmental experts.

More specifically, the partner municipalities addressed the following aspects:

- ▶ **educational objective:** creating educated citizens and consumers of tomorrow, who understand the importance of organic food with the cooperation of parents, involving them in this educational process;
- ▶ **economic objective:** creating the conditions for a local supply chain founded on the needs of local producers, designing procurements;
- ▶ **social objective:** improving local community support, above all for farmers and organic food producers;
- ▶ **environmental objective:** reducing environmental impacts, using less pesticides and reducing food transport.

The partnership developed a project strategy which unfolded during 24 months through public conferences, workshops, working groups, and study visits. The milestones of the processes were the following:

- ▶ Opening Conference in Meldola and Reggio Emilia (Italy);
- ▶ First thematic seminar in Mölndal (Sweden);
- ▶ Second thematic seminar in Buje (Croatia);





- ▶ Third thematic seminar in Wolfhagen (Germany);
- ▶ Conclusion conference in Laives (Italy) followed by a final coordination meeting.

During the process a set of work groups have been formed to tackle the four specific objectives stated above:

Environmental impacts: reducing CO₂ emissions in increasing the amount of organic food in school by defining a common methodology and approach towards the environmental impact of the purchased food,

Creation of a local supply chain: sharing knowledge; by the valorisation and increasing of local and organic products, even if low quantities; exploring options for the development of a shorter supply chain for (organic) products.

Education: providing training for teachers and school staff and involving parents in the education path linked to the introduction of organic local food in the children food habits.

During the two year project, different best practices emerged in the work group activities mainly on the decreased environment impact and on the education and didactic approach. What has been learned during the meetings has then been tested or adapted to the local context.

The main result of the process has been a set of common guidelines that all partners of the project identified as important and relevant (as a result of the experience they had) for all those local authorities that intend to work on introducing or increasing the amount of organic food in their schools locally.

The process has been very demanding for all the participating municipalities most of which at their first experience with EU funded projects. At the same time, the project has been a primary source of inspiration for an improvement of the daily practices. The process has resulted not only in an increased knowledge among the participating actors but also in an increase sense of common and active participation in the European integration process.

2

Partnership

The lead partner is the Municipality of Meldola (Italy) and the partnership is composed of:

- ▶ Municipality of Mölndal (Sweden);
- ▶ Municipality of Buje (Croatia);
- ▶ Municipality of Verteneglio (Croatia);
- ▶ Municipality of Wolfhagen (Germany);
- ▶ Municipality of Scandiano (Italy);
- ▶ Municipality of Laives (Italy);
- ▶ Province of Reggio Emilia (Italy)

The best practices description follow a common format, agreed by all the partners, illustrating:

- ▶ **Background of the practice:** why did we do this?
- ▶ **Objective of the practice**
- ▶ **Period of implementation**
- ▶ **A short description:** What has been done?
- ▶ **Targets and stakeholders**
- ▶ **Results achieved**

The guidelines are the common elements emerged from the process but such elements are derived and deeply rooted in the best practices presented or transferred to other partners during the project in relation to the thematic areas: education; the environmental impact and the creation of a local supply chain.

Education

GUIDELINES

The project has led to the identification of some common elements among the participants involved in the field of education. The discussion and the practices presented and implemented during the project have led to the identification of four common elements.

1 Active involvement of the pupils

To make a change, the pupils' pre-existing knowledge and experiences has to be challenged so that new perspectives can be made. Activities that involve all or many of the pupils senses have been successful. These processes have made the pupils active participants of the food process, from sowing a seed to serving a plate. Through the project, the pupils have been involved in a reflective discussion about various aspects of food, related to environment, transportation, processing, health issues. To challenge the pupils properly we had to increase the teacher's knowledge regarding food, health and the environment. Through this, they were able to teach with high quality and the use of appropriate methodology in every situation.

2 Involving the parents

The parents are essential to the success of the project. Issues of a sustainable lifestyle are impossible to implement without the participation of parents. Challenging activities that involved the parents have strengthened the pedagogical





effect. The parental role has mainly been to encourage and be a positive role model in the discussion regarding food, health and the environment with children at home but in some cases they were more involved participating in lectures and workshops.

3 Identification of the children's opinions

To challenge the pupils we need to ask and discuss together with pupils. This need has been answered through questionnaires, discussions and reflection. In order to identify important issues and the proper level of challenge, we have used these key questions:

- ▶ what pre-existing knowledge do the pupils possess?
- ▶ how does that affect our work and methodology?
- ▶ what kind of expectations do the pupils have and what do they want to accomplish?
- ▶ how do we meet up with those results?
- ▶ what opinion do the pupils have regarding to their food and consumption?
- ▶ how to enjoy a delicious meal with a clean environmental conscience?

4 Networking among different actors

To achieve the aim of a sustainable development, it is essential to let various actors to cooperate. Indeed, it is essential to understand the role played by different actors in the school context and to let them collaborate.

BEST PRACTISES

SWEDEN MÖLNDAL MUNICIPALITY - EXPERIENCE 1

Background - Why did we do this?

We want, through a process involving the pupils, to create an awareness about the environmental impact of produce and an understanding of the "from seed to plant" idea.

Objective of the practice

The main objective of building a kitchen garden was to learn how to produce locally grown and ecological vegetables together with the pupils. Also to better understand seasonal cooking.

Period of implementation

Spring of 2011 through 2012.

Description - What has been done?

In spring 2011, seven growing beds were built – each 10 m². The idea was that every class would have their own growing bed. A herb garden adjacent to the dining hall has been built.

- ▶ Cooperation with “Gunnebo House and Gardens” was developed. This was achieved to inspire and educate the staff and pupils for a successful growing. Knowing the different seasonal phases of growing with a focus on the work in the kitchen garden.
- ▶ Three of the staff were responsible for planning the project. They had an additional course under the leadership of Gunnebo on how to plan, build, prepare and what to grow in the kitchen gardens.
- ▶ A couple of thematic days has been planned and implemented

The “kickoff” consisted of two parts. Firstly, growing bed preparation and sowing seeds. Secondly, two chefs from the restaurant at Gunnebo House and Gardens prepared a seasonal meal for the pupils in the school kitchens.

During the day the pupils also attended different “stations” with an environmental theme: recycling, planting flowers in the schoolyard, painting/drawing etc.

In Autumn 2011 all the staff and pupils were on a guided tour at the gardens of Gunnebo to learn about harvesting the crops.

The second thematic day was a harvest feast during which all the pupils tried a soup and some hot tea made from the production of their own garden.

The school also sold some of the products to parents in a small “farmers market”. The earnings will be used to purchase new seeds for the following year.

Target and stakeholders

All pupils and staff have been involved in the project. Through exhibitions, the parent council, farmers market and letters, the parents have been informed of the project's progress. All the pupils informing the parents on their own activities and results.

Results

- ▶ Strong cooperation with different actors, such as trainer of the Gunnebo House and Garden;
- ▶ In 2012 children use what they produce in the school kitchens.

SWEDEN MÖLNDAL MUNICIPALITY - EXPERIENCE 2

Background - Why did we do this?

The participation in the food process, from product to plate is essential to understand what, and how we eat, and the impact it has on our personal health and the environment. We have also had problems with food waste. We want to introduce the pupils to vegetarian dishes because it has lower impact on the environment. Vegetarian food has a much lower CO₂ emissions.

Objective of the practice

- ▶ To make the pupils participate in the choice of dishes regarding taste, CO₂ and content;

- ▶ to exchange a red meat dish in favour for a vegetarian dish once a week;
- ▶ to widen the pupils taste references;
- ▶ to lessen the food waste;
- ▶ to make sure most pupils enjoy the served meals.

Period of implementation

Autumn 2011 through 2012.

Description - What has been done?

Making, tasting and grading

Reference groups were established with the purpose of the cooking and tasting of new dishes. Afterwards they were asked to grade the dish and from those results we deduced what dish would be served in the school canteen.

The reference group would meet and start by touching, scenting and tasting the product to be used in the new dish.

Then the pupils would prepare the vegetables and cook the dish, while, during the entire process, tasting and seasoning for best balance.

When the dish was ready, they presented and served their classmates.

Target and stakeholders

For school staff and pupils mainly with a cooperation between the local environmental office, the kitchen staff, the headmaster and the teacher responsible for the project.

Results

- ▶ Strong cooperation with different actors;
- ▶ Children were involved more in deep in the preparation and presentation of the food at lunch time.

ITALY MELDOLA MUNICIPALITY

Breakfast at school

Background - Why did we do this?

The meal eaten in the school canteen (lunch) is not accepted by all the children (perhaps for lack of appetite or lack of education on the principles of proper nutrition).

Through Comeda parents ask the representatives of the school canteen activate a nutrition education project involving the children but also families.

Objective of the practice

- ▶ Promotion of fair and healthy eating habits by focusing on a critical aspect of the child nutrition: breakfast (many Italian investigations show that with



the start of primary school is established the habit of skipping breakfast or take a little breakfast);

- ▶ Teach children a fair and proper eating habits (“make a good breakfast every morning”) with the understanding that proper eating habits acquired early in life tend to persist into adulthood.

Period of implementation

The project takes about three months (April, May and June 2011).

Description - What has been done?

Initially, with the collaboration of teachers, children respond to a questionnaire with questions about the breakfast of knowledge in order to analyze the results and describing the current situation.

“Breakfast in the classroom”: children divided into classes consume breakfast at school with their classmates and their teachers in a warm and welcoming atmosphere that allows children to actively participate in this experience.

The manager and dietitian explained the importance of a good breakfast and show examples of a balanced breakfast.

Children also have a responsibility to try to taste the foods that are not used to eating at home (eg, yogurt or milk).

The last phase of the project is the “breakfast in the classroom with the children and parents” during which the child teaches the parent what they have learned previously.

Target and stakeholders

The project “Breakfast in the classroom” is aimed at children of primary school (11 classes), their respective parents and teachers.

Results

- ▶ Analysis of the results of questionnaires completed by children: 98% of children habitually consume breakfast;
- ▶ The children eat breakfast together willingly to their classmates and this experience motivates them to try foods “new” that normally they tend to reject (fruit or fresh orange juice).

GERMANY WOLFHAGEN MUNICIPALITY - EXPERIENCE 1

School garden project at Primary School

Background - Why did we do this?

Target of work in primary school is obtaining knowledge of garden-work, planting, care of plants.

The pupils shall learn which plants we can grow, the names of the plants and how to deal with them for cultivation and preparation.



Objective of the practice

- ▶ School-garden, field-laboratory and school-kitchen
- ▶ Lessons in general studies (biology), project work

Period of implementation

School-garden established in 2000, field-laboratory since 2003, school-kitchen renovated in 2010.

Description - What has been done?

- ▶ 2 raised vegetable plots for each class in 3rd form were built on the school ground;
- ▶ A room for garden tools was set up close to the plots;
- ▶ A container for collection of 2m³ rain water was installed;
- ▶ The field laboratory with 10 microscope- and plant-examination places was set up in a woodshed nearby;
- ▶ Boxes for the education in general studies were prepared, e.g.: cooking marmalade, cultivation, animals in the garden...;
- ▶ Renovation of the school kitchen to make it suitable for children 6-10 years old.

Target and Stakeholders

The students shall learn how to grow the food they are used to buy in the super markets by themselves and how to use them for the daily meals. The aim is to inflict their parents and the following generation to act like this.

Results

- ▶ “Special” days resulted, e.g.: apple juice day (all students (whole school!) drink self made apple juice after apple harvest), potato soup day, apple pie day;
- ▶ Each 3rd form has its garden year → all students are reached.

● GERMANY WOLFHAGEN MUNICIPALITY - EXPERIENCE 2

Healthy School

Background - Why did we do this?

Endangering the health of children by stress factors, unhealthy eating. Little consideration in today's shopping about season on transport routes, CO₂ emissions.

Objective of the practice

- ▶ Problem-solving capabilities to provide the basis;
- ▶ Own desire for change with their own experience.



Period of implementation

Since 2007.

Description

Creating a healthy lunch with lots of organic food through a building self-serve buffets.

Target and Stakeholders

For students, teachers, parents, families, suppliers, organic farmers.

Results

Knowledge to eat self-produced food, to train the taste and also the “hot lover” not to demonize. Other ongoing projects for the internalization and healthy diet can become routine. For if students are self-multipliers for families and society..

We need more time for self-preparation during school time, already in kindergarten and primary school, lack of financial resources and more professional staff in preparation as a desire to authorities.

● CROATIA BUJE MUNICIPALITY

Introduction of ecological meals into the kindergarten

Background - Why did we do this?

- ▶ Education and awareness about healthy food by the selection of biological food in place of industrial foods;
- ▶ To allow the local producers and the small manufacturers to place themselves on the market having the advantage on the large producers;
- ▶ The introduction of biological food in the kindergarten.

Objective of the practice

- ▶ Changing the food supply method for the kindergarten;
- ▶ Children's ecological garden (compost, rain, etc.);
- ▶ The introduction of biological food in the kindergarten.

Period of implementation

June 2010 - December 2011.

Description - What has been done?

1. Tender procedures are now easier because the supply is not general as it was before including all foods but is divided into groups of food (fruits, vegetables, others), so now we're able to enter into direct agreements with the local producers (below 10.000 euro), without the requirement of public procure-





ments of above 10.000 euro. The food costs are not very different between the previous big suppliers and the actual small local suppliers that we're in agreement with. This change has favored the introduction for the first time of the products from the local producers, and that's absolute news for our kindergarten.

2. Garden: the children have cultivated the garden. There were no problems in the children's approach to the garden because they mostly come from rural families and have some knowledge about the cultivation of fruit and vegetable and are habituated to eat it. The compost has been made and also the draft of the garden that will be ready in Spring 2012. The children visited a manufacturer of bio olive grove, planted the seedlings (in May) and they collected fruits (September).
3. Since November, we started with the introduction of the "Eco MUNICIPALITY OF BRTONIGLA Kindergarten KALIMERO. Once a month in the kindergarten there is the delivery of the eco food (for now only fruits and vegetables) and we prepare the food for children with it – the delivered products are from the eco-producers association IEP from Pula.

Target and Stakeholders

Target: the children who attend the kindergarten and their parents.

Stakeholders: educators in the group (6), the ecological association IEP (Istria ecologic product) from Pula, ecological olive oil producer from Brtonigla Vilim Belović, Association of Green Istria Pula, Local Democracy Agency from Brtonigla (volunteers).

Results

- ▶ Education of the environmentally acceptable ways of behavior in nature - waste recycling, waste separation, (paper, glass, batteries, plastics and biodegradable material, composting);
- ▶ first lunch with biological products;
- ▶ separation of the public procurement.

ITALY PROVINCE OF REGGIO EMILIA

Didactic Farms

Background - Why did we do this?

As written in the EU Public Health Programme (PHP) and the European Action Plan for Organic Farming (ORGAP), food included in school menus, must be seen as a tool for healthy eating and sustainable consumption patterns in a perspective of "education and awareness-raising measures".

As seen in the latest initiative launched by the EU, "European classes: fruit in

schools” that serves organic food, how it is important not only in reducing the negative impacts on the environment, but also in the quality of food products.

Objective of the practice

1. To make aware of the main groups (children, teachers, families);
2. Increase the amount of local organic food in public schools;
3. Developing solutions to facilitate the matching of supply (producers) and demand.

Period of implementation

It's a first step to start a working for long time.

Description - What has been done?

Several activities with the all levels of schools. Building kitchen garden at school, fruits and vegetables at school. The activities were aimed at raising awareness among children about organic farming and the importance of locally produced food.

During the project an action has been developed, based on the experiences of the partners, called Pan de Re, a special bread of CQ (certified quality) where the whole production chain is local and it has been distributed in the school canteens of the whole Province.

Target and Stakeholders

Target: families, children, teachers, citizens.

Stakeholders: public administrations, schools, didactic farms, experts.

Results

An increased knowledge and experience about a new way to live the nature time, the products. Some changes in the menu of the school canteens.

ITALY SCANDIANO MUNICIPALITY

Awareness raising actions among Stakeholders

Background - Why did we do this?

This activity was carried out locally in order to raise awareness about the importance of good nutrition and to increase the number of meals consumed by the pupils.

Objective of the practice

1. To stimulate active participation in the management of the refectory;
2. to teach how to ask for a sufficient quantity of foodstuff to avoid waste;
3. to teach the importance of recycling.





Period of implementation

End of 2010 - end of 2011.

Description - What has been done?

We developed a “School and Food” Program

For 4th and 5th classes of Primary School and the first three years of Secondary School, Coop Consumatori Nordest proposes the following activities for the school year 2011/2012:

- ▶ from January to May 2012 didactic paths on food (*From label to flavours*, *The wizard cooks*, *Snack hunting*), on environmental sustainability (*Travel in a bottle*) and on world wideness (*The chocolate makers*) whose contents will be briefly illustrated; to book these paths the over mentioned modalities are valid;
- ▶ structured interventions for parents, to be realised at school, in order to promote styles knowledge for a right alimentation and an adequate physical activity;
- ▶ to arrange the intervention for an overall provincial planning the over mentioned modalities are valid.

For school year 2011/2012, 13 animations are proposed from preschool to 1st and 2nd years of second cycle of Secondary School, 10 of them are centred on products. Together with them special projects and widening paths are proposed to parents and teachers on the theme of wellness connected to a right alimentation.

Public seminars focusing on topics like “the Mediterranean diet and the importance of organic farming for a sustainable approach to public health” held on 18 may 2011:

- ▶ debates with the local producers of organic products (used in the preparation of the meals for schools), in order to find an agreement to reduce the environmental impact, transport costs and energy consumption, and to have more fresh and top-quality products;
- ▶ support to new forms of networking between the city centre and the rural surrounding area.

Target and Stakeholders

Target: families, children, teachers, citizens.

Stakeholders: Teachers, Cir Food (company managing school canteens), Didactic Farms, Coop Nord Est.

Results

- ▶ An increased number of fruit snack consumed per week;
- ▶ an increased number of snacks with fair trade products;
- ▶ increased number of visits to local teaching, interactive and organic farms;
- ▶ in general increased attention in the local schools, through an “educational agreement” with the teaching staff, to the importance of a correct approach to the meal.

GUIDELINES ON ENVIRONMENT ASPECTS AND LOCAL SUPPLY CHAIN

1 Adjustment of the menu

An increased knowledge about food and its environmental impact is one of the components needed for creating a change in our food consumption. Old habits can be challenged by introducing new ways of thinking.

If you're able to show the environmental impact of different menus and choices, you can make sustainable choices in the meal planning process by introducing new dishes with a lower environmental impact.

It is important that this information is provided to politicians, civil servants at all levels, kitchen-staff, teachers and parents to help them make sustainable decisions.

2 Procurement practices

If you are able to implement the environmental aspect in the procurement as a part of the quality service, you can encourage the purchasing of environmental sustainable products. Furthermore by implementing the consumption of products with a short supply chain, you can promote the purchasing of seasonal fresh and local food. This does not only reduce the environmental impact, but also the overall costs.

3 Waste management

The reduction of food waste has positive effects on both economy and environment.

Reducing the quantity of food waste requires an effective food planning process, involving kitchen and school staff as well as the children.

4 Invest the saved money in organic products

Besides the environmental aspects you can save money by changing menus, for example, by substituting expensive red meat dishes with vegetarian alternatives.

Also by changing the way of purchasing and reducing food waste substantial amounts of money can be saved.

The savings can be redistributed within the existing budget in order to increase the amount of organic food on the menu.

To achieve sustainable development, there is a need for multiple actors cooperating. By using the various competences, we can create a qualified unity. In order to achieve that, the different actors must be curious about each other's work. If these conditions are met, then success is possible.



BEST PRACTISES

● ITALY MELDOLA MUNICIPALITY

Building a sustainable procurement system

Background - Why did we do this?

To raise the quality of meals in school cafeterias, you are offered only products of fruits and vegetables, but also territorial guarantee a fresh product, with respect to seasonality and environmental sustainability. Offer organic products in school cafeterias, must be not only offer a quality product, but must be intended to help educate healthy diet also contributes to raising the quality level of expertise, creating value for local agriculture significantly reduce the environmental impact and costs of the production chain.

Objective of the practice

The basic objective has been to implement the consumption of products with a short supply chain to avoid requests of fruit and vegetables out of season from the users of the canteen. Such products failing to ensure freshness of product, increase the cost of production. By eliminating the steps of the sale products you may find that one can contain not only the economic costs in terms of reduction of transport costs and the elimination of the sales steps. Consequently it has not only reduced costs but also reduced the environmental impact.

Period of implementation

Long term perspective.

Description - What has been done?

To achieve this in a canteen directly managed by the municipality it is fundamental to understand that procurement decisions based on economic considerations alone – and not the overall quality of the service, do not really lead to the most economical choice from the social point of view. The effects that are produced by the choices made during the contract have an impact going well beyond the single school catering. Therefore in addition to spreading a culture of prevention and health promotion through management of the tenders we aimed at preserving health and the factors that influence it. We set up a proposal for tender, which intends to overcome the logic of an immediate economic benefit, acquiring means of assessing the school catering service in terms of total budget, which also includes social, nutritional and environmental impact. The award will then take into account two elements of assessment: financial offer and overall quality of service, determined by several components interacting with each other such as:

- ▶ quality assurance of raw materials;
- ▶ ensuring environmental sustainability.

The score was appointed according to the following criteria

- a. the highest number of products coming from an area of 50 km;

- b. means of transport with low environmental impact (10 points for electric vehicles 0 points for transport with gasoline-based vehicles);
- c. reduction and recycling of packaging, with its planned actions to reduce the environmental impact in the performance of the service;
- d. the level of analysis for the detection of residues of pesticides and plant protection (score in proportion to the annual number of analysis performed);
- e. promotion of food culture (didactic farm or No hours of qualified staff to carry out meetings with schools;
- f. quality certifications.

Target and Stakeholders

Suppliers.

Results

The results obtained/achieved is well documented not only in terms of costs but in the opportunity to teach children, parents and professionals, as well as a proper diet, the value of its local context and the maintenance of traditions. In addition, you will need a lot will focus on seasonal foods so that the kids through school canteens, learn to know the products of its territory according to the time of the year. In order to bring the kids enjoy a meal school, creating a network with the suppliers (who receive schools, groups and families and all who are interested in reconstructing the bond that unites the products of agriculture with the food you consume every day at table).

Summing up we achieved:

- ▶ Cost savings for the products;
- ▶ sustainable mobility;
- ▶ energy saving/environmental;
- ▶ ensuring the efficiency and effectiveness of services provided;
- ▶ quality standards established with the demand to the company winning work of continuous improvement.

SWEDEN MÖLNDALE MUNICIPALITY

Tool and strategy to reduce environmental impacts

Background - Why did we do this?

We believe that an increased knowledge about food and its environmental impact is one of the components needed for creating a change in our food consumption. If we're able to show the environmental impact of different menus and choices we can give our children (tomorrow's consumers) the opportunity to make sustainable choices based on a solid knowledge base. In the matter of fact we also think this information is needed for politicians, civil servants at all levels, kitchen-staff, teachers and parents to help them make sustainable decisions.



Objective of the practice

- ▶ Calculation of environmental impact (CO_2 and use of pesticides) for regular menus compared to some vegetarian menus;
- ▶ calculation of costs for regular menus compared to some vegetarian menus;
- ▶ make a simple tool to calculate the climate impact and (costs);
- ▶ implement a strategy to decrease the climate impact and to increase the amount of organic products without increasing the costs;
- ▶ increase the amount of organic food in schools and decrease the climate impact within the budget;
- ▶ input to other processes needed for changing our food consumption.

Period of implementation

Autumn 2011 through 2012.

Description - What has been done?

Collecting data → LCA-data for the products were gathered both from Swedish data but also from international studies. If LCA-data ($\text{kg CO}_2/\text{kg product}$) were lacking we used a FOI-report ($\text{kg CO}_2/\text{EURO}$ spent on that product). This resulted in a long list of products and their climate impact.

Making a calculation tool → The data were used to make a calculation tool in Microsoft Excel. The problem with the tool is that it requires lots of manual input and work. But we think this is a useful tool anyway.

Collecting menus/recipes → Collecting recipes for different menus from the kitchen and tasting groups.

Calculation → calculating the climate impact, (use of pesticide) and the cost of one menu of red meat compared to a vegetarian dish. The amount of each ingredient was put in the calculation tool and the price for that product was collected manually from Proceedo. We have a better program for calculating cost and nutrition values but in this practice we manually inserted the cost for each ingredient. The first dishes we calculated were a vegetarian pasta gratin compared to a Taco gratin with pasta. The result was a cheaper dish (-16%) and with a lower climate impact (-66%). The saved money from this example can be used to buy 35 kg organic red meat. This increases the amount of organic products in our kitchens and reduces the use of pesticides with 0.38 kg.

Strategy to reduce the environmental impact at Eklanda school (540 pupils)

We decided upon a common strategy to reduce environmental impact (climate impact and the use of pesticides) and to increase the amount organic products without increasing the food budget.

Reduce the food waste → One of the main tasks in our project was to focus on the fact that too much food is being thrown away and different ways of reducing the food waste. Potential: Each day a total of 50 kg with a value of 100 EURO is thrown away and this is generating 100 kg/CO_2 (38 kg of petrol).



Exclude some red-meat dishes by introducing vegetarian dishes in school-kitchens

→ A substitution of the expensive red meat and an introduction of more vegetarian dishes could save money, reduce the climate impact and give the children a more healthy and varied diet. Potential: Each day when we substitute one red meat dish to a vegetarian choice we save 40 EURO and 425 kg of CO₂ emissions/day (160 litres of petrol).

Use the saved money from the changing of menus to buy organic red-meat when it's on the menu

→ Potential: If we substitute one red meat dish with a vegetarian alternative per week we can buy 1 400 kg organic minced beef and therefore increase the amount of organic products in the kitchen with 10% and also reduce the use of pesticides by 15 kg. Without increasing the costs.

Target and Stakeholders

Stakeholders: Cooperation between the local environmental office, the kitchen staff, the headmaster and the teacher responsible for the project.

Target group: Pupils, politicians, civil servants at different levels, kitchen staff, teachers, pupils and parents.

GERMANY WOLFHAGEN MUNICIPALITY

Background - Why did we do this?

It was the increasing number of alimentary diseases that made us think about a better way of cooking for children. So we started in 2000 with the first meals for schools and kindergarten. From the beginning we produced 100% organic meals.

Objective of the practice

We want to make sure that children can grow up healthy and get the best for their development. Good food makes you think and learn more effective – and it makes you familiar with natural tastes.

Period of implementation

Since 2000.

Description - What has been done?

Today we still produce only meals with 100% organic ingredients, about 2500 meals per day. We deliver them to:

- ▶ kindergartens;
- ▶ schools;
- ▶ business-restaurants and caterers;
- ▶ single meals (cooled) for small offices.

In the area around Wolfhagen we deliver the menus hot, at longer distances we send our meals cold and fresh under controlled atmosphere ("cook and chill"). All menus are 100% organic, contain many local ingredients, are free of preservatives, dyestuffs and genetic engineering.



Target and Stakeholders

The target for Biond is to enhance the alimentation of the young generation and let the children learn what a pleasure it is to taste natural ingredients. We are lucky to have very committed partners in schools and in kindergartens who share our targets and help us to lay the foundations for better food concepts.

Results

We still have a distance between the request for healthy food for children and the knowledge about the importance of organic food for the growing up and the willingness to pay a higher price for an easy way of health-prevention. That will be an assignment for our politics to advance the conditions for more sustainability in food and health.

● ITALY LAIVES MUNICIPALITY

Background - Why did we do this?

Since 2006 the municipality of Laives takes back the “direct” management of the school canteen catering previously outsourced. The subscribers amounted to approx. 1200 with a daily average of 930 meals with an age range of users ranging from 3 to 14 years. The municipality aims to improve the school meals service in the first place ensuring the quality of meals offered through:

- ▶ careful selection of raw materials;
- ▶ an increase of local and organic foods;
- ▶ the adequacy of nutrition and food hygiene;
- ▶ assessment of satisfaction in the preparation of the dishes on the menu in accordance with the local gastronomic traditions.

Another important aspect in the management of the school meals service is to nutrition education. The timing of the meal eaten at school to encourage educational value assumes the acquisition of healthy eating habits and even behavioral (social context favorable imitation, as the figures of reference, sampling of foods not known or appreciated, behavioral adaptation to environment, education the “no waste”, recognition and respect of common rules...). The constant collaboration with the various institutions (schools, health, administration...) becomes strategic. Collaboration with health services (Dietetics and Clinical Nutrition Service of the Health of South Tyrol, Bolzano District Health) ensures the provision of balanced and healthy meals according to scientific guidelines (RDAs – recommended intake levels of energy and nutrients for the Italian population; guidelines for healthy eating; guidelines for national school food) prepared by industry experts and aimed at acquiring healthy eating habits in childhood. Recently (2010) the “Guidelines for national school meal” of the Ministry of Health are clear in terms of indications with regard to frequency of consumption of foods and food groups recommended for lunch during the school week. Specifically foods of animal origin (meat, fish, eggs, cheese), meat consumption is recommended 1-2 times

a week. It also indicated a daily consumption of 1 serving of fruit and vegetables and consumption of vegetables per week (1-2 times). This is in accordance with the dietary recommendations of the Mediterranean diet, which is consistent with the guidelines on nutrition for the prevention of major chronic diseases and who prefers the consumption of foods with lower environmental impact. From an analysis of the menu used at the school canteen we identified the following medium frequency of consumption: meat 2.5 times during the week with a predominance of white ones (of which 50% like chicken and turkey), vegetables 1 time in weeks, fruit 3 times during the week. As regards the proposal as a side dish vegetables we detected an average daily consumption of 1.7 servings.

Objective of the practice

Interventions aimed at improving school menus on the “nutritional quality” of the menu according to the principles of the Mediterranean diet preferring foods with lower environmental impact.

Specifically, we worked on the following objectives:

- ▶ further reduction of meat consumption;
- ▶ increased consumption of vegetables (vegetables, fruits).

The main objectives of these educational interventions on the menu are:

1. reduce the environmental impact of our nutrition, reducing emissions of CO₂ due to livestock for meat;
2. improve the diet and thus the health of children by preventing some metabolic imbalance due to a wrong diet.

Period of implementation

June - October 2011. Following the event the Croatian project “Organic Food in Local Schools”, the leaders of the school kitchens and dietitian have worked to create new menus. It was made by the beginning of the new school year and their use is then started with the 2011-2012 school year.

Description - What has been done?

The school menu has been reworked. It consists of 12 weeks. Each week consists of 5 days of school meals. The meal usually consists of a first course based on cereals (pasta, rice...), a second dish of food of animal origin (meat, fish, eggs, cheese), a side dish of raw vegetables and/or cooked, fresh fruit and bread. The meat, mostly white (78%) was added twice a week maximum, including the possible presence of the first plate with meat (ie meat sauce). The school menu has been reworked. It consists of 12 weeks. Each week consists of 5 days of school meals. The meal usually consists of a first course based on cereals (pasta, rice...), a second dish of food of animal origin (meat, fish, eggs, cheese), a side dish of raw vegetables and/or cooked, fresh fruit and bread. The meat, mostly white (78%) was added twice a week maximum, including the possible presence of the first plate with meat (i.e. meat sauce). In parallel, introduced new dishes based on legumes in addition to what was already practiced at the level of side dishes or pasta with vegetables. In



particular, for this type of plant, new recipes have been studied in order to increase the appreciation by the students. We tried some preparations of pulses designed with the aim of being more easily accepted by children, such as meatballs with beans.

To increase the popularity of other types of vegetables such as leafy vegetables (eg spinach) are proposed in the menu some dishes (Spätzle, dumplings, Schlutzkrapfen...) that contain them. Moreover, among the various plant-based foods proposals include vegetable lasagna with sauce made of various vegetables. The reduction of the flesh, has also enabled the introduction of types of fish quality of the savings generated and then used in this way. These are foods frozen chosen with a view to better organoleptic quality also, which can be easily introduced in the menu on any day you choose to do so. The fish comes in various preparations in order to encourage a greater appreciation by the users.

Regarding the frequency of weekly consumption for fish (1-2 times), eggs (1 time), cheese (1 time) and meats (2 times a month) are within the range recommended by experts. An important aspect of the menu to the increase in fresh fruit for dessert and reduction of the offer of cakes.

Target and Stakeholders

- ▶ Children between 3 and 6 years;
- ▶ children between 6-10 years;
- ▶ pupils 11 to 14 years.

Results

The reworking of the menu for the year 2011-2012 has resulted in the following average consumption during the week of school meals:

- ▶ reduction of meat from 2.5 to 2 times a week;
- ▶ increase in pulses of 1 to 1.5 times a week;
- ▶ portions of fresh fruit increased from 3 to 4.5;
- ▶ maintenance of consumption of 1.7 servings of vegetables daily.

In addition, we note that the increase of the fruit has resulted in the reduction of 6 serving of desserts every two weeks (from 11 to 5 servings).

ITALY SCANDIANO MUNICIPALITY

Creation of new local supply chains and support to the existing ones

Background - Why did we do this?

- ▶ “Consumers are increasingly informed about the necessity to adopt an healthy lifestyle and diet”;
- ▶ “The awareness about the environmental consequences of food choices is also increasing”;

- ▶ “The local context is composed of many small farming companies, that play also an important role in the protection and care of the land, but they have to face the problem of selling the goods they produce at a remunerative price”

Objective of the practice

- ▶ Increase the use of local products (0 km products) in school canteens;
- ▶ to favour the knowledge of local products and producers;
- ▶ to create a local distribution network for local producers

Period of implementation

September 2010 - September 2011.

Description - What has been done?

Together with Cirfood (the company managing for the municipality the school canteens)

Thank to the collaboration with CIR Food, the menus were adapted or redesigned:

- ▶ Christmas and Easter menus;
- ▶ colours and seasonal menus;
- ▶ vitamin menus;
- ▶ menus with organic products of Emilia-Romagna region;
- ▶ cooking workshops: our recipes.

The municipality signed a memorandum of understanding with local producers and their associations.

Farmers' market Every 1st Saturday of the month.

Target and stakeholders

For whom:

- ▶ children in pre-schools;
- ▶ pupils in primary and secondary schools in Scandiano Municipality;
- ▶ families;
- ▶ citizens.

With whom:

- ▶ teachers;
- ▶ associations of producers;
- ▶ producers.

Company managing the local canteens (Cir Food).

Results

Since September 2011 in all canteens have been introduced:

- ▶ parmesan cheese coming from the municipality;
- ▶ baked products made by local producers.

The first Saturday of each month it has been organized for the citizens of Scandiano a small farmer's market with local producers in the center of Scandiano.

As from September 2011 in the supermarkets of one of the largest chains in Italy (CONAD) corners with local (produced in the area of the municipality) products have been introduced.



PROJECT PARTNESHIP:



Municipality
of Meldola



Municipality
of Molindal



Municipality
of Buje



Municipality
of Verteneglio



Municipality
of Wolfhagen



Municipality
of Scandiano



Municipality
of Laives



Province
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This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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DESIGN: il bozzetto di patrizia cella

ISBN: 978-88-904878-2-8