Social Development and the Environment

People do not live alone: we are all part of a **society**. Societies provide goods, a place to live, jobs, entertainment, and many other things people want. However, these functions have a serious impact on the environment. Things like electricity, gas, water, transport and agriculture all harm the environment, as do mining, construction and the production of metals.

The **environmental impact** of increased production and consumption in Europe is steadily growing. Food and beverages, private transport, and housing (including construction and energy consumption) are those consumption categories that have the most impact over the course of their life cycles.

Today, Europe generates ever more waste. The amount of **municipal waste** is increasing by an average of 2 percent each year. In different countries, the volumes of waste range from 0.5 tonnes to 18 tonnes per person. Up to 4 percent of this amount is hazardous waste, which presents a distinctive risk to human health and environment. Proper waste collection and safe landfill remain challenges facing many European countries.

Thus, the **challenge** before Europeans is to break the link between economic growth and environmental impact from consumption, unsustainable use of resources and generation of waste. Putting a computer in every home could hardly be considered an economic success if we simultaneously continue wiping out plant and animal species, razing forests, grinding down mountains, siphoning off our rivers, paving plains, modifying our climate, polluting the air and tainting our blood.

Managing this increasingly stressed relationship between the European economy and European ecosystems, whose capacities are essentially fixed, becomes ever more demanding.

The demands on political institutions to reverse this deterioration will intensify. The challenges before our societies to reach **sustainable development** are climbing ever higher on the international political agenda, at times preoccupying international diplomats almost as much as arms control negotiations during the cold war.

Lesson plan: **Social development**

Duration	4-5 class periods
Time of year	Any
Place	The classroom
Materials	2 drinking glasses of different sizes, coloured paper
Aims	• To demonstrate that there are limits in nature which cannot be exceeded • To analyse negative changes in the environment which lead to conflict • To demonstrate that through cooperation and tolerance, difficulties may be overcome • To raise awareness about the present society responsibility before next generations • To understand that everybody could contribute to the sustainable development of the present society
Methods	Demonstration, discussion, brainstorming

Part I: Carrying capacity (for younger students)

1 Explain to the students that carrying capacity in nature means the number of organisms which can exist in one place. The most important factors defining carrying capacity are the availability of water, food, shelter and space. Carrying capacity is valid for all living creatures, though humans can adapt more easily to dramatic changes in environmental conditions. For animals and plants, adaptation is more difficult. An ecosystem's carrying capacity changes depending on seasonal variation or the effect of natural disasters (e.g. floods, storms, frost, volcanoes). Human activities can strongly influence carrying capacity as well.

2 To illustrate carrying capacity, take a drinking glass, fill it with water and tell the students that it is an ecosystem populated with various plants and animals. This ecosystem has a definite capacity for the creatures which inhabit it. Then suggest that all of them should move to a smaller ecosystem. Use a smaller glass for this purpose:

- Begin pouring the water from the larger to the smaller glass. When half of the smaller glass is full, ask the students if they think there is still room for the animals and plants.
- Resume pouring the water until the small glass is full. Ask if the ecosystem has reached its carrying capacity.
- Again resume pouring water into the smaller glass as it overflows. Ask if the carrying capacity has been exceeded. What is happening with extra water? How can this be related to processes happening in the natural ecosystem?

3 Ask additional questions and provide further examples explaining carrying capacity:

- Ask the students if any of them has an aquarium at home and if it is possible to add new fish to it endlessly.
- How many people do the students have in their families? Are there cases in which the number of people living together can be considerably increased? *(large blocks of flats, camps, the army)* How do people feel when living in cramped space?

- What happens to migrating birds in autumn? Why do they fly south? What happens with grass in winter and how do grazing animals react? Why do some animals hibernate? Ask the students if they can give similar examples.
- What happens to the inhabitants of a wet area (e.g. a marsh, a puddle) after it has dried up? Which of them leave in search of new habitat and which of them die out?
- If the people living in a region with a river decide to use up all of its water for their own purposes (e.g. drinking, irrigating, industry), what will happen to the plants, animals and people living further downstream? Can a situation like this create conflict?

4 Explain to the students that animals either leave, die or experience a lower birth rate; plants usually cannot adapt quickly enough and die. This situation is different for humans, as they can adapt much more easily to new conditions and cope with various difficulties. Despite this adaptability, exceeding carrying capacity very often brings about conflict, war and mass suffering. Usually the use of force does not lead to the settling of an argument; it only makes it worse. Even when temporarily abated, the problems can arise again in the future.

Part II: The river which flows downstream (for older students)

1 Explain to the class that enough food, water, clean air and shelter make a good living place. If the threat of enemies, wild animals or the extremes of nature are not felt, this will be a good reason to build a home; this is the way our ancestors thought when they decided where to settle. Eventually, groups of homes became villages, and villages grew into towns. The communities formed developed complex economic, social and political relations both within themselves and with the neighbouring communities.

Today, in spite of development of modern civilisation and the amazing achievements of technology, human well-being and safety still depends on preservation of the environment and sustainable use of resources.

More often than not, tension and the conflict in various regions begin from ecological problems. Detailed investigation and analysis, followed by straightforward dialogue to reach fair and sustainable resolutions with all concerned sides participating can serve as a bridge to mutual trust and cooperation in solving common problems.

2 Read the story Downstream in class.

3 Discuss the following questions with the students:

- What is the water of the river? *(A natural resource, which serves both environment and people living in the two villages.)*
- Why is the river happy to reach the sea? *(Its balanced use until the active human intrusion gave all and everybody the chance to benefit from its water.)*
- What is the reason the mayor in the upper village suggests building a dam? *(The desire for a better and richer life. There is nothing wrong with this desire, since it is a natural desire of all people to develop and live well.)*
- What mistake do the people in the upper village make? *(They made a decision to use almost all the water resources without considering the needs of the people in the village downstream, leading to serious consequences.)*
- What are the consequences? *(Disappearance of animals and plants, diminishing of crops, cutting down of the forest, impoverishment and migration of the people from the lower village, conflicts between the two villages, loss of friendly relations and traditions.)*

Organise student feedback following this example:

- **Status** – Water (natural resource); its use was balanced
- **Change** – Mayor (politician, businessman), deciding to build a dam
- **Reasons** – Desire for development and better living
- **Mistakes** – The needs of the environment and the people in the other village are not considered
- **Consequences** – Loss of plants and animals, impoverishment of the people, migration and conflicts

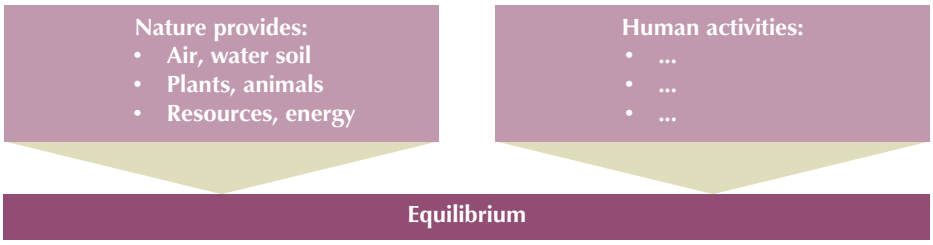
4 Conclude that when important decisions are made, it is possible to hurt various, and quite often, opposing interests. The consequences cannot always be easily predicted and can very often lead to serious conflict. To avoid complications and critical situations, all economic, social and political factors should be considered in advance. This is not easy and always takes time, patience, flexibility and mutual respect.

5 For homework, assign the students to discuss Downstream with their parents. Hand out copies of the story Who is Stronger? in advance. Ask students to find solutions to national or regional conflicts, which can be based on the main idea of the story. In the next lesson, ask the students to give their suggestions for resolutions to the conflicts.

Part III: Balance

1 Explain that people are part of nature and development of human society has always depended on the environment.

2 Explain that you will try to follow the way interaction between people and nature has changed through the use of a scale. Draw on the blackboard/flipchart the scale as shown in the picture below. First write the relations between the people and nature at the early stages of the history of human society:



- People gathered fruit and roots, grew plants, hunted and domesticated animals, gathered firewood, and lived in homes of relatively simple construction. Write this feedback in the right-hand scale.
- Talk about the population of the past and what technology the people had.
- Discuss whether past human society disturbed the balance between people and nature.

Conclude that, in the past, human activities could not disturb the balance of natural systems.

3 In similar fashion, analyse natural resources and human activities in contemporary society. Students will know from previous units that air, water, soil, plants and animals have not changed much. People have, to some extent, developed their ability to use new raw materials and energy. On the other hand, human activities (e.g. mining, development of industry and transport, power and heating energy production, cutting down of forests, draining of marshes, digging of canals, fishing and hunting on a large scale) have grown immensely. Write this feedback in the right-hand scale. Discuss the way the human population has changed in the last century, adding more information about new technologies which have been introduced in modern society and the average standard of living. Decide if we can still hope that the scales can be kept in balance.

Part IV: How to pull out the turnip

1. Tell the class that rapid development of contemporary society causes the rise of extremely serious problems such as climate change, environment pollution and extinction of a number of biological species. Solving these problems is important, but is impossible to achieve by a single country, institution or person.

2. Tell the students that you are going to play a game which will illustrate a way to approach problems in order to solve them. Ask a volunteer to read the story The Enormous Turnip. An alternative is to organise a role play by choosing six volunteers to take the roles of grandfather, grandmother, granddaughter, dog, cat and mouse.

3. Ask the students how they felt while acting. What impressed them most?

4. Make an analogy between the story and the potential of contemporary society to solve serious problems. Give each character in the story the role of an institutional representative: the grandfather can be an international organisation; the grandmother, the state; the granddaughter, the local authority; the dog, the business sector; the cat, a non-governmental organisation; and the mouse, the individual person.

5. Having distributed the new roles in this way, act the new storyline again, in which the "turnip" represents a particular global problem (e.g. climate change, water pollution).

6. Make conclusions about the importance of each participant and the need to unite efforts. Note that common cause unites even "enemies" like dog and cat or cat and mouse.

Part V: Today we borrow nature from our children

1. Introduce the ancient saying from Kashmir, "We are borrowing nature from our children." Discuss the meaning.

2. In the context of the saying, discuss the responsibility of every generation toward the next. Try to illustrate this by giving examples related to your town or village and the environment. (change in landscape, the state of the water in the near river or lake, the threats to particular animal and plant species, etc.)

3. Ask the students to draw pictures on the topic "Earth in 100 years," in which to present their expectations and ideas about life in the future. Organise an exhibition and talk about the pictures.

Part VI: How can I help?

1. Remind the students that everyone is responsible for solving the problems facing contemporary society. Draw on the blackboard/flipchart the Pyramid of Responsibilities.

2 Draw students' attention to the fact that at the bottom of the pyramid are the activities of common people. In partaking of certain activities, citizens contribute to the development of the community and at the same time impact social health and the environment. Without participation of the people no decision made in the upper layers of the pyramid could be realised. Ask, "What sort of pyramid would this be if it had no base?"

3 Tell the students that it is of utmost importance that every one of them should answer the question, "What could I do to help the sustainable development of society?" For this purpose, draw on the board/flipchart the trunk of a deciduous tree in winter bare of leaves, and hand out five sheets of coloured paper which have previously been cut into the shapes of leaves. Ask them to think a little and then write on each sheet the things they could do to improve life in the community without harming human health or the environment by doing it. Encourage the students to remember activities connected with their work in previous lessons (e.g. plant a tree, take care of flowers and animals, save energy and water, walk, bicycle, clean the schoolyard, sort and recycle waste).

4 All students take turns presenting their ideas and stick their "leaves" on the tree branches. At the end of this activity, the result will be a beautiful, colourful tree created through the class's joint efforts.

Other activities

- Talk about particular challenges related to the plans for development of your town or village and the protection of people's health and the environment. When establishing partnership at local level, start with the information provided in the How to Involve Others fact sheet.
- Design a one-year plan to draw the local community's attention to environmental problems and societal development using the Environmental Calendar.
- Make copies of the picture on page 142 and hand them out to the students to colour in.

DILEMMA

Forest Pillage

You are walking in the forest when you see someone you know cutting down trees illegally for fire wood. An hour later, when you are leaving the forest, you meet a forest ranger who asks if you have seen anyone cutting down trees. What would you do?

- say that you don't know anything and you haven't seen anyone;
- admit that you know who did it;
- tell the ranger that you heard someone in the other direction;
- tell him nothing, but then call him later with information without giving your name;
- tell the ranger nothing, and but tell your friend you are angry at him;
- something else.

TEST

Sustainable Development

	TRUE	FALSE
1 The most important factors that make up the carrying capacity are water, food, shelter and sufficient space.		
2 Carrying capacity is valid for all leaving creatures except human beings.		
3 Animals and plants have a harder time adapting to big changes in the environment than people do.		
4 Human activities do not influence the carrying capacity of ecosystems.		
5 Today, very often tension and conflict come with environmental problems.		
6 To avoid complications and critical situations all economic, social and political factors should be considered in advance.		
7 When people say "We are borrowing nature from our children," they mean that children should do more work in the garden.		
8 Children should not worry about the environment. Adults are taking care of everything.		

Answer key: 1. True 2. False 3. True 4. False 5. True 6. True 7. False 8. False

FACT SHEET

Downstream

Once upon a time there was a deep turbulent river, which started its life high in the mountain as a small brook. The brook flowed across the alpine pastures, enjoying the sight of huge flocks of sheep, goats and cows. After that the brook went through a large forest, giving its water to the trees, plants and animals on the way. Other brooks and streams joined it and finally it emerged from the forest as a large and deep river, which reached the valley quite calmly. It went on across fields and meadows and its waters were the home of many fish and other river creatures. In the end, the river met the sea and flowed happily into it, having done so many good deeds on its long journey.

There was a village in the upper reaches of the river whose happy inhabitants grazed their cattle, hunted, or gathered fruit and berries. There was another village in the valley, whose inhabitants sowed and reaped their fields, raised cattle and fished in the river. They sometimes went hunting in the forest. These villagers were also happy. Once in a while, people from the villages traded among themselves, visited one another, feasted together, and married their sons and daughters to those of the other village.

Thus the two villages lived in peace and happiness, until the day when the mayor of the upper village proposed damming the river. "If we store more water from the river," he told the people, "we'll be able to raise more cattle. We'll build a small power plant, which will drive our lumber mills. We'll live better and be prosperous."
The villagers agreed and dammed up the river, leaving a small part of its water to continue downstream. They increased the number of their flocks and soon more trees were needed for processing in the lumber mills.

The changes were quickly noticed in the lower village. The water which reached their fields and pastures was too little. Crops diminished and the fish grew less and less. Fewer animals and berries could be found in the forest. People began to become poorer.

Communication between the people from the two villages stopped and common feasts were no longer organised. Some young people from the lower village left, moving elsewhere in search of a better life. Among those who remained, some became involved in quarrels with the people from the upper village. Thus happiness and peace were banished from both villages.

FACT SHEET

Who is Stronger?

Once upon a time, Sun and Wind were best friends. They played together happily but were also very proud.

Once they argued over who was stronger. “When I start blowing in the forest,” said Wind, “I bend the trees and shake off their leaves. I am stronger.”

“When I heat the earth,” argued Sun, “I melt the snow and turn the water of the lakes and rivers into vapour.”

They argued on and on, but neither would agree that the other was stronger.
Suddenly they spotted a man in the field, who was hurrying on his way.
The man was wearing a thick leather coat.

“Let’s match our strength!” suggested Wind. “The one who manages to strip the man of his coat is stronger.”

“You’re on!” agreed Sun.

Wind was the first to try his strength. He threw himself on the man, blowing fiercely, trying to get under the man’s coat to blow it off him. The man held his coat around himself tightly, bent his head and went on walking across the field. The wind blew and blew, but he couldn’t get the man’s coat off. Wind soon grew tired and stepped aside in shame.

It was now Sun’s turn. He started to smile, which sent his warm rays over the man.
The man went on walking until he was dripping with sweat. He then wiped his brow and slowly took off his coat. He flung it over his arm and walked on.

Thus Sun and Wind settled their argument. Wind now understood that a warm smile was stronger than all the blowing in the world.

This can also happen in life:
A warm smile and a kind word can achieve more than strength.

FACT SHEET

The Enormous Turnip

Grandfather planted some turnip seeds. The turnip seeds grew, and one turnip grew enormous.

"I want that enormous turnip on my table," said Grandfather. He yanked and tugged, but he couldn't pull it up.

Grandfather called to Grandmother, "Help me pull up this enormous turnip." Together, they yanked and tugged, but couldn't pull it up.

Grandmother called to Granddaughter, "Help us pull up this enormous turnip." And all three yanked and tugged, but couldn't pull it up.

Granddaughter called the dog, "Help us pull up this enormous turnip." The four of them yanked and tugged, but couldn't pull it up.

The dog called to the cat, "Help us pull up this enormous turnip." The five of them yanked and tugged, but couldn't pull it up.

The cat called to the mouse, "Help us pull up this enormous turnip," she said. Now all six yanked and tugged and yanked and ... up popped the enormous turnip!

And they all enjoyed turnip on the table...

FACT SHEET

How to Involve Others

We do not live alone: We are part of a society. Societies are set up to provide goods, living space, jobs, entertainment, and all sorts of services for people's needs.
These activities are performed by different people — architects, builders, drivers, librarians, teachers, policemen, and doctors, to name a few. Though with different professions, customs and culture, the people that surround us can work together on nature protection activities held by teachers and students. Why?

- Everyone benefits from a beautiful and clean environment.
- Through families, the influence of teachers and students can reach an incredibly large group of people.
- Don't forget that even the worst bureaucrat and toughest businessman were once children. Very often, students can find quite successful approaches to adults seemingly indifferent to your efforts.

Getting them involved

The municipality
Find out if there is an officer in your municipal administration who is responsible for nature protection. Find his/her telephone number. Call him/her and ask for a meeting but make sure to be well prepared. Go to the meeting together with some of your students and present your activities and your future plans. The discussion with this officer can lead to interesting ideas which could later grow into joint projects of mutual interest. Don't forget to invite representatives of the municipality to the events you organise. Don't count only on the mayor:
He is usually quite busy and very rarely will be able to attend your events.
Do invite the public relations officer and those you have already contacted.

The regional environment protection agency
Find out where the regional agency offices are for your region. Organise a meeting with their representatives. Ask for information about the biggest problems in the region. Introduce them to your activities, and search for opportunities for joint actions. The agencies can help you with contacts for state environmental funds which, although quite insufficient at present, could support some of your activities.

Religious communities
Meet the local spiritual leaders. Tell them about your activities and plans. After a short conversation with them, you will be surprised to find out what interesting stories are in holy books such as the Bible or the Koran. These stories often present examples of responsible and reasonable human attitudes towards all living creatures and the environment. Talk to them and think about how you could use the experience and wisdom accumulated through the centuries, and the moral messages of these sacred books for your environmental activities. Explore other value systems, such as those of the American Indians or the ancient Thracians and Hellenes. This will add new aspects to your attitude to nature.

FACT SHEET

How to Involve Others (continued)

Local businesses

Make a list of the larger industrial, agricultural or forestry enterprises in your region, town or village. Don't omit large tourist establishments, petrol stations, restaurants, supermarkets, and others. Try to find out if any of them have a negative environmental impact. Are there members of your family working for them? Find out who the PR officer is and make an appointment with him/her. Prepare well for this meeting. Don't forget that the representatives of big polluters have many arguments up their sleeves with which to defend a careless approach to the environment. You must be ready to oppose them with your studies on pollution and ways to solve the problems. Emphasise that you come as partners willing to help solving those problems. Ask them to fund your activities which will be of mutual benefit. Invite them to your activities. Inform them about everything you do. It is quite possible that after a few meetings you will find a permanent assistant (or founder) within the local business community. It is not obligatory to receive support "in cash," and in many cases the materials or transport provided by local businessmen will be quite sufficient.

Local journalists

Involvement of journalists in the preparation, organisation and promotion of environmental action is of high importance. Don't forget to invite journalists to any of your public events. Keep them informed. Try to win space or time in their newspapers, radio programmes or local cable TV. Present them with your materials or other interesting information you have come upon in connection with your environmental activities.

The health inspectorate

Meet with a representative of the health inspectorate for your region. Find out which environmental components (drinking water, food safety, toxic waste, etc.) the inspectorate is responsible for. Request literature or information which might be useful to your activity.

Use public meeting places

These may be cafes, restaurants, big shops, the cinema, or a municipal building. Try to arrange a place of your own where an eco-stand may be organised. There you can exhibit photos and other materials connected with your activity, thereby allowing more to read, see and know about you and the tasks you have set for yourselves. Try to persuade at least one cafe owner to convert his place into an eco-cafe. Provide him with advice on cups and cutlery to be used, and how to deal with waste. Offer to decorate his place. As a reward, promise him that some students, teachers and parents will become permanent clients of his. If you publish leaflets or a newspaper, always make sure to provide the eco-cafe with copies.

FACT SHEET

Environmental Calendar

February 2 • **World Wetlands Day**
This day is celebrated by local communities around the world who are promoting public awareness of the value and functions of wetlands, both for the environment and for people.

March 21 • **World Forestry Day**
Activities are held such as the planting of trees and highlighting the urgency to increase the green cover.

March 22 • **World Water Day**
The decision to celebrate this day has been taken recently, as drinking water sources are fast depleting. The world must wake up to the problem and begin conserving it.

April 7 • **World Health Day**
The World Health Organization (WHO) was founded on this day in 1948. In the changing environment around us, health is becoming an important issue.

April 22 • **Earth Day**
In 1970, a group of people in the United States got together to draw the world's attention to the problems caused by modernisation. Since then, this day has been celebrated worldwide as Earth Day.

2nd Saturday in May • **International Migratory Bird Day**
This day encourages bird conservation and increases awareness of birds through hikes, bird watching, information about birds and migration, public events, and a variety of other educational programmes.

May 15 • **Climate Action Day**
Since 1992, environmental groups all over the world have used this day to focus on climate change.

May 22 • **International Biodiversity Day**
International Biological Diversity Day was proclaimed by the United Nations to increase understanding and awareness of biodiversity issues.

FACT SHEET
Environmental Calendar (continued)

June 5 • **World Environment Day**
On this day in 1972, the Stockholm Conference on Human Environment was held in Sweden. There was a large gathering from all over the world and people expressed their concerns about increasing environmental problems.

June 17 • **World Day to Combat Desertification**
This is celebrated globally each year and aims to emphasise the urgent need to curb the process of desertification and to strengthen the visibility of the serious dry lands issue on the international environmental agenda.

September 16 • **World Ozone Day**
The United Nations declared this day as the International Day for the Preservation of the Ozone Layer. It is the day the Montreal Protocol was signed.

September 27 • **World Tourism Day**
Celebrated since 1980, the purpose of World Tourism Day is to display awareness that tourism is vital to the international community and to show how it affects social, cultural, political and economic values worldwide.

September 28 • **Green Consumer Day**
The problems of consumerism and its impact on the environment is an area of major concern in today's world. Awareness building on the importance of recycling-reusing-reducing should be taken seriously.

1st Monday of October • **World Habitat Day**
The first Monday in October is World Habitat Day to reflect on the state of human settlements and the basic right to adequate shelter for all. Humans share the world with all living creatures, so our world is their world.

October 4 • **World Animal Day**
On this day, animal welfare groups, sanctuaries and individuals throughout the world hold special events to heighten public awareness of animal issues and to encourage people to think about how we as humans relate to animals.

December 11 • **International Mountain Day**
Mountains are important to life. On this day we emphasise the opportunities and constraints in mountain development and build partnerships that will bring positive change to the world's mountains and highlands.