

COMENIUS PARTNERSHIP PROJECT 2009–2011

**“Climate Change and Modern Lifestyle
in the European Region – Developing Ways towards
Sustainability with a Special Focus on Food.”**



PROJECT ACTIVITIES AT KONOPNICKA SECONDARY SCHOOL, KATOWICE



Before the conference in Stockholm



Agenda 21 NOW



Workshops on Comenius Day



Workshops on Open Day



Before the conference in Trier



Making a film 'Polish Cookbook'

Photos: Jadwiga Sozańska, Piotr Majek, Magdalena Rzońca

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Jadwiga Sozańska
Project school coordinator

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Summary of the partnership

Our two-year cooperation turned out to be a very successful and very enriching partnership for all participating schools.

The results of our partnership are described on our website <http://www.borderregions.org/comenius2011/results>

Since most of the schools (all except Peiramatiko School Athens) had known each other before the project, due to the fact that all of us are active in the UNESCO Baltic Sea Project, it was easy to start our cooperation in early 2009.

Activities in the first year (2009/2010)

In the first year of our partnership, the major focus lay on food and nutrition as well as on the sustainability aspects of modern lifestyle.

September 2009:

As an important tool of communication among the schools, we started regular Skype conferences, usually once a month, involving teachers from all schools. This allowed us to coordinate the project with all its activities.

Autumn 2009:

All schools worked with Life Cycle Analysis and the Ecological Footprint.

At the six cooperating schools, all involved students filled in the questionnaire for a survey we had developed.

Winter-spring 2009/2010

All schools, with the school in Trier in the lead, took part in the preparation of the Agenda 21 NOW! global internet conference for students.

April 2010:

From 19 April to 22 April, a conference for all six Comenius schools took place in Stockholm, organised by Nacka Gymnasium. As a result of the flight cancellations caused by a volcanic ash cloud over Europe, the Greek and Polish groups could not travel to Stockholm.

During the Stockholm conference the results of the first year were presented, a number of workshops were held and we had a great cultural and intercultural programme.

8/29 April 2010:

Global 24-hour Internet conference Agenda 21 NOW!, prepared by the Agenda 21 NOW! team (teachers and students) at HGT Trier with support from the other Comenius schools. Topic: "Sustainable global warming – really?" The number of participants reached nearly 800 from 49 different countries, and we had very serious, remarkable discussions throughout the 24 hours of conferencing.

<http://www.agenda21now.org>.

Activities in the second year (2010/2011)

In the second project year, the general focus lay on global warming and sustainable development issues.

3-7 October 2010:

Comenius Project Meeting in Katowice and Bukowina Tatrzańska, Poland, hosted by Konopnicka Secondary School in Katowice. It was five schools that met in Poland.

The Project Meeting was a great success in many ways. We had great intercultural meetings among the participating nations, had a very successful work time together and saw a number of beautiful places we would have liked to have more time for.

The general approach of this Project Meeting, apart from the intercultural exchange, was the preparation of the final conference at HGT Trier in April 2011, and this goal was very successfully reached: we had very fruitful discussions in various groups of teachers and students, excellent decisions were made. At the end we had the structure of the final conference as well as the titles and contents of more than a dozen workshops. We decided that the conference size would be an estimated 180 participants from all Comenius schools. The results of the conference in Poland were an excellent basis for the preparation of the final conference.

Autumn 2010:

The lifestyle survey as well as Life Cycle Analysis and Ecological Footprint studies were carried out again in the participating schools.

December 2010 – April 2011:

The schools cooperated intensely on many levels to prepare all the many details for a final conference.

8 – 11 April 2011:

In these days the final conference of the Comenius project took place at HGT Trier, Germany. All six schools participated, with international guests from the UNESCO ASPnet and the UNESCO Baltic Sea Project. The conference had a rich cultural and working programme, with an opening session, a keynote speech held by John Lockley, a researcher on education for sustainable development from New Zealand, a panel discussion with students from all six schools, an intercultural evening, more than a dozen workshops held by teachers and students from all the schools plus a workshop held by international guests from France, an excursion programme, a party, a final session with

workshop presentations and a written resolution which was adopted by all participants after a very fruitful and enriching discussion.

Further information on the final conference including workshops is available at <http://www.borderregions.org/comenius2011>.

14 April, 2011

In the week after the Comenius project final conference in Trier, as in the year before we held the global internet conference for students "Agenda 21 NOW!" with the topic "Human Diversity – Challenges and Chances. Discussing issues of cultural, political and religious diversity on various levels". This fully virtual conference was planned, organised and held by a team at HGT Trier, with support from all other Comenius schools. Resolution, further information, details and reports : <http://www.agenda21now.org>.

The main objectives of our partnership were the following:

Increasing awareness and knowledge of the impact the individual behaviour of our students has on the global environmental and social issues such as global warming, energy use, fair trade, nutrition habits and food production.

PARTICIPATING SCHOOLS

Allsundgymnasiet Sønderborg – Sønderborg, Denmark



Allsundgymnasiet Sønderborg is an upper secondary school, with 460 students and approximately 55 teachers. The school has participated in many international projects and is known for its contribution to the national initiative for expanding the natural sciences.

Project school coordinator:

Dorothe Stamer Ørsted, Bitten Posselt Langhede

Humboldt-Gymnasium – Trier, Germany

Humboldt-Gymnasium

is a German gymnasium

(classes 5 to 13) with

approx. 1,000 students

and 70 teachers. It is

located in the city of Trier

with a special focus on

international cooperation and intercultural learning.

We closely cooperate with several schools in the French speaking world as well as with the UNESCO Baltic Sea Project, having its focus on Education for Sustainable Development in northerly Europe.

Humboldt-Gymnasium has a broad range of students from all social groups in the greater Trier area. Our aim in this international educational programme is to specially support those students who would not be able to self-finance international travelling or their participation in intercultural events.

Project coordinator:

Martin Jarrath



Peiramatiko Lykeio Evangelikis Scholias Smyrni - Athens, Greece

Peiramatiko Lykeio Evangelikis Scholias

is a Greek upper secondary education school (grades 10 to 12), with approximately 270 students and 40 teachers.

It is located in Nea Smyrni

(a suburb of Athens) and it has been involved in Environmental Education as well as Education for Sustainable Development projects (both national as well as international). In the school, university students of the Education Department of Athens University are practically trained by attending lessons, discussing with experienced teachers and teaching at classroom level. Thus, the teachers have high level of pedagogical skills while most of them have a PhD degree. This is the reason why many parents select the school for the education of their children and the students of the school are coming not only from Nea Smyrni but from a greater area of South Athens.

Project school coordinator:

Theodoros-Dimitrios Oreinos



Konopnicka Secondary School – Katowice, Poland

II Liceum Ogólnokształcące z Oddziałami Dwujęzycznymi im. Marii Konopnickiej, Katowice is a Polish upper secondary school with 601 students (377 girls and 224 boys)



Enabling the students to critically analyse their lifestyle and make well informed decisions on their own life concerning energy use, their individual nutrition and consumption habits.

Developing language and communication skills in a foreign language (English) through regular international collaboration within the partnership.

Increasing scientific skills by conducting and evaluating experiments and communicating the results.

Increasing awareness about cultural and regional differences between the students and teachers of the many participating countries and develop an understanding, tolerance and appreciation towards each other.

Our general approach was running a partnership with mutual respect, which includes active interest in and respect towards culture and languages of all partners as well as ethnic, political and religious diversity. Our aim was to always create an atmosphere of respect, and we have helped all participants to feel comfortable. The written resolution document, discussed and adopted by all participants on the last day of the final conference in Trier on 11 April 2011, makes this very clear: the participants decided together "to live sustainably, [...] and act individually and collectively for that purpose, respecting all kinds of diversities."

*Martin Jarrath, Germany
Project Coordinator*

and 48 teachers. It is located in the city of Katowice – the capital of the Silesian Voivodeship. Since 1994 the school has been a member of the UNESCO Associated Schools Project Network. We closely cooperate with the UNESCO Baltic Sea Project. The present principal Ms Jolanta Mol, PhD, used to be the General Coordinator of the Baltic Sea Project and now she is the National Coordinator for Poland. The school has closely cooperated with different schools in the Baltic Region on the basis of the tasks concerning the project and has been the host of several international conferences including the BSP conference "Diversity and Sustainability" in September 2006. II Liceum Ogólnokształcące successfully cooperated with schools from Italy, Spain, Portugal and Germany performing the tasks of Comenius School Project from 2005 to 2008.

The school focuses on general education and has classes with extended programmes of English, History, Social Studies, Biology, Chemistry, Physics, Information and Communication Technology, Mathematics. It has also got bilingual Spanish Classes.

Project school coordinator:

Jadwiga Sozańska

Nacka Gymnasium – Stockholm, Sweden

Nacka Gymnasium is an upper secondary school, with 1940 students (both genders are equally represented) and approximately 160 teachers. Two thirds of the students prepare for university studies, whereas one third engage in vocational education. Nacka Gymnasium is known for its international contacts and one of the most popular schools in the Stockholm region.



Project school coordinator:

Susanne Mellvig

Integrierte Gesamtschule Friedrichsort – Kiel, Germany (cooperating school)

The Integrated Comprehensive School Friedrichsort is a full-time school with 860 students – 10 to 19 years old - and 66 teachers. The younger students are working in integrated classes, which means some of the students are disabled, the majority of those students having learning difficulties. Approximately 80% of the students engage in vocational education. Therefore the secondary school part of IGF is focused on a general knowledge in all subjects, mainly Technology and Natural Sciences connected with a basic knowledge of foreign languages, particularly English.

The school is working in bilateral cooperation with local businesses, as there are: Credit Union, Kiel Foundry and SIEMENS Company. Comprehensive School Friedrichsort is one of the oldest UNESCO Associated Schools (in German language: UNESCO-Projekt-Schule) in Germany. Within this great international network the IGF has participated in a lot of different international programmes and has an active partnership with a school in India/Himalayas.

Project school coordinator: Ute Groenwoldt





JUNK FOOD vs A HEALTHY DIET



What is junk food?

Junk food is an informal term applied to some foods that are perceived to have little or no nutritional value (containing „empty calories”), or to products with nutritional value but which also have ingredients considered unhealthy when regularly eaten, or to those considered unhealthy to consume at all.

Junk foods are typically ready-to-eat convenience foods containing high levels of saturated fats, salt, or sugar, and little or no fruit, vegetables, or dietary fiber; junk foods thus have little or no health benefits.

What is a healthy diet?

A healthy diet is one that helps maintain or improve health. It is important for the prevention of many chronic health risks such as: obesity, heart disease, diabetes, and cancer. A healthy diet involves consuming appropriate amounts of all nutrients, and an adequate amount of water. Nutrients can be obtained from many different foods, so there are a wide variety of diets that may be considered healthy diets. A healthy diet needs to have a balance of macronutrients / energy (fats, proteins, and carbohydrates) and micronutrients to meet the needs for human nutrition without inducing toxicity from excessive amounts.



Let's do a little experiment.

You are very hungry, and go to McDonald's (for example) and choose to eat a meal there. It looks something like this:

– **Hamburger (Double quarter pounder with cheese)**



– **Large french fries**



– **A can of coke**



– **M&M's McFlurry**



Do you realize what you have just eaten?

Nutrition facts



	Total amount	GDA (for an adult man)
CALORIES	2010 KCL	2500 KCL
TOTAL FATS	85 G	96 G
SATURATES	36 G	30 G
CARBOHYDRATES	251 G	300 G
SUGARS	133 G	120 G
FIBER	10 G	24 G
PROTEIN	67 G	55 G

We have made a chart that compares the GDA or Guideline Daily Amount of nutrition facts for an adult man with the total amount of nutrition facts that were consumed by eating our McDonald's meal.

Also, the amount of carbohydrates and total fats in the meal is nearly the amount of the GDA.

What we have found even more astounding, is the fact that by eating our one single meal, we manage to exceed the amount of nutrition for the whole day. If you look on what is in red on our chart, it shows that the saturates, sugars and protein included in the fast food top the amount of the Guideline Daily Amount.

How can eating such a “bomb” of calories, sugar and carbs not have an impact on your health? It simply isn't possible.

These are just the direct effects of eating our McDonalds meal. Moreover, eating junk food causes other major long and short-term affects. These are some of them:

LACK OF ENERGY

This is known as a short-term adverse effect resulting from eating junk foods. As junk foods don't provide you with essential nutrients, even though they can be very much sufficing, you feel weakened.

POOR CONCENTRATION

This is another result of junk food habit. These are traced to affect in immediate and medium term periods. When you have a sumptuous junk meal rich in oil you feel drowsy and fail to concentrate. Over sustained periods of junk food eating, blood circulation drops due to fat accumulation. Lack of vital oxygen, nutrients and proteins particularly can stale your brain cells temporarily.



HEART DISEASES

Junk food diet is a major cause of heart diseases. Myocardial infarction (a sever heart failure) is due to plaque formation in arteries which demands heart to put in extra effort to pump blood on the down stream. On the up stream, there is lack of returning blood to heart. This causes two damages to the heart - heart fatigues by the continuous extra effort it makes and it suffers oxygen supply.



HIGH CHOLESTEROL

Apart from forming plaques and constricting arteries, cholesterol also affects liver where it is metabolized. High cholesterol from junk food and diet strains liver damaging it eventually.

10 keys to a healthy diet

1. Eat a variety of nutrient-rich foods
2. Enjoy plenty of whole grains, fruits and vegetables
3. Maintain a healthy weight
4. Eat moderate portions
5. Eat regular meals
6. Reduce, don't eliminate certain foods
7. Balance your food choices over time
8. Know your diet pitfalls
9. Make changes gradually.
10. Remember, foods are not good or bad. Select foods based on your total eating patterns, not whether any individual food is “good” or “bad.”

As you can see, eating junk food has a very bad influence on your health. And remember:

“The greatest wealth is health”.

Virgil

Prepared by Daria Kolarczyk and Zuzanna Pietrucha

Sources:

- <http://www.webmd.com>
- <http://www.fatcalories.com>
- <http://en.wikipedia.org>
- <http://www.livestrong.com>
- <http://www.realtime.net>
- <http://www.dietpolicy.com>

O₃ZONE IN YOUR HANDS



How to produce ozone in a chemical reaction ?

- If you mix some crystals of potassium permanganate with a few drops of sulfuric acid, you will get ozone gas by decomposing of manganese heptoxide.
- $2 \text{KMnO}_4 + 2 \text{H}_2\text{SO}_4 \rightarrow \text{Mn}_2\text{O}_7 + \text{H}_2\text{O} + 2 \text{KHSO}_4$
- $\text{Mn}_2\text{O}_7 \rightarrow \text{MnO}_2 + \text{O}_3$

The evidence of Ozone presence:

- Ozone oxidizes ethanol (as you can see on the photos, it's burning the piece of paper moistened with ethanol).
- Ozone is very smelly, it's smells like air after a thunderstorm.

Experiment carried out by Szymon Poręba; Information about reaction by Szymon Poręba; Photos: Magdalena Wsól.

SUSTAINABLE FOOD

Food that is healthy for consumers and animals, does not harm the environment, is humane for workers, respects animals, provides a fair wage for the farmer, supports and enhances rural communities. It's environmentally friendly, socially just and economically beneficial. What's the problem? Food is being transported further than ever, and there is increasing demand for a wide range of ready-prepared and exotic out-of-season produce.

These trends are associated with all sorts of environmental and other problems, such as: **Loss of freshness**, flavour and variety. Long-distance fruit and vegetable varieties tend to be chosen for their yield and keeping qualities, not for flavor or diversity or nutritional value.

Increasing global warming. Food transport, even if it is not by air, creates greenhouse gas emissions that are contributing to the increasingly devastating effects of climate change.

Paying more for less. Instead of rewarding growers with fair prices for locally grown, seasonal produce, we pay for the costs of transporting, refrigerating and packaging associated with long-distance food.

Loss of food security. We need to invest in food and farming system that is resilient to major changes, such as surges in oil prices, extreme weather (such as floods or droughts) or competition from other crops such as bio fuels. Otherwise, we face the prospect of increasing food prices and shortages.

Loss of food culture. Distinctive varieties of fruit and vegetables and native breeds of meat are integral to our culture and landscape. Long-distance food erodes seasonal and local distinctiveness in favour of boring uniformity.

Loss of food knowledge and skills. Most of us have lost our connection with the land and seasonal rhythms, and have little or no awareness of when and where various foods are produced.

What can we do about it? Buy more seasonal food. There is growing consumer demand for more seasonal and local food. Two thirds of consumers say they are trying to buy more seasonally, and at least a quarter of visitors to restaurants specialising in ethnic cuisine want more healthy dishes featuring fresh, local ingredients.

Buy Fairtrade certified food, make sure you know what you're eating, don't be afraid to talk about environmental and social problems; together we can solve them. Sustainability isn't about being green; it's a process, a target which we should be trying to reach. It's not only about us, it's about the whole planet.

Prepared by Dominika Szenkelbach and Paulina Stencel

SOURCES: www.sustainablefood.com, www.sustainweb.org/sustainablefood

Links to students' PowerPoint presentations 'Junk Food vs a Healthy Diet', 'Sustainable Table', 'The Influence of UV Radiation on Plants', 'Depletion of the Ozone Layer', 'What's the Ozone Layer?', 'Recipes for Sustainable Dishes' to be found at: <http://s2.nasza-szkola.pl/~comenius/index.html> and <http://lykevag.att.sch.gr/Comenius0911/ClimateChangeAndModernLifestyle.htm>



Photo: Gustav Dansel

Life Cycle Analysis of Soy

Nacka Gymnasium, Stockholm

Vilhelm Franzén, Mattias Muhonen, Filippa Kärrfelt, William Mahajan, Nacka kommun [2009-12-18]

Introduction

Have you ever thought about what you eat and how it affects the environment?

If you're a vegetarian you've probably eaten a lot of soybeans to get enough protein but even if you're not a vegetarian you're actually using a lot of soybeans anyway. The meat you eat mostly comes from animals that lived on farms. The farm animals mostly get some kind of artificial food. That food very often contains soybeans for the same reason as why vegetarians eat soybeans, the high protein content. So even if you're not consuming so many soybeans yourself, you're consuming it in second hand. Soybeans are used all over the world by almost every human. Therefore it's important to consider what the growing, producing and transporting of it do to our climate and nature.



Research Question

How does the life cycle of soy affect the environment?

Presentation of facts/theory

The soy bean is growing on a plant. Every plant has different requirements depending on what place they grow. Some plants don't grow higher than twenty centimeters but some can grow as tall as up to two meters high. The plants need much sun and water to Photosynthesize. The plant has pods, stems, and leaves¹.

The pods are covered with fine brown or gray hairs. The pods grow in clusters of 3 to 5 pods. Each pod is 3 to 8 cm long. Inside the pods there are soybeans, every pod contains 2 to 3 beans. Soybeans appear in different sizes, the hull is the outer shell of the bean and it appears in different colors including black, brown, blue, yellow and green. The hull of the bean protects the bean from damage and it is water resistant. If the hull break the seed won't germinate².

The climate in which the plants like to grow is quite hot, about 20°C - 30°C. Temperatures below 20°C and over 40°C reduce growth significantly.

What is the soybean used for?

There are a lot of things that are produced from the soybean. Soy is a very useful product and a lot of people use it every day in some way.

The soy oil is extracted from the soybean either in a chemical way or by compressing the beans. Of the harvested beans a big part is used to produce fodder for animals. The soy oil is a vegetable oil and it's used a lot compared with other vegetable oils. The soy oil is used for cooking and it's also an important element in margarine and mayonnaise. You can find many soy products in a Swedish store among other things soybean, soymilk, soy flour, soy cream, soy sauce and soy cheese.

Where does the soy plant grow?

Soybeans are native to East Asia but only 45 percent of the soybean production is located there today. The other 55 percent of the production is located in north and South America. The biggest producer of soy is USA, every year they produce almost 90 million tons of soybeans. Other big producers are Brazil, Argentina, China, India, Paraguay, Canada and Bolivia. The total production is around 220 million tons per year according to UN food & agriculture organization³.

The history of soy production

During World War two the soybeans became important as it was a good substitute for animal protein and as a source of edible oil. It was also during World War two that the soybean was discovered as fertilizer by the United States Department of Agriculture. That was the start of the large-scale growing of soybeans in north and South America. The growing was developed and in the 1960 the USA exported over 90 percent of worlds soybeans. Now days the exporting is more spread, but USA is still the biggest exporter⁴.

How does soy affect the environment and the nature where it's growing?

The soybeans impact on the environment varies from one place to another. Because of that you can't give a general description if it is good or not. To find the answer you have to discuss some environmental factors in relation to the place where they grow. Cultivation in Brazil is of particular interest from a Swedish perspective, because Sweden imports large amounts of soy products from Brazil.

The biggest part of the soybean products that are imported to Sweden is food to our cows, pigs and chickens. The part that is imported directly as food to humans is just a few percent of the total import. The Swedish import of soy as fodder is right now around 385 000 tons a year. A lot of that soy is imported from Brazil. With the average return in Brazil this means that Swedish people "borrow" a total area of around 2000 square kilometers. That means that every Swede is "borrowing" 220 square meters of the Brazilian ground to satisfy our animal's food demands⁵.

The expanding growing of soybeans has a big and long-term impact on the environment in Brazil. When the agriculture develop in the inner part of the country it creates new jobs and incomes but one of earths most specie rich savannas, Cerrado, are disappearing when new areas are being grown up. With big deposit from fertilizers and biocides the animals and plants are being replaced by soybeans.

Cerrado covers 23 percent of the Brazilian area. That is the second biggest vegetation type in Brazil, only Amazonas is bigger. The climate is typical for a savanna, damp and a lot of rainfall with marked dry periods from April to September. The soil is naturally sour with high content of aluminum⁶.

The typical Cerrado vegetation characterizes with a mix of grass and trees on big flat areas. By watercourses there's often forest curtains that breaks the big savannas. In 1992 it was evaluated that it was around 160 000 different kinds of plants, animals and fungus on the savanna, many of these solely exist on Cerrado⁷.

Around 40 percent of Cerrados ground is already cleared up for growing, pasture and other purposes. Only 1, 3 percent of the big areas are protected in national reserves, the reserves are spread like small islands in the farming land which will make the spreading of the species difficult⁸.

Before the large scale growing started on Cerrado the local people where living close to the nature and where depending on what the nature could afford. To make it they had a lot of knowledge about the plants and the animals that lived there. There are a lot of species that bear fruit or eatable seeds, many of the palms has eatable centric parts and there is also more than 100 known medical plants. When the ground is being grown up these important resources will disappear. The knowledge about them will also disappear because the local people becomes lesser and lesser connected to the nature⁹.

There are also kinds of soybeans that fit very well for the ground in Amazonas. When the ground is being grown up there too more great biological varieties are in danger¹⁰.

When European cows are being fed with soy they produce so much milk that we can't consume it all by ourselves. The overproductions are being dumped on the world market and a part ends up in Brazil where small dairy farmers are being cut out. This is a very corrupt global problem, it only displaces problems. Instead of letting the resident farmers use their own soy, other parts of the world buy their soy and use it to produce milk etc. In this way you only produce more carbon dioxide, considering all transports that are needed¹¹.

The problem with the soy plants are that they need a lot of nutrients, which makes the soil poor of

nutrient. To solve this problem you can grow it slower, moderate fertilization and use less pesticides, but then the production of soy will slow down and the farmers will not earn as much money as they usually get¹².

How does the soy affect the global warming?

The soybeans have an effect on the environment as it is used as fuel. But soy biodiesel has an advantage versus fossil fuel. The soy biodiesel is a clean burning renewal fuel and that is the most obvious benefit for the environment. It's good because the soy plants takes away as much carbon dioxide as the biodiesel adds to the atmosphere, the total release is zero. Because of this ability the world calls it the "wonder Fuel". But there is a problem, the environmentalists fear that the farmers don't use safe or sustainable practices when cultivating new crops such as soybeans. This is an extremely important thing for developing countries such as Indonesia where the fear is that farmers will destroy big parts of the rainforest just to produce soybeans. This will have an impact on the world global warming because the loss of rainforest decreases the uptake of carbon dioxide and the growing of soybeans actually help us prevent global warming.

The soy is transported to Europe with ship and by truck. This consumes a lot of fossil fuel. The transports from Brazil to Europe causes emissions by 32 000 tons of carbon dioxide per year. This is not good for the environment and contributes to global warming.

What pesticides are used in soybean plantings?

The soybean growing needs a big use of pesticides. Toxics that are illegal in Sweden are used. The soy also needs a lot of artificial fertilizers which causes environmental impact.

According to "Naturvårdsverket" these artificial fertilizers also contains Cadmium, so they help spreading that environmental toxin. Cadmium is a heavy metal that is toxic through that cadmium binds to sulphur compounds and through that restrains the of some enzymes. Most of the cadmium that comes into animals and humans bodies comes from the food that they're eating, for example soy¹³.

Around 60% of soy produced in the world is genetically modified. It is manipulated so that it becomes resistant to the herbicide Roundup. In will not fully make for this way, the soybean fields is sprayed with Roundup and all vegetation except soy die. Roundup is not as toxic to humans and animals as it is for plants. However, there are studies showing that Roundup is directly hazard to human cells, and kill them even at concentrations 10 times less concentrate than the product used at cultivations. Roundup does not break down in nature; it runs straight into the ground¹⁴.

By the mid-90s the pesticides began to be used, one year later it was noticed that the frequency of allergic reactions due soybean increased by up to 50%. This is probably the most noticeable effect that soy has to the humans. Now after 10 years of use, 7 weed species have developed resistance to the product. This is also a big problem because if we continue to use Roundup to the same extent as today the pesticide will be virtually useless¹⁵.

When new plantations are going to be done, the old fields are being sprayed with Roundup. So the old plants are dying totally, in order to not disturb the new plantations. Instead of making use of crop rotation, this would take much longer. But at the same time be much better for the environment¹⁶.

Is soy healthy to the human body?

The soy is an easy and a good way to get necessary things for our body. Dried soy contains 38 percent protein. That's twice as much than in pork and twelve more times as in milk. That's why it's so good to eat soybeans right throw your hands. Sometimes are they calling the soy for "vegetable-meat" because they are so healthy to our bodies. The soybeans proteins have a very good quality and it contains the vital amino-acid we need. It takes a lot more of soy if we let it pass through the animals instead of eating it by ourselves.

One thing that can be negative with soy is that it has estrogen-like properties. This means that a person that eats soy will have a slightly higher estrogen levels than someone who does not eat it. Anyway, this is nothing you need to think about when consuming normal levels of soy. But if you eat a lot of soy, this is something to consider¹⁷.

Discussion

The soybean production mostly affects the local environment where it's grown but in some ways it also affects globally. Local producers of animal fodder in for example Europe is outrivald by big soybean producers in the USA and Brazil. The animal raisers and dairy farmers prefer to buy soybean fodder from the big producers because it's cheaper and makes their cows produce more milk and grow faster.

Local growers and dairy farmers in Brazil and other soybean producing countries are also outrivald first by the big soybean producers and then by the cheaper dairy products from Europe.

As we said a problem is that the soybeans are transported to Europe from Brazil and then the overproduction of dairy products in Europe is transported back to Brazil. All transports lead to unnecessary carbon dioxide releases that lead to more global warming.

Today it is possible to grow more protein feed then before in Sweden which would give a reduced environmental impact in Sweden and globally. It's not an economic problem to replace the soy imports with locally grown soy protein crop. Such a development of the production can benefit many Swedish environmental goals. It's very unnecessary transports with fodder and it's not good for the environment if we let this transports go on. Instead we should grow locally with good profitability and help the environment in a positive way¹⁸.

Conclusion

There are a lot of things that could be done to reduce the environment affects from growing and transporting of soybeans.

One of the most important things is to grow the soybeans locally to reduce the carbon dioxide releases in conjunction with transportation of the soy beans. Local production with lower and controlled use of pesticide and artificial fertilizers on the plantings would prevent allergic reactions on humans and animals.

Another important thing is to stop the branch out of the plantings in sensitive areas especially in South America to protect the great biological varieties for example in Cerrado and the Amazonas. You should also consider if genetically modified soy should be used at the world market. If you want to stay away from genetically modified soy you should buy organic food, because then you can be sure that there aren't any GM-soy.

Even if it is possible to replace the imports with locally grown protein crop, it would take a long time to make this a reality. But if we start this process now we will over time be able to reduce the unnecessary imports resulting in less pollution of carbon dioxide and reducing the impact of global warming.

- 1 http://en.wikipedia.org/wiki/Soybean#Description_and_physical_characteristics
- 2 http://en.wikipedia.org/wiki/Soybean#Description_and_physical_characteristics
- 3 <http://www.answers.com/topic/soybean>
- 4 <http://www.answers.com/topic/soybean>
- 5 <http://www.wwf.se/v/ekologiska-fotatryck/1127711-soja>
- 6 <http://www.wwf.se/source.php/116634/wwf-1019745.pdf>
- 7 <http://www.wwf.se/source.php/116634/wwf-1019745.pdf>
- 8 <http://www.wwf.se/source.php/116634/wwf-1019745.pdf>
- 9 <http://www.wwf.se/source.php/116634/wwf-1019745.pdf>
- 10 <http://www.wwf.se/source.php/116634/wwf-1019745.pdf>
- 11 <http://www.wwf.se/v/ekologiska-fotatryck/1127711-soja>
- 12 Biology book
- 13 <http://www.webfinanser.com/nyheter/161458/ny-rapport-importerad-soja-stor-miljobjov/>
- 14 <http://www1-sis.org.uk/GTARW.php>
- 15 <http://personlig-utveckling-halsa.se/kop-bara-soja-som-ar-krav-markt/>
- 16 <http://personlig-utveckling-halsa.se/kop-bara-soja-som-ar-krav-markt/>
- 17 <http://en.wikipedia.org/wiki/Soybean>
- 18 <http://www.webfinanser.com/nyheter/161458/ny-rapport-importerad-soja-stor-miljobjov/>

Instructions on how to make LCA and other examples at:
<http://s2.nasza-szkola.pl/~comenius/index.html>
and <http://lyevag.att.sch.gr/Comenius0911/ClimateChangeAndModernLifestyle.html>

CONFERENCE IN STOCKHOLM, SWEDEN 19th - 21st APRIL, 2010

Photos: Martin Jarrath



A letter from Poland - II LO im. Marii Konopnickiej, Katowice, Poland

Dear Comenius Friends,

We went through a particularly difficult time during last week. The crash of the presidential plane with the Polish President, the First Lady and 94 other eminent persons on board was an unbelievable shock to all of us regardless of our political preferences. All of the people were such valuable members of our society, who did their best to preserve the memory of more than twenty-one thousand victims of the totalitarian system, all of them murdered in Katyń. They went to commemorate them on the 70th anniversary of the events.

We cannot express how profoundly sad we were during the whole week. On Saturday 10, April and on Sunday we could not help watching TV which kept us informed about the tragedy and its victims. There is no doubt that the trauma we went through, all the television programmes concentrating on the tragedy made us focused on values rather than matters. The official mourning finished yesterday with the funeral of the Polish President and his wife – Lech Kaczyński and Maria Kaczyńska, but it will take a lot of time before all the persons who died are buried and before we come to terms with what had happened.

Although it was not easy for us, with all our thoughts focused on the catastrophe, we kept preparing for the conference in Nacka Gymnasium, which was supposed to give us a little comfort.

But again life had an unpredictable scenario. It was a shock for us to learn about the volcanic ash from Eyafjallajökull and the cancellation of all the flights on the day before our departure. We did our best to find other ways of getting to Sweden, but it turned out to be impossible.

Thank you our Swedish partners for preparing the conference for us. We are so sorry and disappointed that we were not able to come.

We would like to greet the Principal, the teachers and say 'Hello' to all the students. Those who are lucky enough to participate in the conference and the Greek delegation who, like us, had to stay in their country due to the volcanic eruption.

They say that if somebody had written a screenplay about the tragedy in Smoleńsk before it had happened, everybody would have said it was definitely unbelievable. We also could not have foreseen, even in our bad dreams, the volcanic ash paralysing the whole of Europe. In such moments we clearly realise that we are so helpless and no matter what we do nothing can be done.

We hope you will have a great time in Stockholm. Remember that there are some people in Poland who were really looking forward to meeting you all and visiting the capital of Sweden and Nacka Gymnasium.

Yours,

Jadwiga Sozańska, Dorota Grochal and the Polish students

Host school:



II Liceum Ogólnokształcące
z Oddziałami Dwujęzycznymi
im. Marii Konopnickiej
w Katowicach



Education and Culture
Lifelong learning programme
COMENIUS

Comenius Conference Poland Katowice & Bukowina Tatrzańska 4th - 6th October 2010

› Visit us: www.nasza-szkola.pl



Our guests from Sweden arrived in Katowice on Saturday, October 3rd, 2010. They had enough time to visit the Auschwitz Museum on Sunday. The remaining delegations came on Sunday and after a short rest and dinner with their host families set out on a tour of Katowice with their host students and Anna Wojtowicz-Musiol, an English teacher.

The conference started in II LO z Oddziałami Dwujęzycznymi im. M. Konopnickiej (Konopnicka Secondary School) in Katowice on Monday, October 4th. Our guests from Germany, Denmark, Sweden and Greece visited the school and participated in Biology and Chemistry lessons. After visiting the school an official welcome ceremony started. Our principal Jolanta Mol, PhD welcomed the delegations. Each school coordinator of the project also greeted everybody. After the official part there was a presentation 'Climate change in the Context of Recent Weather Anomalies in Poland' prepared and presented by our students (Miriam Grabowska and Angelika Kulasza), followed by a short concert 'Blowing in the Wind' showing the need to be involved in ecological problems (Daria Kolarczyk, Piotr Majek, Maria Ficek, Wiktoria Twardoch). Then the students participated in a workshop "Sustainable Table". After a presentation on sustainable food by Agata Popenda, the students prepared sustainable sandwiches and salads. In the meantime the teachers had their project meeting.

Soon after we all left for Wieliczka to visit the Salt Mine, and then to Bukowina Tatrzańska for the second part of the conference.

In Bukowina Tatrzańska we all had a great time during the workshops, as well as enjoying the nature when walking to the Strążyska Valley, bathing in the Thermal Baths in Bukowina and having a barbecue. Our guests were delighted with the delicious Polish cuisine based on local, ecological products.

On Wednesday, after the last session, we left for Katowice. On the way back our last stops were Zakopane and Cracow which enchanted all the participants of the conference.

On the last day our students accompanied the delegations from Greece and Sweden, whose departure was in the afternoon, on a walk around Katowice.

Our partners stressed a perfect organisation of the conference and the whole stay.

'Thank you all for making the conference in Poland an occasion we will hardly ever forget.'

(Andre Bürgers)

'Big thanks to the organising team in Poland'.

(Martin Jarrath)

'Wonderful memories that still linger in my mind from an effective and beautiful experience in Poland.'

(Birthe Zimmermann)

Jadwiga Sozańska

More details on our website

<http://s2.nasza-szkola.pl/~comenius/index.html>



Visitin the school – Chemistry lesson

Photo: Gustav Dänseil



Photo: Gustav Dänseil





Photo: Gustav Dänsef



Photo: Gustav Dänsef



Photo: Gustav Dänsef



Photo: Anna Pacwa



Photo: Gustav Dänsef



Photo: Gustav Dänsef



Photo: Gustav Dänsef



Photo: Magda Węcek



Photo: Myron Papadimitrakis



Photo: Martin Jarrath



Photo: Myron Papadimitrakis



Photo: Myron Papadimitrakis



Photo: Gustav Dänsef

The Final Conference in Trier, Germany

8th - 11th April, 2011



The Porta Nigra – a Roman City Gate built between 186 and 200 AD (World Heritage Site)



The Mosel River



The Cathedral of St. Peter (World Heritage Site)

Photos: Jadwiga Sozańska



Photos: Grzegorz Sikora

Photo: Magdalena Podlesny



Photo: Grzegorz Sikora



Photo: Grzegorz Sikora



Photo: Grzegorz Sikora



Photo: Maria Zaborowska



Photo: Grzegorz Sikora



Photo: Grzegorz Sikora



Photo: Grzegorz Sikora



Photo: Grzegorz Sikora



Photo: Grzegorz Sikora



Photo: Grzegorz Sikora



Photo: Jadwiga Sozańska



Photo: Grzegorz Sikora



Photo: Jakub Sozański



Photo: Grzegorz Sikora



Photo: Magdalena Podleśny

More about the Conference on:
<http://www.borderregions.org/comenius2011>
<http://s2.nasza-szkola.pl/~comenius/index.html>

EDUCATION FOR SUSTAINABLE DEVELOPMENT



The most quoted definition of sustainability:

"To develop in individuals, groups, and society as a whole, new ways of thinking and patterns of behaviour that meet the needs of the present generation without compromising the ability of future generation of the living things to meet their needs."

WCED (the World Commission for Environment and Development), 1987

We are approaching the end of the United Nations' Decade of Education for Sustainable development' (2005 – 2014) supported by UNESCO. The aim of the decade "is to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. This educational effort will encourage changes in behaviour that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations." (UNESCO, 2007)

All the activities within the project were meant to and actually did lead both the students and the teachers participating in the project task and the whole school community to a better understanding of the ideas of sustainable development and to implementation of its principles in everyday life. First of all, in a lot of cases, what we did contributed to raising awareness of the issue of sustainable development.

During the Final Conference in Trier we participated in a lecture by John Lockley, a lecturer at University of Waikato, New Zealand. The lecture was a great contribution to our understanding of the issues of sustainability and education for sustainable development.

"Enough for all forever" (EfS in the Primary Curriculum) was the motto of the lecture. John Lockley (among many others) analysed

Characteristics of Education for Sustainability

- Relevance
- Holism
- Values (understanding that we may have different values)
- Issues (understanding the environmental issues)
- Action Oriented (about people taking action)
- Socially Critical (whose voices are best heard, whose voices are missing, who is behind)
- In, About and For (in the environment, about the environment and for the environment)
- Future Focused

A List of topics to look at:

- Climate Change
- Ozone Depletion
- Sustainable Cities

Three really important issues connected with sustainability:

- Equity (fair sharing the resources in our generation and in future generations)
- Inter-dependence (we must remember that we both give and take)
- Responsibility for action (we all have the responsibility to act as citizens of the world)

The lecture was followed by a **panel discussion** in which students representing all the schools participating in the Comenius project took part. They answered THREE QUESTIONS prepared by John Lockley:

1. What is the nature of sustainability?
2. What does it mean to live sustainably?

3. What do we need from our education system for the young people of tomorrow to live in a sustainable world?



On the last day of the Conference the Resolution was signed by representatives of all participating schools.



Resolution

"Enough for all forever"

We, the participants of the Comenius conference "Climate change and modern lifestyle in the European region – developing ways towards sustainability with special focus on food" held in Trier 8 - 11 April 2011

decide together

to live sustainably, which can be fun, and act individually and collectively for that purpose, respecting all kinds of diversities. We will take action on the social, environmental and economic issues most related to our local realities and in particular:

- Being well informed about sustainable issues
- Acting eco-friendly every day (e.g. reduce our water, energy and material consumption) and promoting more sustainable technologies
- Informing and raising awareness of others to together find solutions (e.g. creating school councils, collaborating with the teachers on education for sustainable development projects)
- Participating in collective community action (e.g. planting trees or cleaning beaches, supporting local and international solidarity).

"To accomplish this, we need my help, your help, help from everyone."

"If not now, then when? If not us, then who?"

Signed on behalf of the participants from the six schools of the project (from north to south):

'Nobody made a greater mistake than he who did nothing because he could only do a little.'

(Edmund Burke)

'If we are so selfish that we live unsustainable lifestyles, when will we learn that a sustainable lifestyle also serves self interest?'

(anonymous)

How to live a selfish, unsustainable lifestyle and be a nuisance to the environment, society and a threat to the future generations.

Ignore all the warnings about climate change.

Use as much water as possible when brushing your teeth, let it run for two or three minutes.

Take a bath every day, shower for as long as possible.

Don't even think about recycling. Throw plastic, bottles, aluminium cans and paper into the same bin.

Buy loads of new clothes - you cannot wear the same things over and over again.

Change your mobile phone frequently - it's important to be trendy.

Use as much electricity as possible - leave your computer, printer, TV, all the lights in your home on, whether you need them or not.

Don't use public transport or your bike to get to places - always use your cars. The more cars in the family you have, the better.

Produce a lot of rubbish - buy packaged food and other products, litter pavements, streets and especially forests.

Stick your chewing gum everywhere.

Don't buy in local shops. It's such fun to do shopping in big supermarkets.

Don't buy seasonal, local fruit and vegetables. After all they taste better out of season when transported from other countries.

Always cook dishes which require a lot of energy use.

Buy food which has a very long LCA that needs to be transported on long distances, needs a lot of processing, chemicals to be produced, preservatives to pretend to be fresh.

Don't use low energy and water consuming dishwashers or washing machines.

Ignore all the local community problems.

Don't help people in need.

Ridicule ecological education.

Don't bother about social issues or other nations' problems.

Buy more than you need.

The survey was developed by all partners at the beginning of the partnership.

SURVEY – LIFESTYLE AND EATING HABITS

For most of the questions you can select the most appropriate answer from the given choices.

1. You are...

- female.
- male.

2. What is your age?

Your school day

3. Which school do you attend?

- Humboldt-Gymnasium Trier.
- Integrierte Gesamtschule Friedrichsort Kiel.
- Allsundgymnasiet Sønderborg.
- Nacka gymnasium.
- Tanfield School Specialist College of Science and Engineering.
- Konopnicka Secondary School Katowice.
- Peiramatiko Lykeio Evangelikis Scholis Smyrnis.

4. How many hours a day do you spend at school on average?

- Less than 6.
- Between 6 and 8.
- More than 8.

5. What extracurricular activities do you participate in at our outside school? (You may choose several answers.)

- Languages classes.
- Music classes.
- Sport clubs.
- Others.
- None.

6. How many hours a day do you spend doing your homework?

- 1 - 2 hours.
- 2 - 3 hours.
- 3 - 4 hours.
- 4 - 5 hours.
- More than 5 hours.

7. How much leisure time do you have on weekdays?

- Less than 2 hours.
- 2 - 4 hours.
- More than 4 hours.

8. How do you spend your spare time (apart from what you answered in question 5)? (You may choose several answers.)

- Watching TV.
- Surfing the Internet.
- Out with friends.
- Others:

9. Do you do any sports regularly?

- No.
- 1 - 5 times a month.
- 1 - 5 times a week.

10. How would you describe your lifestyle?

- Healthy.
- Rather healthy.
- Rather unhealthy.
- Unhealthy.

Your Eating habits

11. Where do you eat your lunch?

- At home.
- At school, packed lunch from home.
- At the school restaurant / cafeteria.
- I don't eat lunch.

12. What do you usually have for lunch?

- Fast food.
- Home-made warm meal.
- Sandwiches.
- School lunch.
- Sweets and snacks.

13. What do you generally drink with your lunch?

- Water.
- Milk.
- Tea.
- Coffee.
- Sugary drinks.
- Juice.

14. How many meals a day do you usually have? (Write a number, please.)

15. How many times a day do you snack?

- Never.
- 1 - 2 times a day.
- 3 - 4 times a day.
- more than 4 times a day.

16. To what extent is having meals with your family important to you?

- Unimportant.
- Rather important.
- Important.
- Very important.

17. How many times a week do you ...

	Never	1 - 3 times a week	4 - 7 times a week
have home-cooked meals?			
have ready-made meals?			
have take away food?			
have fast food?			
eat at a restaurant?			

18. How often do you cook on your own or with somebody's help ?

- Never.
- 1 - 2 times a month.
- 3 - 4 times a month.
- Several times a week.

19. Where do you / your family usually shop for food? (You may give several answers.)

- At the local market.
- At a local shop.
- At a supermarket.

20. To what extent do you pay attention to what you eat?

- I don't really care what I eat.
- I'm a little concerned
- It's important to me.
- It's very important to me.

21. Do you take into account how healthy the food you eat is?

- Not at all.
- Not really.
- I try to eat healthily.
- I choose only healthy food.

22. Are you taught what is healthy mostly...

- at home?
- at school?
- from the mass media?
- from other sources?

23. How often do you wonder where the food you eat comes from?

- Never.
- Rarely.
- Often.
- Always.

24. Do you follow any special diet?

- Vegan.
- Vegetarian.
- Low fat.
- Low carbohydrate.
- None.

25. From your point of view: Please mark the influence of your eating habits on

	high	medium	low
your mood			
your beauty			
your fitness			
your charisma			
your intelligence			
your health			

26. From your point of view: Please mark the influence of eating habits in general on

	low	medium	high
economy			
ecology			
global warming			

Survey for parents, teachers and non-teaching staff and the results of the above survey at:

<http://s2.nasza-szkola.pl/~comenius/index.html>, <http://www.borderregions.org/comenius2011>, <http://www.nasza-szkola.pl> and <http://lykevag.att.sch.gr/Comenius0911/ClimateChangeAndModernLifestyle.html>

'Make Them See and Hear' workshops prepared by Poland, Conference in Trier, Germany

Bearing in mind that every human being is part of the world and has an impact on what it is like we would like to invite those who really care.

The workshop is especially designed for those who are creative, imaginative and like painting and singing.

As a continuation of the ideas presented at our meeting in Poland whose main objective was to make you think and realize that the first step to any changes is "being at peace with yourself" and starting the changes with your attitude, we would like you to have an insight into your experiencing the climate change and all the distressing problems connected with our lifestyles and human activity affecting our home- Planet Earth.

During 3 and ½ hours you'll experience some enjoyable and thought-provoking moments doing some relaxation exercises, creating a piece of art in the technique of emotional painting in a group, writing lyrics to a well-known song and then obviously performing it.

In order to make people realize that "If you're not part of the solution you are part of the problem"(Malcolm Bradbury) it is important to play on their emotions and not remain solely in the sphere of scientific facts. Visual arts and music are the right tools.

What you need for the workshop:

1. An old T-shirt , old jeans or a skirt to protect you from the paint you're going to use
 2. Some ideas concerning what the painting should look like and focus on, to be discussed at the workshop
 3. Good mood, positive thinking, imagination, creativity and willingness to cooperate .
- NOT for those who are allergic to acrylic paint or latex.

A Song That Never Ends – Don't worry ?

(to the tune of 'Don't worry, be happy')

*Here 's a little song we wrote
Just to show we care and want
To do something
Do something
We don't mean to be so selfish
Earth is one and we can save it
Let's do it
Just do it*

Violine/Flute or any other ideas

*CO₂ is the greatest threat
Climate change is the effect
Reduce it
Reduce it
Paper, plastic, metal, glass
Can be wisely dealt with once
Recycled
Recycled*

Violine / Flute or any other ideas

*Water is so precious that
Every drop of it should be saved
Don't waste it
Don't waste it*

*What we eat can make a change
So don't forget about LCA
Be food wise
Be food wise*

Violine/Flute or any other ideas

*Is your footprint small or big ?
How many Earths do you need ?
You'd better check it
Better check it*

*We want to make them hear and see
And start to live sustainably
For tomorrow
For tomorrow*

*If you follow all the rules
There's one more that you can use*

*Don't worry , be happy
Don't worry, be happy*

Photos: Grzegorz Sikora



PROJECT DAYS – FESTIVAL OF SCIENCE

9th & 20th June, 2011

'My ecological footprint' poster contest

'My ecological footprint' lecture by Piotr Skubala PhD,
University of Silesia, Katowice

Project presentations

Workshops



Photo: Jadwiga Sozariska

THE WINNING POSTER



Photos: Magdalena Podlesny, Szymon Poręba

COMENIUS TEAM during the End of the School Year Ceremony



<http://www.ziemianarozdrozu.pl>; <http://www.myfootprint.org>; <http://www.carbonindependent.org>

All the information about the project and materials at:

<http://lykevag.att.sch.gr/Comenius0911/ClimateChangeAndModernLifestyle.html>

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