

10 Environment



Figure 10

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

from the World Commission on Environment and Development's –
the Brundtland Commission – report *Our Common Future*, Oxford:
Oxford University Press, 1987

10.1 Introduction

Maybe you live at the top of the Alps or Pyrenees and often go snowboarding – or close to the Sahara or Syrian Desert and go sand-boarding, since you rarely see the snow. Or maybe you live by the Mediterranean Sea, the North Sea or the Dead Sea and go windsurfing, since it is not always possible to swim in the sea. Maybe you sit under eucalyptus, cactus or pine trees when you go for a picnic, or you need to build a tent since there are no trees around. Or maybe you pass the Acropolis, the Colosseum or the Pyramids on the way home, and you see hundreds of tourists around them. These are all components of our environment, which have different shapes in different localities but suffer from similar problems all over the world.

The environment and people have a two-way relationship: all human activity impacts on the environment and the environment impacts on human life.¹ The dependence of people upon the environment is reflected in every aspect of life: we are fed by the environment, we survive with all its elements and we enjoy its beauty and comfort. However, it is also human beings who consume the environment and create the need for its protection. Both to enjoy the environment in a sustainable way now and to protect it for future generations, there is a need for co-operation between different entities who share the benefits of the environment, simply because the environment's resources are too scarce to be wasted.

In the Euro-Mediterranean context, the environment defines its own borders, mostly independent of other political, economic and social concerns. As the Mediterranean Sea lies between three continents, the Euro-Mediterranean environment has a dynamic of its own, which creates particular benefits for the people living around the sea. However, it also has its own problems, which require immediate action from all the parties who enjoy its benefits.

We also know that environmental characteristics can take different forms all over the world, but the problems they suffer from are very similar. Immediate action is necessary if we want to continue enjoying our environment and we want future generations to be able to do the same.

10.2 What is 'the environment'?

The environment can be defined as "the complex of physical, chemical, and biotic factors (such as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival".² It therefore includes everything that may directly affect the behaviour of a living organism or species, including light, air, soil, water and other living organisms.

That natural environment comprises all living things (biotic components, such as plants, animals and bacteria) and non-living things (a-biotic components, such as water, air, soil, light and weather) that occur naturally on earth, and the interactions amongst them. This means that the natural environment is the environment "that is not a result of human activity or its intervention".³

Human well-being is highly dependent on ecosystems, which are "the complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space",⁴ and the benefits that ecosystems provide, such as food and drinkable water. The complex interaction between a-biotic and biotic factors has reached a state of stability through time. Each ecosystem has developed carrying capacities: numbers and levels of interaction that can occur without changing the nature of the ecosystem. Exceeding the carrying capacities leads to changes within the ecosystem. The high level of interdependence of an ecosystem gives it great flexibility to absorb the impacts of different activities, but pushing the system towards its limits makes it sensitive and vulnerable, whereby the system starts to be affected by activities and changes its nature. In the last 50 years, all of the Earth's ecosystems have been significantly transformed by rapid changes as a result of human activities.⁵

In addition to the "natural" meaning, the environment can also be defined as "the aggregate of social and cultural conditions that influence the life of an individual or community".⁶ It is also built, modified and adjusted by human beings. It encompasses

“the conditions or influences under which any individual or thing exists, lives, or develops”, which can be divided into three categories:⁷

1. the combination of the physical conditions that affect and influence the growth and development of an individual or community;
2. the social and cultural conditions that affect the nature of an individual or community;
3. the surroundings of an inanimate object of intrinsic social value.

The environment has an impact on a society's development and on the historical and cultural products of that society. These are both affected by and affect the environment, which makes those products and values an intrinsic part of the environment itself: houses are built on the most suitable pieces of land and with regard to the necessities of nature; traditional clothes are designed to be thin or thick depending on the climate, and the colours are taken from nature; cuisines develop according to the products grown in the fields; sports are developed in line with the geographical and natural landscape; languages include words for specific elements of nature; and so on.

In short, everything people see around themselves is an element of the environment: nature (water, air, trees, birds, landscapes, beaches), architecture (houses, streets, stadiums, dams, mosques, churches, synagogues, temples, highways, bridges), culture (clothes, songs, paintings, language), history (monuments, archaeological and historical sites) and many other human activities and products.

Ingredients of the word “environment” (as reflected in most national legislation)⁸

- all aspects of the surroundings of human beings, affecting them as individuals or in social groupings,
- natural resources, including air, land and water;
- ecosystems and biological diversity;
- fauna and flora;
- social, economic and cultural contexts;
- infrastructure and associated equipment;
- any solid, liquid, gas, odour, heat, noise, vibration or radiation resulting directly or indirectly from the activities of human beings;
- identified natural assets, such as natural beauty, landscapes and scenic routes;
- identified historical and heritage assets;
- identified cultural and religious assets;
- aesthetic assets;
- public health characteristics;
- identifiable environmental planning, environmental protection, environmental management, pollution control, nature conservation and other mitigation measures.

The quality of the environment is the measure of the degree to which an individual or community can live and develop in a sustainable manner. Changes in the environment can alter the conditions of existence of a community in a negative manner and jeopardise its sustainability. Living in a sustainable ecosystem or world should mean “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁹

10.3 The first Eden:¹⁰ the Euro-Mediterranean environment

By choosing *The first Eden* as the title for his book about the Mediterranean basin, David Attenborough, a British broadcaster and naturalist, ensured that his readers understood the importance of this spectacular geography just by looking at the cover of the book. Writing about one of the most extraordinary regions in the world, he knew that only “Eden” could express this geography and bring the culture and nature of Europe and Mediterranean together.

The Mediterranean Basin unites three continents, Europe, Africa and Asia, and it is host to a unique natural diversity. It is a biodiversity hotspot,¹¹ one of the 34 most important natural areas in the world, which are home to many of earth’s life forms (in total, 75% of the planet’s most threatened plant, mammal, bird and amphibian species) within only 2.3% of the earth’s total surface area.¹²

“Biodiversity is a contraction of ‘biological diversity’. It reflects the number, variety and variability of living organisms and how these change from one location to another and over time. Biodiversity includes diversity within species (genetic diversity), between species (species diversity), and between ecosystems (ecosystem diversity).

Biodiversity is important in all ecosystems, not only in those that are ‘natural’ such as national parks or natural preserves, but also in those that are managed by humans, such as farms and plantations, and even urban parks.”¹³ “It provides mankind with a wide range of benefits, such as important goods (like timber and medicinal products) and essential services (like carbon recycling and storage, clean water, climate mitigation, mitigation of natural hazards, and pollination).”¹⁴

The Mediterranean Basin, as a biodiversity hotspot, extends for 2 085 292 sq. km and stretches from Portugal to Jordan, west to east, and from northern Italy to Morocco, north to south. It also includes parts of Spain, France, the Balkan states, Greece, Turkey, Syria, Lebanon, Israel, Egypt, Libya, Tunisia and Algeria, as well as some five thousand islands scattered across the Sea itself.



Figure 10.1: Mediterranean basin hotspot

(Frédéric Médail and Norman Myers, from R. Mittermeier et al., Hotspots revisited, Conservation International/CEMEX, 2004)

The Mediterranean basin has more than four times the number of plant species found in the whole of the rest of Europe, most of which are endemic. It is also an important centre of diversity and endemism for reptiles, amphibians and fish species. The hotspot includes nine threatened endemic birds, 11 threatened endemic mammals and 14 threatened endemic amphibians; it was home to five extinct species.¹⁵ Europe also has a very rich and diverse environment. From the Arctic Circle to the Mediterranean, from the Caucasus to the Azores, it has had a wide range of ecosystems and species. According to the Red List of Threatened Species, 16 119 plant and animal species are threatened at the global level, of which 729 occur in Europe, with mammals and birds accounting for the highest numbers of vulnerable and endangered species.¹⁶

<i>Taxonomic group</i>	Biodiversity in the Mediterranean Basin ¹⁷			Biodiversity in Europe ¹⁸	
	<i>Species</i>	<i>Endemic species</i>	<i>Endemism %</i>	<i>Species</i>	<i>Introduced by human beings</i>
Plants	22 500	11 700	52.0	12 500	–
Mammals	226	25	11.1	250	21
Birds	489	25	5.1	520	–
Reptiles	230	77	33.5	199	–
Amphibians	79	27	34.2	71	–
Freshwater Fish	216	63	29.2	227	27

Table 10.1: Biodiversity

If a species is “endemic”, it is restricted to a particular geographic region and found nowhere else in the world.¹⁹ Do you know any endemic species from your own region?

The geological history of the Mediterranean and Europe has resulted in unusual geographical and topographical diversity. There is a variety of habitats, from mountains (up to 4 500 metres) to coastal wetlands, from desert to maquis and pine forest, from narrow, deep river valleys to alpine plateaus, all within a very small area compared to other continents. The unique Mediterranean climate is also one of the causes of this diversity: it is cool and wet in winters, hot and dry in summers – not so easy to live in for the local people maybe, particularly in summer, but this characteristic is also the reason why the Mediterranean is a popular tourist and work destination!

After eight thousand years of human settlement and habitat change, the Mediterranean is no longer an area of mainly evergreen oak forests, deciduous and conifer forests as it was once. Both the Basin’s and Europe’s current vegetation reflects the influence of humans over hundreds of years and is the result of co-evolution between nature and humans.²⁰

The most widespread vegetation in the Mediterranean is maquis, with members of the juniper, myrtle, olive, daphne, strawberry, pistachio, cistus and oak families. Needless to say, there are also aromatic and soft-leaved plants such as rosemary, sage, poppy and saffron, particularly in the semi-arid and coastal regions of the basin. There are trees, such as the cedar tree, the argan tree, the oriental sweet gum and the Cretan date palm.²¹ If it were not for human intervention, 80 to 90% of Europe’s land would be covered by forests today. However, human influence has drastically changed the

landscape, mostly by the destruction of lowland forests and wetlands. Animal and plant species have to live in a very small, restricted area in 21st-century Europe.²²

Although now as a result of habitat change it is impossible to see lions, which once lived around the Mediterranean, human beings still share the region with about 220 mammal species, such as the Barbary macaque (the native monkey of Europe, which lives now only in the mountains of Morocco and Algeria, and on Gibraltar), Barbary deer, Iberian lynx and Mediterranean monk seal.²³ In Europe, many large mammals such as polar bears, wolves, lynx and bison exist even in the restricted remnants of their original habitat, whereas others such as tarpans and saiga antelopes have become extinct.²⁴

The Mediterranean and Europe are witnesses to an exceptional natural event twice a year: bird migration. There are three routes in this region, two of which are very important among the world's bird migration paths. These are: in the east, through Turkey, Israel and Egypt; in the central Mediterranean, through Italy and Tunisia; and in the west, through Spain and Morocco. Every year, in spring and autumn, hundreds of thousands of eagles, storks, vultures, falcons, robins, swallows and many other birds travel thousands of kilometres to where they breed or winter. They mainly rest in the wetlands and fly through valleys along their routes. Mediterranean and European wetlands and valleys are vitally important for birds, especially during the migration season. This natural event is also an important tourism activity for most of the countries involved, as bird watchers from all around the world visit countries on the migration routes.

If the Mediterranean is a very rich natural environment with an exceptionally high rate of endemism, then this richness should be protected. For example, around 2 000 years ago some ancient societies around the Mediterranean identified areas for protective purposes as "resource reserves", some of which still survive. They were "developed as an ancient acknowledgement of the scarcity of renewable resources and a need to conserve and use them widely in support of sustainable rural economic development".²⁵ However, in modern times, the Mediterranean Basin has a very low level of protected area coverage, with only 4% under some form of protection and only 1% in International Union for Conservation of Nature (IUCN) categories.²⁶ In December 2006, Special Protection Areas (under the Birds Directive) and Special Areas of Conservation (under the Habitats Directive) comprised about 17% of the European Union's land area.²⁷

The Mediterranean and European environment is rich not only in natural treasures but also in historical, cultural and religious heritage, as a result of several ancient and modern civilisations and nations having flourished around the Mediterranean. The Mediterranean has always been a transport highway, allowing trade and cultural exchange between peoples. Consequently, the great majority of Mediterranean towns are extremely old, and rich in historical sites of exceptional architectural value. The old cities fitted the landscape and were adapted to the local environment and climate. Quiet narrow streets and residential areas are combined with public places. Shade and air circulation are enhanced by fountains, which are often an important feature.

Many of the historical, cultural and religious assets in Europe and the Mediterranean are not only evidence of human history, but also valuable assets for cultural diversity in the future: squares such as Brussels' La Grand-Place (Belgium) and Moscow's Kremlin and Red Square (Russian Federation); castles such as Litomyšl Castle (the Czech Republic), Kronborg Castle (Denmark), Crac des Chevaliers and Qal'at Salah El-Din (Syria); infrastructure constructions such as the Canal du Midi (France) and the

Mill Network at Kinderdijk-Elshout (the Netherlands); industrial settlements such as Verla Groundwood and Board Mill (Finland), the Zollverein Coal Mine Industrial Complex in Essen (Germany) and Varberg Radio Station (Sweden); ancient capitals and monuments such as Memphis and its Necropolis, the Pyramid Fields from Giza to Dahshur (Egypt), the Acropolis in Athens (Greece), Hattusha, the Hittite capital (Turkey), the amphitheatre of El Jem (Tunisia) and Petra (Jordan); places of worship such as the Wooden Churches of Southern Little Poland (Poland) and the Rila Monastery (Bulgaria), to name only a handful from among 660 cultural properties on the World Heritage List.²⁸

As with the natural environment, the cultural and historical environment is under threat from armed conflict and war, earthquakes and other natural disasters, pollution, poaching, uncontrolled urbanisation and unchecked tourist development. For example, the Old City of Jerusalem and its Walls, with its 220 historic monuments, is inscribed on the List of World Heritage in Danger.²⁹

Q: Have you ever visited any sites on the World Heritage list in your country or anywhere else in the world?

10.4 When culture and environment meet

→ 10.4.1 Local environmental knowledge

Local environmental knowledge is the combination of information, know-how and practices developed and maintained by people with long histories of interaction with their natural environment. This knowledge includes language, belonging to a place, spirituality and a world view. It is also referred to as traditional ecological knowledge, indigenous knowledge, rural people's or farmers' knowledge, folk science and indigenous science. Knowledge, practice and interpretation are mutually dependent on each other.³⁰ This is especially so for the cultures of the Euro-Mediterranean region, which have long histories of interaction with their environment.

Local knowledge forms the basis for local decision making about many important aspects of daily life. Hunting, fishing, gathering, agriculture, husbandry, preparation and conservation of food, location, storage of water, coping with disease, orientation and navigation, management of ecosystems, adaptation to environmental/social change and meteorology can be listed as some of the elements of local knowledge.³¹

Understanding and preserving European and Mediterranean local knowledge can play an important role in areas such as biodiversity, sustainable development, research, agriculture, trade, medicine and food quality. An example is the Cévennes National Park, in the south of France, which has a rich biodiversity. Its preservation is strongly linked with the local knowledge of natural resources. The park represents 50% of French fauna and flora and is inhabited by 40 000 people, mainly farmers and livestock breeders. The people of the area have developed a classification and naming system for the wildlife and habitats over centuries, which are now used and studied by scientists. Using traditional agricultural practices and local knowledge, the national park is being preserved with its people, wildlife and habitats. It was declared a UNESCO World Biosphere Reserve in 1985.³²

Another example from the Mediterranean basin is the Dana Nature Reserve in Jordan, which is a unique model for integrated conservation and development efforts. At the reserve, preserving biodiversity and improving the social and economic welfare of the local population are equally important. Eco-tourism and handicraft production based on local skills are two of the activities at the reserve. A goat-fattening scheme for nomadic communities and sustainable systems for the use of grazing lands have been established. The reserve generates income for about a thousand people, and eco-tourism activities cover all its running costs.³³

→ 10.4.2 Gender, food security and the environment³⁴

Women in rural areas are the producers of 60 to 80% of food in most developing countries. They produce crops such as rice, wheat and maize, which provide about 90% of the rural poor's food intake. Their production of legumes and vegetables, which supply essential nutrients, is mainly from domestic gardens. What the women produce is often the only food available during some seasons or when the harvest is poor. Women's domestic gardens are recognised as models for sustainable land use, providing sustained yields and causing minimal environmental degradation. The special knowledge that women have about resources for food and agriculture makes them essential stakeholders in the agro-biodiversity field. Women feed and milk the larger animals, and raise poultry and small animals such as sheep, goats, rabbits and pigs. When the harvest is over, rural women start storing, stocking, handling, processing and marketing.

Studies by the UN's Food and Agriculture Organization (FAO) clearly show that, although women in most developing countries are the main stakeholders in the agricultural sector, they have been the last to benefit from it. Farmers are still generally perceived as male by policy-makers. Women's contribution to agriculture is poorly understood and their needs cannot be seen in development planning. The FAO stresses that the empowerment of women is key to raising levels of nutrition, improving the production and distribution of food and agricultural products and enhancing the living conditions of rural populations.

10.5 Threats to the environment and priorities

The environment and people are dependent on each other. It is known that the human population of the Mediterranean basin is increasing, but the well-being of its people depends on the health of its environment.³⁵ Unfortunately, the European and Mediterranean ecosystems have a long history of human impact, which has not always been positive and constructive. Accordingly, all the countries around the Mediterranean Sea have been socio-economically affected to varying extents by different challenges (a drier climate and higher dependence on basic natural resources) and the need for institutional and financial support to face these challenges.³⁶ Although environmental dependency necessitates a high degree of co-operation between countries to reverse the negative effects on the shared environment, the perceived threats to the environment may still lead to conflicts as a result of the scarcity of natural resources.

In one study, the main environmental threats to the Mediterranean region are listed as:³⁷

- growing desertification as a result of deforestation, overgrazing, man-induced fires, agricultural pressure and climate change;

- the mounting consumption of fresh water (mainly for agriculture), the pollution of tributary rivers, the limited recycling and sewage systems for a growing urban population, and its unsustainable backwash impact on ecosystem functions and species survival;
- the physical, chemical and biological pollution of the Mediterranean Sea;
- the drop in fishing stocks and the increasing pressure of over-fishing;
- the reduction of forest areas;
- economic activity concentrated along the coasts: industry, infrastructure, transport, urban development and tourist resorts;
- destruction or degradation of over 50% of Mediterranean wetlands and coastal dune systems;
- the rise of the sea level threatening the most productive ecosystems: deltas (agriculture), wetlands (fishing), beaches (tourism) and coastal groundwater (for all purposes);
- as a general consequence, the irreversible loss of biodiversity on land and in the sea.

Q: Looking at your own environment, can you add any other threats to this list?

One can see from this list of threats that, though some of them result from natural events such as earthquakes, still a large number of them are created by human beings. It can be argued that the main sectors that cause environmental problems are transport, energy, agriculture, industry, tourism and households. It will be difficult to cover all the major environmental problems here, but it is possible to give details of some of the top-priority environmental issues that have a regional context and are shared across European and Mediterranean countries.

Water

Water is a major issue across the Mediterranean region because of its ever-increasing scarcity. Countries like Malta, Spain, Algeria and Egypt (and many others) have different major water problems such as pollution, excessive pumping, high production costs, lowering groundwater and depletion of surface water. The water problem has cumulative effects, such as long droughts followed by heavy floods, run-off and loss of topsoil, or contamination of groundwater. The situation is getting worse, and the solutions have become very expensive. Increased pollution on a global scale and the misuse of water resources (as in wrong or out-of-date irrigation techniques) are placing great demands on natural freshwater sources, causing long-lasting shortages.

Between 20 and 40 litres of water per person per day is generally considered to be the minimum to meet needs for drinking and sanitation alone. If water for bathing and cooking is also included, this figure can go up to 200 litres per capita per day.³⁸ Many countries in the world fall below this level. Nearly 30 million Mediterranean inhabitants officially did not have permanent access to drinking water in 2002.

Unfortunately, tensions over shared trans-boundary water resources (usually rivers) heighten conflicts between regions or countries and lead to international political and security concerns, since access to water touches on state sovereignty and integrity, and is also related to ideology and nationalism.³⁹ The Euphrates and Tigris basin shared by Turkey, Syria, Iraq and Iran and the Jordan River basin shared by Lebanon, Syria, Jordan, the Palestinian Authority and Israel are two causes of conflicts over water in recent history.

Energy

Today almost 95% of all commercial energy is generated by fossil fuels like oil, petroleum, gas and coal. Petroleum and natural gas were not used in large quantities until the beginning of the 20th century, but supplies are already running low.

Any burning of fossil fuel produces large quantities of atmospheric pollutants, in particular nitrogen oxides and sulphur dioxide. These gases have affected the earth's atmosphere. Acid rain and the destruction of forests are two very important bills that Europe has had to pay in recent decades. Total CO₂ emissions from energy use in Mediterranean countries have been increasing steadily and amounted to more than 7% of total emissions worldwide in 2002. Because of the increasing concentration of CO₂ in the atmosphere, the earth's average temperature is increasing each year, leading to global warming and climate change.

Besides its consumption, the production and shipping of fossil fuels, in particular petroleum, causes damage as a result of accidental oil spills in the seas or discharges from regular activities. Not only by polluting the earth but also by polluting national and international politics, natural resources (especially petroleum) continue to be a cause of conflict and problems in the Mediterranean region.

Climate Change⁴⁰

Impacts of climate change have become more visible in the European and Mediterranean natural ecosystems, biodiversity, human health and water resources. The average temperature globally increased 0.74°C between 1906 and 2005. In Europe, the temperature is about 1.4°C higher in 2007 than in pre-industrial times. Sea levels are rising and the melting of glaciers is accelerating. Global warming is to some extent the result of natural factors, but the latest scientific insights show that much of it can be attributed to greenhouse gas (GHG) emissions from human activities: carbon dioxide (CO₂) is the largest contributor at about 80% of total GHG emissions.

As a result of climate change, some key economic sectors like forestry, agriculture and tourism have been negatively affected. The Mediterranean basin has been referred to as one of the most endangered geographical areas. Mountain regions, coastal zones, wetlands and particularly the Mediterranean Sea itself are particularly vulnerable. The results of environmental disturbance in one country may very well affect neighbouring countries and also the rest of the world. Flood defences, water scarcity, human health and adaptation to climate change are being discussed along with management of the natural environment in the 21st century.

Q: Are there any climate changes in that people fear in your environment?

Coastal habitat destruction

Coastal development, mainly urbanisation and tourism, is a major problem in the Mediterranean. Of the total 46 000 km of Mediterranean coastline, 25 000 km are urbanised and have already exceeded a critical limit.⁴¹ Since the coastal zones have high economic value and better employment opportunities, the concentration of human settlement results in the rapid growth of coastal cities and towns. However, development of the relatively small area along the coast brings a number of conflicting demands for land, water, energy and biological resources, often followed closely by habitat destruction and general ecosystem degradation.⁴²

The Mediterranean coasts are major tourist destinations. Although tourism brings economic benefits, it also brings high costs to the environment. Besides the need for housing construction for the visitors and the staff of the resorts, roads, airports, ports, waste disposal facilities and a growing number of leisure facilities are required. More fresh water and more sanitation (for hotels, swimming pools, golf courses) are needed, as well as food, which itself requires more fresh water.⁴³ This results in the destruction of wetlands such as Lake Bizarta in Tunisia, Lake Regahaia in Algeria and the Evros/Meric Delta in Greece and Turkey. In addition, building new resorts on beaches and the human disturbance of animals cause habitat loss, especially for endangered species such as sea turtles and monk seals.

Exotic species

There are aliens in the Mediterranean Sea. No, this is not a science fiction scenario! The aliens, exotic or non-native species, are considered to be the second leading cause of biodiversity loss in all European seas.⁴⁴ In general, aliens dominate certain native species and cause a decrease in the biodiversity. In the Mediterranean Sea, over 600 exotic species have been recorded so far that came through shipping or aquaculture. Economic losses are also caused by exotic species, for example, the invasion by jelly fish and their effect on tourism.

Q: Do you think these coastal environmental threats are also faced in other seas, such as the Baltic, North, Caspian and Black Seas?

Sewage and urban run-off

Of 601 coastal cities only 69% operate a wastewater treatment plant. Where is the rest of the waste discharged? Solid waste produced in urban centres is often disposed of in dumping sites with minimal treatment. Most of the Mediterranean coastline hosts chemical and mining industries that produce significant amounts of industrial waste.

Many of these threats are not present only in the Mediterranean Sea, but shared by many other places in the world. To reverse these threats and protect the environment is a must if we would like to live in a decent world and leave it the same way for future generations. Youth work offers valuable opportunities for people who would like to be helpful in this process. Hundreds of local, national, regional and international non-governmental organisations are constantly fighting the damage done to the environment by human beings and they organise many events such as protests,

campaigns and training events. All the threats summarised above can be (and in fact are) a subject of action for environmental activism and environmental youth work.

Q: Which environmental protection organisations are active in your region?

10.6 Protecting our common heritage: institutional efforts

“As no single country can be held responsible for the deterioration of the Mediterranean environment, no single country can protect it by acting alone”.⁴⁵ This statement by the European Commission is also valid for the environmental protection of the whole earth. The high level of interdependency between the environment and human beings and the limits of individual human efforts necessitate a common approach to preserving biodiversity on global, pan-European and Mediterranean scales. As a result, institutional efforts bring their financial and human resources and expertise together to produce background studies/research, reports, possible solutions to environmental problems and policy proposals for environmental policy makers. Maybe the most important aspects of international co-operation are the development of the necessary environmental legislation and the means to enable its enforcement.

The Kyoto Protocol is a protocol to the United Nations Framework Convention on Climate Change, to reduce global warming and cope with temperature increases resulting from greenhouse gases that cause climate change. It was agreed on 11 December 1997 in Kyoto and came into force on 16 February 2005. As of 12 December 2007, 176 countries and the EU have adopted instruments of ratification, accession, approval or acceptance.⁴⁶

At European Union level, nature conservation policy is based on two main pieces of legislation: the Birds Directive⁴⁷ and the Habitats Directive.⁴⁸ The latter requires the Mediterranean countries of the EU to identify the more important natural sites and conserve them.⁴⁹ At the UN World Summit on Sustainable Development in Johannesburg in 2002, governments committed themselves to significantly reducing the rate of biodiversity loss by 2010. Accordingly, the EU has set itself the objective of halting the loss of biodiversity in its own territory by 2010.⁵⁰ Various pieces of legislation on aspects of environmental protection also exist at EU level. The Action Plan on Biodiversity (2006-10), the Maritime Policy Green Paper and the Strategy on the Sustainable Use of Natural Sources are some examples of the EU's environmental legislation.

The Council of Europe also prioritises the environment and the conservation of nature and landscapes in relation to sustainable development, and has produced several international instruments. The Bern Convention on the Conservation of European Wildlife and Natural Habitats⁵¹ (1979) aims to conserve wild flora and fauna and their natural habitats and to promote European co-operation in this field. The Convention places an emphasis on North–South interdependence and co-operation, with a focus on the protection of migratory species. The Pan-European Biological and Landscape Diversity Strategy (1995) aims to find a consistent response to the decline of biological and landscape diversity in Europe and to ensure the sustainability of the natural environment.⁵² The European Landscape Convention (Florence, 2000) underlines

that “the landscape is our living natural and cultural heritage, be it ordinary or outstanding, urban or rural, on land or in water” and accordingly promotes the protection, management and planning of European landscapes.⁵³ The Framework Convention on the Value of Cultural Heritage for Society⁵⁴ (Faro, 2005) adopts a broader approach to environment and decompartmentalises the concept of cultural heritage as “a group of resources inherited from the past reflecting evolving values, beliefs, knowledge and traditions”. This approach includes all aspects of the environment resulting from the interaction between people and places over time.

As a part of the wider political, economic and social framework, the Euro-Mediterranean Partnership has planned measures to protect the Mediterranean environment. The framework programme of action, the Short- and Medium-term Priority Environmental Action Programme⁵⁵ (SMAP), was adopted by the Euro-Mediterranean Ministerial Conference on the Environment in 1997. This programme is actually the common basis for environmental policy orientation and funding in the Mediterranean region. The SMAP has five priority fields of action, selected by consensus of the partners: integrated water management; waste management; hotspots; integrated coastal zone management; and combating desertification.⁵⁶

In all these institutional efforts, non-governmental environmental organisations have played a role. They have not only been important in pushing institutions to focus on environmental issues and providing expertise and experience for the preparation of conventions, agreements and programmes, but they have also played vital roles with their activism and efforts for the realisation of the objectives set out in those institutional efforts and for the implementation of environment-friendly policies.

Q: June 5 is World Environment Day and 22 April is Earth Day, which are celebrated every year. Which activities are organised to celebrate them where you live?

10.7 Sustainable development: strategies

“To meet the needs of the present without compromising the ability of future generations to meet their needs” is the explanation of the “sustainable development” concept in *Our Common Future*, the Brundtland Report of the World Commission on Environment and Development. Sustainable development means meeting the needs of present generations without jeopardising the needs of future generations: a better quality of life for everyone, now and for generations to come.⁵⁷ It describes a situation in which citizens feel secure, live in a healthy environment, play a constructive role in society and are listened to by society’s different segments. It is clear that sustainable development for Europe and the Mediterranean requires respect for nature and the preservation of natural resources.⁵⁸

→ 10.7.1 The EU Sustainable Development Strategy⁵⁹

The European Council of June 2006 adopted a renewed EU Sustainable Development Strategy, which recognises the need to gradually change the EU’s current unsustainable consumption and production patterns, reaffirms the need for global solidarity and recognises the importance of strengthening the EU’s work with partners outside the EU.⁶⁰

The overall aim of the renewed strategy is to identify and develop actions to achieve continuous improvement of the quality of life, for current and future generations, by creating sustainable communities able to manage and use resources efficiently. The strategy also aims to tap the economy's potential for ecological and social innovation, ensuring prosperity, environmental protection and social cohesion. The renewed strategy sets overall objectives, targets and specific actions for seven key challenges until 2010, many of which are predominantly environmental:

- climate change and clean energy;
- sustainable transport;
- sustainable production and consumption;
- public health threats;
- better management of natural resources;
- social inclusion, demography and migration; and
- fighting global poverty.

→ 10.7.2 The Mediterranean Strategy for Sustainable Development (MSDD)

In 1975, 16 Mediterranean countries and the European Community adopted the Mediterranean Action Plan⁶¹ (MAP), as a Regional Seas Programme under the United Nations Environment Programme (UNEP). In 2007, the MAP involved 21 countries bordering the Mediterranean as well as the European Union, all determined to meet the challenges of environmental degradation in the sea, coastal areas and inland, and to link sustainable resource management with development, to protect the Mediterranean region and help to give it an improved quality of life. The key ingredient of this regional 'green' effort is the commitment of the region's inhabitants, and its millions of visitors, to an overall respect for the Mediterranean environment and their will to integrate this respect into their daily lives. The goal is not only to change attitudes but also to motivate and empower people to act for the Mediterranean environment.⁶²

The Mediterranean Strategy for Sustainable Development⁶³ was adopted by the MAP's advisory body, the Mediterranean Commission for Sustainable Development (MCSD) in 2002. The strategy is structured around four objectives:

- to contribute to economic development by enhancing Mediterranean assets;
- to reduce social disparities by implementing the UN Millennium Development goals and improving cultural integration;
- to change unsustainable production and consumption patterns and ensure the sustainable management of natural resources; and
- to improve governance at the local, national and regional levels.

The seven priority fields of action are: water resources; energy management and addressing climate-change impacts; tourism; transport; urban development; agriculture; and management of sea, coastal areas and marine resources.

The Mediterranean Strategy is a framework strategy. It aims to adapt international commitments to regional conditions, guide national sustainable development strategies and instigate a dynamic partnership between countries at different levels of development. The strategy calls for action to pursue sustainable development goals with a view to strengthening peace, stability and prosperity. It also takes into consideration the need to reduce the gap between developed and developing countries in the region.⁶⁴

10.8 Time for youth action: towards education for sustainability⁶⁵

So far, the 21st century is a fast-moving era of rapid transformation. In written and visual media, in the streets, at school and at home, politicians, business people, academics, nations, citizens and parents are discussing the environment. It has always been obvious that the economy, society and the environment are inter-related, but until recently the economy was the most (and almost the only) emphasised issue of these three. Social and environmental aspects have been mostly ignored. It is now time for people to act in order to help protect our common environment in Europe and the Mediterranean. To do this, people need to learn to live in a sustainable way. Education is critical for promoting sustainability and improving the capacity of human beings to address environmental and developmental issues.

Since 2000, achieving sustainable development has required a balanced approach between environmental, societal and economic considerations for development and an improved quality of life. Education for Sustainable Development (ESD) can be seen as a revised and broadened approach to environmental education, aiming to empower people to take responsibility for a sustainable future. ESD requires the participation and collaboration of different sectors (policy makers, the private sector, non-governmental organisations, educational institutions, the media) to enable a wider engagement of people.

As elaborated by the UN Decade of Education for Sustainable Development (2005-2014), ESD⁶⁶ is about learning to:

- respect, value and preserve the achievements of the past;
- appreciate the wonders and the peoples of the Earth;
- live in a world where all people have sufficient food for a healthy and productive life;
- assess, care for and restore the state of Earth;
- create and enjoy a better, safer and more just world;
- be caring citizens who exercise their rights and responsibilities locally, nationally and globally.

The key integrated and inter-related themes of ESD in the context of the UN Decade of Education for Sustainable Development are: gender equality, health promotion, the environment, rural development, cultural diversity, peace and human security, sustainable urbanisation and sustainable consumption.⁶⁷

Gender equality is both an aim and a pre-condition of sustainable development. Women and girls suffer discrimination in all societies, as a result of patterns of enduring social norms or traditions. In many societies, women have the major responsibility for food production and child-rearing, but they are excluded from important decisions which affect them. In terms of ESD, the full and equal engagement of women is crucial in order to give the best chance for changed behaviours for sustainable development in the next generation.

Health, development and the environment are closely linked. An unhealthy population endangers economic and social development and triggers a vicious cycle that contributes to unsustainable use of resources and environmental degradation. A healthy population and a safe environment are important pre-conditions for sustainable development.

Preservation and restoration of the Earth's environment are crucial. Developing an understanding of the interdependence and fragility of Earth's life-support systems and its natural resources lies at the heart of ESD. It is expected that the links between societal and economic considerations will encourage people to adopt new behaviours to help preserve the world's natural resources, behaviours which are essential for human development and survival.

Three quarters of the world's population is poor: they earn less than a dollar a day. The majority of these are female and live in rural areas. Non-attendance at school, early drop-out of students, adult illiteracy and gender inequality in education are high in rural areas, as is poverty. A multi-sectoral educational approach involving all ages and formal, non-formal and informal education is necessary for sustainable development.

"Our rich diversity ... is our collective strength", as the Johannesburg Declaration emphasised. Many opportunities for education and sustainable human development are undermined by a lack of tolerance and intercultural understanding, but peace is founded upon these. Learning situations of all kinds are ideal opportunities for practising and deepening respect for and understanding of diversity, and for taking into account local knowledge. Culture is not just a collection of particular manifestations (song, dance, dress), but a way of being, relating, behaving, believing and acting, which people live out in their lives and which is in a constant process of change and exchange with other cultures.

To live in an environment of peace and security is the basis of human dignity and development. Too often, fragile processes of sustainable development are undermined by insecurity and conflict. These cause significant human tragedies, overwhelming health systems and destroying homes, even whole communities, leading to yet more displaced people and refugees.

Cities have moved to the forefront of socio-economic change, with half the world's population now living in urban areas and the other half increasingly dependent on cities for their economic, social and political progress. Factors such as globalisation and democratisation have increased the importance of cities for sustainable development.

Sustainable lifestyles and ways of working are central to overcoming poverty and conserving and protecting the natural resource base for all forms of life. Sustainable methods of production are needed in agriculture, forestry, fishing and manufacturing. Use of resources needs to be minimised, and pollution and waste reduced. There is a need to reduce the impacts of lifestyles and consumption habits on society and resources in order to ensure the equitable availability of resources for all societies around the world.

Education for Sustainable Development is an interdisciplinary and multifaceted approach. It is also a lifelong process. For this reason, formal, non-formal, and informal educational sectors should work together to accomplish local sustainability goals.

10.9 Conclusions

As we have tried to show, the environment embraces not only natural resources but much more than that. It shapes all our lives and it is shaped by us. Our cultural and natural heritage too are interconnected; in the 21st century, they face numerous threats which necessitate co-operation and co-ordination among various actors and sectors. There have been many institutional attempts in the international arena, and numerous international, national, regional and local non-governmental organisations are working for the protection of the environment.

Considering the threats that our environment faces, it is obviously the responsibility of every single individual to preserve and protect it. The youth sector is only one field of environmental activism, but it has already provided successful examples of how environmental problems can be brought to the attention of young people and decision makers. Especially in an endangered environment such as the Mediterranean, there is still a huge responsibility falling on youth activism, which can be fulfilled in many different ways, ranging from individual actions such as recycling, tree planting and changing consumption habits to more organised efforts such as initiating campaigns and youth exchanges on various environmental issues.

One of the tools for youth work is the Euro-Med Youth Programme, which considers heritage and environmental protection as a key priority for the development of the Euro-Mediterranean youth sector. Within this framework, it is possible to realise international youth activities such as youth exchanges, seminars or training courses about the protection of the Euro-Mediterranean heritage and environment, environmental sensitivity and activism.

Water Education⁶⁸

Water being one of the most important resources on earth and a huge challenge in the 21st century, a training course with the theme “Water as a key issue for peace and sustainable development!” took place in Jordan in 2005. The idea behind it was that, if water resources are not better managed, there will be consequences for the ecosystems but also for political stability. Jordan hosted this activity because it is one of the ten countries with the lowest level of water resources in the world. The programme addressed the “Educational management of water”, an exploration of the local environment and the relevance of the theme to Euro-Med co-operation projects. One specific aspect was tackling the political situation: cultures in conflict share a vital interest in common resources essential to life, such as drinking water.

Environment and Human Ecology⁶⁹

A training course was organised in Hungary in 2005, with the idea that each culture is part of a whole with the surrounding environment (natural, sociological, historical, traditional) and that “exploring the environment” can provide young people with a good opportunity to “explore the local culture” and go down the path of intercultural learning. The course aimed to show how the local environment could be used as a relevant tool to promote cultural discovery and intercultural learning in youth projects. In the activity, the youth leaders acted as human ecologists, explored the local environment of Hungary and then prepared activities suitable for young people.

Learning about the environment and environmental activism are not only a matter of saving and protecting the natural environment around us. They are also important elements in intercultural learning: the ability to open eyes and ears, to reach out to others, to show empathy. In that sense, using the local environment as a pedagogical tool in youth activities can be a good method to combine intercultural learning with environmental sensitivity.⁷⁰ Creating opportunities for young people to encounter the local environment, so that reality and activity interact, would give participants in youth activities the chance to experience and learn by doing, before transmitting something to other people. This is another way of considering the environment: as a wider entity, including all the natural, sociological, historical and traditional elements around us.

Notes

1. "Environment" in *COMPASS: a manual on human rights education with young people*, 2003, Strasbourg: Council of Europe, pp. 350-353. Available at <http://eycb.coe.int/compass>.
2. "Environment", ref. 2a in *Merriam-Webster's Collegiate Dictionary*.
3. "Natural environment" in *Biodiversity theme report*, Australia state of the environment report 2001, prepared by Dr Jann Williams, CSIRO Publishing on behalf of the Department of the Environment and Heritage, Commonwealth of Australia. Available at: www.environment.gov.au/soe/2001/biodiversity/glossary.html.
4. Ecosystem (2007) *Encyclopædia Britannica* at www.britannica.com/eb/article-9031944/ (retrieved 17 November 2007).
5. "Scientific facts on ecosystem change", summary by GreenFacts from Millennium ecosystem assessment general synthesis report: *Ecosystems and human well-being*. Available at: www.greenfacts.org/en/ecosystems/index.htm#4.
6. "Environment", ref. 2b in *Merriam-Webster's Collegiate Dictionary*.
7. Gilpin, A. (1994) *Environmental Impact Assessment (EIA): cutting edge for the twenty-first century*, Cambridge University Press, p. 1.
8. *Ibid.*
9. From the World Commission on Environment and Development (the Brundtland Commission) report, *Our Common Future*, 1987, Oxford: Oxford University Press.
10. The title of this chapter is inspired by and a reference to David Attenborough (1990) *The first Eden: the Mediterranean world and man*, London: Little Brown & Co.
11. "Hotspots" were first identified by Norman Myers in 1988. He used this concept for ten tropical forests with exceptional endemic plants and serious threat of habitat loss. Myers added eight more hotspots in 1990, including four Mediterranean-type ecosystems. Conservation International worked on Myers' hotspots in 1989 and 1996, then decided to reassess this concept. In a 1999 global review, hundreds of scientists and environmentalists identified 25 biodiversity hotspots. See www.biodiversityhotspots.org/xp/Hotspots/hotspotsScience/pages/hotspots_defined.aspx.
12. See www.biodiversityhotspots.org/xp/hotspots/hotspotsscience/key_findings/Pages/default.aspx.
13. "Scientific facts on biodiversity & human well-being", summary by GreenFacts from the report *Ecosystems and human well-being: biodiversity synthesis*, 2005, Millennium Ecosystem Assessment (MA). Available at: www.greenfacts.org/en/biodiversity/index.htm#1.
14. European Commission (2005) *Environment fact sheet: nature and biodiversity*. Available at: <http://ec.europa.eu/environment/pubs/pdf/factsheets/biodiversity.pdf>.
15. See www.biodiversityhotspots.org/xp/hotspots/mediterranean/Pages/default.aspx.
16. IUCN (International Union for Conservation of Nature and Natural Resources) Red List of Threatened Species – 2006, quoted in *European environment: the fourth assessment*, European Environment Agency, Official Publications of the European Communities, 2007. See http://reports.eea.europa.eu/state_of_environment_report_2007_1/en.
17. See www.biodiversityhotspots.org/xp/hotspots/mediterranean/Pages/biodiversity.aspx.
18. The table uses data from the Green Pack "Biodiversity, European nature: European fauna and flora" prepared by the Regional Environment Centre for Central and Eastern Europe. Important note: data include European countries with a Mediterranean coastline. See http://greenpack.rec.org/biodiversity/european_nature/04-03-03.shtml.
19. *Glossary*, Biodiversity hotspots at www.biodiversityhotspots.org/xp/Hotspots/resources/pages/glossary.aspx.
20. See www.biodiversityhotspots.org/xp/hotspots/mediterranean/Pages/default.aspx.
21. See www.biodiversityhotspots.org/xp/hotspots/mediterranean/Pages/biodiversity.aspx.
22. See http://greenpack.rec.org/biodiversity/european_nature/index.shtml.
23. See www.biodiversityhotspots.org/xp/hotspots/mediterranean/Pages/biodiversity.aspx.
24. See http://greenpack.rec.org/biodiversity/european_nature/04-03-03.shtml
25. Sulayem, M. (1994) "North Africa and the Middle East" in: J. A. Mcneely, J. Harrison, and P. Dingwall (eds), *Protecting nature: regional reviews of protected areas*. Gland: IUCN. Quoted in www.biodiversityscience.org/publications/hotspots/MediterraneanBasin.html.
26. See www.biodiversityhotspots.org/xp/hotspots/mediterranean/Pages/conservation.aspx.

27. These areas are defined by the Natura 2000 Network under the Birds Directive and Habitats Directive of the EU. *Europe's environment: the fourth assessment*, European Environment Agency, Official Publications of the European Communities, 10 October 2007, p. 188.
28. World Heritage List, UNESCO. Available at: <http://whc.unesco.org/en/list>.
29. World Heritage in Danger List, UNESCO. <http://whc.unesco.org/en/danger> and <http://whc.unesco.org/en/158>.
30. See http://portal.unesco.org/science/en/ev.php-URL_ID=2034&URL_DO=DO_TOPIC&URL_SECTION=201.html.
31. *Science, traditional knowledge and sustainable development*, ICSU Series on Science and Sustainable Development No. 4, UNESCO Publications. Available at: http://portal.unesco.org/science/en/ev.php-URL_ID=3521&URL_DO=DO_TOPIC&URL_SECTION=201.html
32. Kiene, T. (2006) "Traditional knowledge in the European context", *Iddri – Idées pour le débat* No. 02/2006. Available at www.iddri.org/Publications/Collections/Idées-pour-le-debat/id_0602_kiene_tkeurop.pdf.
33. The Royal Society for the Conservation of Nature at www.rscn.org.jo/conservationDana.asp.
34. This section is based on data and information from the "Gender and food security" section of the Food and Agriculture Organization (FAO) of the United Nations. Available at: www.fao.org/gender/en/envb1-e.htm and www.fao.org/gender/en/env-e.htm.
35. Communication from the Commission to the Council and the European Parliament, Establishing an Environment Strategy for the Mediterranean {SEC(2006)1082}, COM(2006) 475 final, Brussels, 5.9.2006.
36. López, A. and Correas, E. (2003) *Assessment and opportunities of Mediterranean networks and action plans for the management of protected areas*. Gland and Cambridge: IUCN. Available at http://iucn.org/places/medoffice/Documentos/libro_pa_en.pdf (accessed 14 January 2008).
37. *Ibid*, p. 57.
38. Gleick, P. (1996) "Basic water requirements for human activities: meeting basic needs", *International Water*, Vol. 21, No. 2, 83-92, quoted at www.infoforhealth.org/pr/m14/m14chap2_2.shtml.
39. See www.waternet.be/jordan_river (accessed 15 January 2008).
40. This part is mainly summarised from Chapter 3, "Climate Change", in *Europe's environment: the fourth assessment*, State of the environment report No. 1/2007, European Environment Agency (EEA), 2007, Copenhagen, Denmark, pp. 145-174. Available at: http://reports.eea.europa.eu/state_of_environment_report_2007_1/en; and Intergovernmental Panel on Climate Change (IPCC) fourth assessment report, Climate Change 2007: Synthesis Report, 2007. Available at: <http://www.ipcc.ch/ipccreports/ar4-syr.htm>.
41. WWF, *Background information: tourism threats in the Mediterranean*. Also available at: www.panda.org/about_wwf/where_we_work/europe/what_we_do/mediterranean/about/tourism/index.cfm.
42. Chapter 5, "Marine and coastal environment", in *Europe's environment: the fourth assessment*, State of the environment report No. 1/2007, European Environment Agency (EEA), 2007, Copenhagen, Denmark, pp. 145-174.
43. *Ibid*.
44. *Ibid*.
45. Communication from the Commission to the Council and the European Parliament, Establishing an Environment Strategy for the Mediterranean {SEC(2006)1082}, COM(2006) 475 final, Brussels, 5.9.2006.
46. See http://unfccc.int/essential_background/items/2877.php.
47. Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds. Available at: <http://europa.eu/scadplus/leg/en/lvb/l28046.htm>.
48. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Available at: <http://europa.eu/scadplus/leg/en/lvb/l28076.htm>.
49. See www.conservation.org.
50. See <http://ec.europa.eu/environment>.
51. See www.coe.int/t/dg4/cultureheritage/Conventions/Bern/default_en.asp.
52. See www.coe.int/t/dg4/cultureheritage/Policies/Biodiversity/default_en.asp.
53. See www.coe.int/t/dg4/cultureheritage/Conventions/Landscape/default_en.asp.
54. See www.coe.int/t/dg4/cultureheritage/Conventions/Heritage/faro_en.asp.
55. See <http://ec.europa.eu/environment/smap>.
56. See <http://ec.europa.eu/environment/smap/priority.htm>.

57. See <http://ec.europa.eu/environment/eussd/>.
58. Hontelez, J. and Buitenkamp, M. (2006) *EU sustainable development strategy: from theory to delivery*, European Environment Bureau Publication No. 2006/008.
Available at: www.eeb.org/activities/sustainable_development/Publication_EEB_SDS_018-06_ENG.pdf
59. See <http://ec.europa.eu/environment/eussd/>.
60. See <http://ec.europa.eu/environment>.
61. See www.unepmap.org.
62. Ibid.
63. See www.planbleu.org/actualite/uk/MediterraneanStrategySustainableDevelopment.html.
64. *The Mediterranean strategy for sustainable development*, pp. 5-6.
Available at www.planbleu.org/publications/smdd_uk.pdf.
65. See www.unesco.org.
66. Vision and Definition of Education for Sustainable Development, UNESCO.
67. The definitions and explanations below are summarised from the UNESCO website: www.unesco.org/education.
68. See www.salto-youth.net/water.
69. See www.salto-youth.net/environment.
70. Salto-YOUTH training seminar "How to use local environment as a pedagogical tool?", Final Report, Curtea de Arges, Romania, 21-29 July 2001. Available at: www.salto-youth.net/download/968.