BEHAVIOUR AND THE ENVIRONMENT

21

ETHICS, EDUCATION, AND LIFESTYLE

To choose bike for short distance travels is today a lifestyle choice. This choice has many advantages. Biking is good for the environment (no exhausts), it is also good for your health (physical exercise), and your economy (driving a car is more expensive). In the best cases biking allows an experience of beautiful nature; it is also good for the municipality if noise, traffic jams, accidents and investments in roads can be reduced. To support those who want to use bike is a good environmental policy of a municipality. (Photo: Lars Rydén.)

"Everything depends on our consciousness, on our approach to these problems. However, nobody thinks, that he is just the person, whose behaviour has to change".

Paul McCartney

The way we live, our lifestyle, is what leads to environmental impact. In the West, high consumption, high mobility, and a high level of waste production are all connected to a lifestyle with large environmental impact. It is sometimes said that if everyone on Earth lived as Europeans do we would need six planets.

Why do we choose to live in a certain way? Does it depend on our education, on our values, or on the practical situation? The theme of this chapter is to discuss the different factors that determine our lifestyles. The means we have developed to master environmental degradation, including technical, economic, and legal instruments, might not be enough or even the right way to proceed. The root of the problem may instead lie in how we perceive the environment and our place in the world.

The approach taken by many new schools of philosophy is that human beings, who constitute only one out of the myriad of life forms on planet Earth, should respect the integrity of Nature and all other forms of life. Then, the attitude of individuals, and indeed society, towards the environment would be totally different.

It is clear that ethics are basic to our way of dealing with the environment. Most accepted political and legal documents are based on so-called anthropocentric ethics. It is the view that the environment is there for humans and society; the environment is only instrumental: to feed us, to provide resources, or to be enjoyed.

Other ethical systems argue a much higher degree of integrity of Nature. The biocentric view maintains that other life forms have a value of their own, regardless if they are useful to us or not, and should be respected for that reason. Ecocentric values emphasize that we should respect ecosystems with all their components. Regardless of which of these views one accepts, it is clear that they maintain that we should respect the environment more than is the case at present.

Information, education, and debate on environmental issues and actions to increase public awareness have been a main concern since the earliest years of the environmental movement. Schools and universities have important roles, but we should not forget the importance of the media, families, and other everyday situations to provide new knowledge, understanding and skills in the field of environmental protection. Knowledge is important and a prerequisite for informed action. However, a change in ethics and behaviour usually also requires a practical situation conducive to change. Nonetheless, information, education, and development of new skills play important roles in acceptance of change.

Lifestyles develop and change slowly under the influence of a complex world. Modern society does not make it easy to pursue an environmentally friendly lifestyle. Still there are choices that can be made in our lives, and this is the little crack in which a new society may develop. This crack may widen as we look for a different way to approach environmental protection, to create a society based on other values.

Authors of this chapter

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Behaviour and the environment

Ethics, education, and lifestyle

Actions, values, and lifestyles

Lifestyle choices

"Lifestyle" is intuitively easy to understand. It is how we conduct our lives. But scientifically it is not so easy to define lifestyles. If one looks closely, lifestyles are made up of a series of specific behaviours. The sum of behaviours of many individuals, e.g. when it comes to energy use, car driving, waste management, etc., is decisive for environmental impact.

Sometimes behaviours clearly form patterns that could be called lifestyles. The so-called "western" way to live certainly leads to an environmental impact that is large. High consumption, high mobility, and a high level of waste production are all connected with this lifestyle. It is sometimes said that if everyone on Earth would lived as Europeans do we would need six planets. Calculations of material flows and ecological footprints indicate that this is not far from the right value.

One group draws radical conclusions from this. They argue that protection of our environment requires that dramatic steps be taken to reduce consumption, mobility, etc. The modernisation project itself may even be questioned. Is industrial society perhaps not compatible with survival of the planet?

Others do not believe that this is the only way to see it. They point to technical solutions to master environmental impacts. They agree that it might be necessary to change consumption habits, to make them more green, but a radical change in how we lead our lives is not needed. Cars have to be more environmentally friendly, but we may still drive cars.

In both cases the conclusion is that the western lifestyle has to be changed so as not to destroy the environment. However, it is understood in two different ways, which emphasizes that lifestyles are dependent on the circumstances, the infrastructure of society, which allows certain choices to be made. These infrastructures may or may not be included in the lifestyle concept. It is possible to differentiate between:

- *forms of life* to indicate these fundamental differences in society such as production forms, infrastructure, institutions, legal structures, etc., and
- *ways of living* which are then used to differentiate between how individuals, or groups of individuals, in a society conduct their lives.

The first category would refer to how society is organised, a "choice of society". The second category refers more to individual choice, a "choice of life" (Laessoe and Hansen, 1995).

Lifestyles in this second meaning, ways of living, may in turn be divided into two slightly different categories. It may be understood either as a collective phenomenon or as a preference of the individual, that is either as the *styles of social groups,* such as elderly or gender groups, etc., or as an *individual project*. We then have three different meanings of the concept of lifestyle (see Figure 21.2). It is important to differentiate between the various meanings of the concept of lifestyle when discussing changes in lifestyles and what it requires.

Why does an individual make certain choices in life? Is it because he or she prefers "this style" for his or her own best enjoyment and comfort, or is it because he or she has the attitude that to live in a certain way is morally right, while other ways are morally wrong, and in fact is prepared to reduce comfort for this reason alone? A moral background for the decision is expected when it comes to not leading a criminal life or a life depending on drugs, but it may perhaps also apply for a life with certain concerns for the environment. Lifestyle in the sense of "ways of living" is connected to values, attitudes, and ethics.

Figure 21.1. Nature. The base of environmental ethics and good environmental behaviour is for most of us a deep respect for and love of Nature. (Photo: Lars Rydén.)

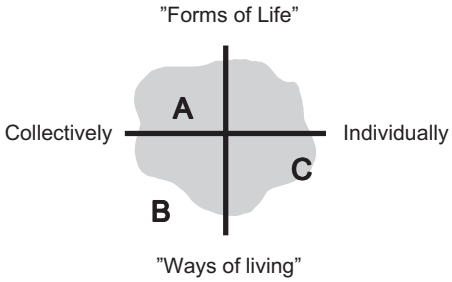


Figure 21.2. The different meanings of lifestyle. "Lifestyle" is not easily defined as a single precise concept. It is easier to see it as a field in two or several dimensions. Here two dimensions are used: The horisontal axis stretches from the collective to the indivudal while the vertical axis is a structural parameter referring to society. While A is lifestyle as defined behaviour by members of a culture (western lifestyle), B refers to lifestyle as a phenomenon in a group (youth or those interested in cars), C is lifestyle as an individual project. (Source: Hallin, 1999.)

Factors deciding life-style

- structure of society and how it is organised,
- values and ethics of the individual,
- education of the individual and information available.

Choice of lifestyle also depends on what a person knows about the alternatives. What role does information and education play? Does information on global warming immediately lead to changes in mobility habits to reduce greenhouse gas emission? Is what you learned in school important for the way you live or is what you learn from parents, friends, and colleagues more important?

In summary, we find three broad categories of factors that are decisive for choice of lifestyle (Hallin, 1999): How the society is organised; our values, that is ethics; and education and information.

In this chapter we will look more closely on how individual behaviour is influenced by each of these factors.

The actors – individuals, companies, and authorities

Individuals, which will be mostly discussed in this chapter, have an important direct influence on the environment in several areas. These include choice of mode of transport, consumption, use of energy, how to behave in nature, how to deal with waste, and how to manage water.

Individuals in a family differ in their environmental impact, e.g. women are on an average more concerned with the environment than men and the very old and very young have less impact. But many choices of environmental importance, e.g. energy and water use, and waste management, are taken at the household, that is the *family*, level. We may thus see *families* as a separate important actor.

Organisations and companies are strong actors that significantly influence the environment. They do so in many ways similar to individuals and families – they can save resources such as water and energy, they can choose to use products that are environmentally friendly, and they can be careful about waste management and mobility schemes. Companies and public institutions also choose their "lifestyles" in a way. Companies in many cases have an impact that goes beyond the scale of impact of an individual, with regards to more technical areas such as flue gases, wastewater, technology choices, etc.

What are the incentives for companies to act in a certain way? Many decisions are financial and technical. But there is also feedback in the system. Individual consumers influence companies though their choice of products. A larger market for "green" products influences companies to produce more of them. An additional factor is the reputation, or the "good-will," of the company. If it is improved by a greener profile it will influence boardroom decisions.

Similar points of views are valid for local public institutions, in particular *municipalities*. They are large consumers, they handle large amounts of waste and resources and they may choose environmentally friendly policies when it comes to areas such as transport. In addition, municipalities have a major role in planning. Municipalities are in many ways key actors in the efforts to improve environmental protection.

On the *national level* politicians protect the environment using political decision, e.g. by legislation, taxation, and information. In a democratic society, the politicians are however also dependent on the individual. The individual influences the public institutions through political actions, most importantly the public vote. Political decisions that do not have public support will be very difficult to implement successfully.

But there is also a more individualistic dimension in the policy-making process. The decisions in boardrooms and political assemblies are made by individuals. It is the individuals that choose and decide. The same holds for the whole chain of institutions up to the global level. The understanding of environmental concerns by these individuals are thus important for policy-making from the national to global level. Thus, the discussion on lifestyle choices is relevant for all levels in society, not only how a single person decides how to travel to work and what to buy. From this point of view, the topic of

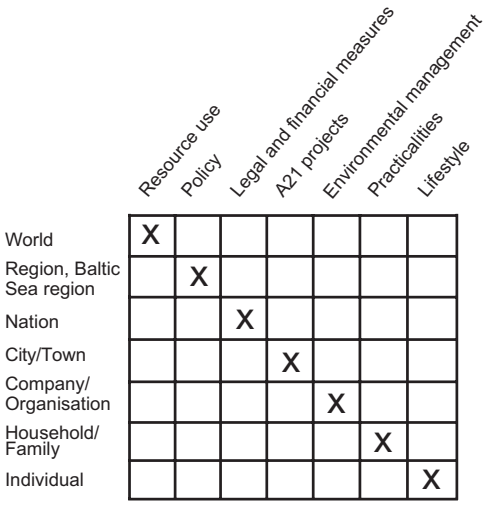


Figure 21.3. Actors. Among the seven different actors which may improve the environment from the global to the individual level, each one has its special role. The individual's special area is lifestyle choice.

information, education, and ethics form the basis for all environmental decisions, performance, and policies in society.

The role of information and education

There is an inherent difficulty in the link between lifestyle choices and environmental impact: "invisibility." This difficulty is tackled by *information*. We are informed by authorities and others about environmental impacts of energy use, improper waste management, etc.

But does information really lead to change of behaviour? It does if the consequences of behaviour are immediate and clear. If you decide to drop all household waste on the floor in your kitchen it will very soon be unbearable to be there, and you probably will decide to change your habits. However, when it comes to the environment it is very difficult or even impossible to see how a certain choice of behaviour influences the environment. The emission of greenhouse gases, which is a molecular waste – each person emits several tonnes a year – can not be seen at all and its impact is far away both in time and space. It is only through science that we know that driving a car contributes to carbon dioxide emissions which in turn influences the rising level of the oceans. In addition to this very long and distant chain of influences there is also the time lag and the geographical distance that makes it difficult for us to accept only information as the reason to make a perhaps uncomfortable change in our lives.

In some cases information is immediately connected to consequences of behaviour. We will later look more closely into how information plays a role if at least some consequences of the alternative behaviour is more immediate.

Authorities use information as a political tool. In the choice between using legislation and regulation, or to tax it to make it expensive, there is the alternative of *suasion*, that is to convince the citizens to change behaviour. Information about the consequence of the behaviour and that it should be avoided, often constitute the beginning of an environmental campaign. However, it is clear that an information campaign as such does not lead to much changed behaviour. This has been proven in many situations. It may also be a reason why it is so popular among politicians: it is not dangerous for anyone since it changes so little. Information rather contributes to increased *awareness* on issues of environmental protection, and is part of a scheme where additional components are the immediate causes for behavioural change. In this role, information is in fact often more efficient than legislation as a political tool. People in general do not like to be forced to do something, they rather like to choose it themselves if there are good arguments and good possibilities to do so.

The best basis for being successful with information and other means of policy making is a general understanding of environmental issues. *Education and upbringing* play fundamental roles in how a person decides to live his or her life. One might ask why environmental issues are not more visible as a subject in school. In some countries and schools environmental issues have an important place. As will be discussed below, education is important not only for knowing why we need to act in certain ways but also how to do it, that is for skills and professional competence.

Ethics comes to the forefront

An important background to the debate on how we live our lives is the discussion about values. To what extent do values decide how we act? Are the values that we respect compatible with the lives we lead, and if not, how can we change it?

From the mid-1980s to mid-1990s a series of documents and reports were published which today constitute a platform for work to improve our environment. Virtually all of them make reference to the importance of a *new*

Levels of decision-making and actions for the environment

1. Individual
2. Family
3. Organisation, company
4. Local community, municipality
5. Nation, national authorities
6. Regional authorities, e.g. in the Baltic Sea region or the European Union
7. Global level, e.g. the United Nations

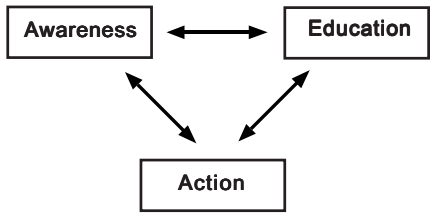


Figure 21.4. Relation of awareness, knowledge and behaviour (action) is complicated. It is not often that knowledge leads to a different behaviour. In practice, it is rather that new behaviour leads to new knowlege, which, if deepened, leads to a change in attitude.

Figure 21.5. The "new" ethics. The ethics of sustainable development in focus during the 1980s and 90s refer most often to our duties towards the coming generation. The kids in this Polish school class in the 1950s have reasons to be disappointed. (Photo: Courtesy of Pawel Migula.)

ethics. Most explicitly perhaps the World Commission on Environment and Development express themselves in their report (1987) *Our Common Future*:

> "We have attempted to demonstrate how human survival and well-being may be dependent on our capacity to successfully transform the principles behind sustainable development into global ethics."

The chairman of the Commission, Mrs. Gro Harlem Brundtland, expressed herself in a similar way when opening the World Conference on the Changing Atmosphere in 1988. She said that to come to grips with the environmental dilemma requires that

> "we develop… a new holistic ethics in which economic growth and environmental protection go hand in hand around the world."

Similar references are found in e.g. the *Agenda 21* document, the *Rio Declaration*, the *Caring for the Earth* publication from the IUCN, and the *Convention on Biological Diversity*.

There is no doubt that the leaders in the work for environment and development considers ethics central to success. But it is not obvious what actually they would specify as central values in such an ethics. Perhaps it was more clear when the chairman for the environmental committee in one of the municipalities in Sweden gathered all truck drivers in the city for a discussion about diesel quality. His argument was that, "I would like to see that our municipality is a place where our kids and everyone would be able to live a good life." After the meeting everyone promised to use so-called green diesel even if it was slightly more expensive.

His ethics was that we do not have the right to make the air in the city more unhealthy if it can be avoided. The concept of sustainable development takes us one step further. It requires that we respect also the coming generations and their needs and requirements in life. It might seem very natural to be concerned about the next generation, but in fact in the context of ethics it is a new principle. Basic ethics are often concerned with how we deal with our currently living fellow human beings within a close geographic area. Environmental change, especially regional and global environmental change, requires that we expand this perspective considerably. Our car driving may influence fellow humans on the other side of the Earth if the carbon dioxide produced enhances global warming. It may also influence my grand grandchildren or anybody's grand grandchildren if global warming

continues for a hundred years, which it certainly will. This situation is new or at least it is new to our immediate experience.

The reference to future generations is also implicit in the definition of sustainable development that was put forward by the World Commission on Environment and Development (WCED, 1987):

> "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

This is often understood as the ethics of sustainable development. Sustainable development starts with the concept that we have moral duties towards future people. But the ethics of sustainable development is not able to answer all questions with regard to environmental protection and use of natural resources, and it does not address some of the fundamental concerns.

Ethics and the environment

A new ethics

The background to the new concern for ethics is a fear that people have already caused, or are in the process of causing, large damage to the Earth and all humans, animals, and plants living on it to such an extent that we could even endanger the possibility to continue to live on Earth in the future. A part of the picture is that a large number of species are already extinct due to human activities. Edward O. Wilson, the American researcher who introduced the concept of biological diversity (see further Chapter 8), estimates that some 4,000 to 6,000 species become extinct every year and that the influence of humans has increased the rate of extinction of species up to 10,000 times!

We might ask: Do we have the right to do this? What are in fact our rights? Are we allowed to take resources from others? Are we allowed to take resources from future humans? Are we allowed to take resources from other species of animals? Are we allowed to exploit other species for our purposes at all, and if so, in what way is it ethically acceptable to do so?

All these questions are dealt with in the field of ethics. It seems obvious that we need to agree on what we can do before deciding on what we plan to do. Environmental policy is dependent on environmental ethics.

What is ethics?

Ethics are concerned with the values that form the background to our decisions of what to do. It should thus be important to specify these values, but nevertheless it is seldom done. Ethics is often said to be in the answer to a question about what we *should* do or *ought to* do. However in everyday discussions this question may have several kinds of answers, not all of them referring to ethics. Thus we may instead answer with reference to the *legal* requirements, what is legally allowed or prescribed; we may answer with reference to what people normally do, what is *socially* accepted or prescribed; or we might even refer to what we simply *intuitively* would consider the right thing; as scientists it is even more common to answer in terms of how we best carry out a task to achieve a certain set goal – this is an *instrumental* answer.

But we may also answer with reference to specific values that we want to respect. Then it is a truly *ethical answer*. For example we might say that "I do

Five ways to answer the question of what we should do

The question what we should do, or ought to do, is often referred to as one with an ethical answer. However in everyday discussions this question may have several kinds of answers, not all of them referring to ethics. We may answer with reference to

- the legal requirements, what is legally allowed or prescribed;
- what people normally do, what is socially accepted or prescribed;
- what we intuitively consider the right thing;
- in terms of how to best achieve a set goal, an instrumental answer;
- we may also answer with reference to specific values that we want to respect. Then it is a truly ethical answer.

WORLD VIEW

is how I see life,
e.g. I am responsible for my acts;
I am part of a context in time and space

↕

ETHICS

refers to reasoning on how to apply such values; 'theory of morals'

↕

MORALS

is a sets of values, like human rights, the ten commandments

↕

ACTS

what I do, sometimes based on a value

not want to do this because I do not like to hurt anyone." The value is not to hurt anyone. Going back to the environmental field, suppose that you are asked if you are going to sort your household waste and say "yes." If the next question is why, what is your answer? Do you refer to the legal requirement, or the opinion of neighbours, or to some value? If so, which value?

There are rather large investigations on why people get involved in environmental protection. Answers vary between individuals of course. Some say that they would like to live without the risk of being poisoned by pollutants, some refer to that they would like to be able to walk through a beautiful forest also in the future, some say that they would like also their kids to be able to swim in the Baltic Sea. Sometimes we hear that people would like the tropical forest to exist on the other side of the world even if they might never be able to visit it.

The values expressed in these answers are preservation of health, preservation of nature, concern for others, especially future generations, and so-called existential values. The basic question here is in which way do these values influence the kind of life we choose to live, the lifestyle, or the kinds of policies that are pursued in the institutions of our countries. To be more aware of the connection between ethics and actions is crucial. Then it will be more clear to us why we do things and perhaps also how we should do them.

It is clear that not all actors in society give the same weight to each one in this set of values. This is often at the root of different views on what kind of measures for environmental protection should be carried out. Discussing the basic values can help to sort out the different goals and preferences.

Action – morality – ethics – worldview

The set of values that we hold is often referred to as our *morality*. Typical sets of values are the ten commandments in the Bible, and the UN declaration of human rights. These are concerned with relations between peoples and how people should be respected, the integrity and rights of people. A similar accepted set of values for our relationship to the environment does not exist, although it is needed.

Ethics refer to which kind of set of values we have and how we reflect upon them and how we apply them. In environmental ethics we may, e.g., distinguish between anthropocentric ethics where humans are given rights, and biocentric ethics where other living beings are given rights, as we will see below.

Ethics and morality are in turn parts of a *worldview* or *philosophy*. If we have a philosophy where all animals are considered to be "machines" as the 17th century philosopher Descartes said, we would certainly not argue for a biocentric ethics. This is not common any longer, at least some animals are seen to have the capacity to suffer, just like humans. There is, however, much dispute regarding if animals are conscious and if so to what extent.

Ethics requires that we are *responsible* for actions taken. This presupposes that there is a free will, a possibility to choose between different alternatives. The philosophical question of the role of free will has always been with us. The new component as compared to traditional ethics is that our actions may have consequences far away from where we live and for people we will never meet. This is why the new ethics asked for is not simple and requires much reflection and discussion.

Ethical conflicts

The most obvious cases where we can see ethics in action is when a conflict between different values occurs. An example is the development of hydropower. A large hydropower station requires traditionally that a dam is built in a large river and that a reservoir often several tens of kilometres forms upstream. As a consequence the flow of water in the river is curtailed (destroying waterfalls), the flora and fauna of the river is influenced, and people living upstream have

Figure 21.6. Values in conflict. The construction of large hydropower stations require that a water reservoir, often several kilometers long, is built upstream. The value of nature untouched, with beautiful mountain landscape and rural settlements comes in conflict with the value of renewable, clean energy. (Photo: Lars Rydén.)

Figure 21.7. Demonstrations, or even more so, illegal civil protests which lead to conflict with the police are risked by those who consider public (legal) decisions unacceptable according to their basic values. On Wednesday, 28 March 2001 anti-nuclear activists in Suschendorf, Germany, laid branches across the railway tracks to block the train carrying highly radioactive nuclear waste via Dannenberg to Gorleben. The train was forced to go back some 3-4 km overnight to the previous rail station at Dahlenburg near Dannenberg. (Photo: Kay Nietfeld. Courtesy of Pressens Bild.)

to move out of the area where the reservoir is formed. These negative developments are balanced by the prospect of producing large amounts of renewable energy which will constitute a resource and blessing for perhaps millions of people far into the future.

Should power stations be built or not? Obviously, *engineers* cannot answer the question. They only know *how* to build, not *if* it should be done. Obviously, *biologists* do not know; they can only tell about the consequences of various alternative actions, e.g. which ecosystems will be damaged or even become extinct. *Economists* do not know either. They can just tell about the costs of moving a population and the income from future electricity production.

Proposed power stations are political issues and the outcome will depend on the values of those who take part in the decisions. Some of the decision-makers will value the new electricity most and say yes; some will value the natural flow of the river and the wild country more and say no; others again will say no because of respect for the individuals that otherwise would be forced to move out from the valley where the new reservoir will form.

It is quite seldom that a value has such an absolute character that a decision goes in a definite direction only because of it. In general, there is a compromise where several values are respected to a degree but not absolutely. However, at the end of the 1990s, biological diversity and respect for the existence of species became an absolute value in certain situations. The expected consequence of extinction of a species could itself stop a project.

The building of hydropower stations has in real life repeatedly become very controversial, sometimes with violent action as a consequence. Action groups that block work by machines, and demonstration against such projects in the capital of the country, are not unusual. A large intrusion in nature of this kind often violates important values to many individuals. In Sweden, the continued expansion of hydropower was discontinued when the parliament passed a law that protects the four remaining large rivers in the north of the country from exploitation. The development of small-scale hydropower now seems to be a possibility to use the power of running water without changing nature very much.

Practically all decisions about environmental protection has this dimension of conflict between values although it may not always be so clear. When installing equipment for cleaning flue gases for example there is a conflict between saving money (assuming no charge) and reducing pollution. When protecting an area there is also a conflict between economic interests, e.g. timber production, and

Outlook
Box 21.1

Caring for the Earth – a world ethics for living sustainably

IUCN Ethics Working Group

In 1980, the International Union for the Conservation of Nature, IUCN, published the *World Conservation Strategy* in which the concept of sustainable development was given currency for the first time. In 1984, the IUCN set up its Ethics Working Group, EWG which enroled some 500 participants from 50 countries. Ethics was, on this base, included as an important element in the 1991 document *Caring for the Earth – A Strategy for Sustainable Living,* that deals with how to implement sustainable development. Its Chapter 2 covers the topic of ethics.

A global workshop on the theme, held in 1993 between 17 organisations, was reported in *Advancing Ethics for Living Sustainably* (Engel and Denny-Hughes, 1994). The EWG further contributed to the *Global Biodiversity Strategy* and the IUCN *Environmental Law* document (IUCN 1995). Much of the thoughts in this group have been summarised by its chairman Ronald Engel in *Ethics of Environment and Development: Global Challenges, International Response* (Engel and Engel, 1990).

IUCN is an organisation with several hundred members, both governments and NGOs. It was organised by UNESCO in 1946 for the protection of biodiversity. Its headquarters is in Gland, outside Geneva.

Elements of a world ethics for living sustainably[1]

Every human being is part of the community of life, made up of all living creatures. This community links all human societies, present and future generations, and humanity and the rest of nature. It embraces both cultural and natural diversity.

Every human being has the same fundamental and equal rights, including: the right to life, liberty and security of person; to the freedoms of thought, conscience, and religion; to enquiry and expression; to peaceful assembly and association; to participation in government; to education; and, within the limits of the Earth, to the resources needed for a decent standard of living. No individual, community or nation has the right to deprive another of its means of subsistence.

Each person and each society is entitled to respect these rights; and is responsible for the protection of these rights for all others.

Every life form warrants respect independently of its worth to people. Human development should not threaten the integrity of nature or the survival of other species. People should treat all creatures decently, and protect them from cruelty, avoidable suffering, and unnecessary killing.

Everyone should take responsibility for his or her impacts on nature. People should conserve ecological processes and the diversity of nature, and use any resource frugally and efficiently, ensuring that their uses of renewable resources are sustainable.

Everyone should aim to share fairly the benefits and costs of resource use, among different communities and interest groups, among regions that are poor and those that are affluent, and between present and future generations. Each generation should leave to the future a world that is at least as diverse and productive as the one it inherited. Development of one society or generation should not limit the opportunities of other societies or generations.

The protection of human rights and those of the rest of nature is a worldwide responsibility that transcends all cultural and ideological and geographical boundaries. The responsibility is both individual and collective.

[1] Cited from *Caring for the Earth – A Strategy for Sustainable Living.* Chapter 2 (IUCN, 1992).

conservation interests. In general there is a conflict between exploitation of nature for the purpose of humans and preserving it either for humans or for its own sake. To handle all these conflicts in a reasonable way we need to specify the values that form the platform for our decisions.

Human-centred, anthropocentric, ethics

You may have noticed that most arguments in the previous sections refer to human needs: the need for electricity, wish to have access to beautiful nature, a good swim in the sea, or the pleasure to know that the tropical forest on the other side of the world is flourishing. Since human interests are in the centre of such an ethics it is called *anthropocentric ethics*. In fact, all the ethics western civilisation grew up with are anthropocentric ethics. Respect for fellow human beings is basic in many policy documents, e.g. the United Nations Declaration on human rights.

Anthropocentric ethics also characterises the policy documents of sustainable development, the Rio Declaration, the Biodiversity Convention, as well as the Brundtland Report. It is more or less explicitly stated that natural resources and the environment should be protected in order for people to lead a good life.

These ethics may be expressed in several ways. Either as the *rights* of a group or an individual, as the *duties* of other groups or individuals. If we consider that the rights or duties are equal among the groups or individuals we talk about *equity* (sometimes equality) between them. An ethics that is formulated in terms of rights, duties and equity is called an ethics of *justice*.

The justice between humans takes two forms. It is either the justice between humans living here and now, so-called *intra-generational* justice, or justice between us and future generations, so-called *inter-generational* justice.

These ethical principles are clearly referred to in the negotiations carried out in the UN system. Thus in the negotiation on climate change each country is at the start given equal rights to emit greenhouse gases, or rather each person on Earth is given an equal share of emission rights. This is thus a principle of equity. In practice many political concerns are taken into account and the end result is a compromise.

Principles of equity are referred to in many other contexts regarding environmental protection. However, in practice the world is becoming more and more unequal. In general, poor countries are becoming poorer, and richer countries richer. Also within countries inequity is increasing. We have a long way to go before achieving an equitable world. Climate negotiations continue but they are far from reaching an agreement that resources should be shared with future generations. If present trends continue, the situation looks bleak for future generations. Reserves of oil and gas are rapidly being depleted,

Figure 21.8. A letter to the readers.
Piotr Skubala in Katowice expresses his conviction of what is wrong in today's world, and refers to many who agree with him. His letter is printed here since to improve the environment it is not enough with technical understanding and skills. Also heart and soul are needed. The challenge is to travel along the road of sustainable development without ending up in the ditch of emotions and uncritical opinions, nor the ditch of naked technicalities. This is the challenge also of this book. The letter can be used for a group discussion among the students. In particular, compare Skubalas text with the IUCN ethics working group (Box 21.1.) (Comment by the editor.)

Dear Student,

We live in troubled times. We are standing face to face with ecological threats towards humankind and life. We must answer some crucial questions: What comes next? What will happen to our civilization?

A short time ago we believed that our planet Earth would survive all our different activities. Air, water and soil were considered to be practically unlimited and – even more – properties without value. We were very mistaken indeed. It is now obvious that Earth is a very complex and sensitive system. Scientists agree that biological species disappear at an alarming rate and probably such a situation never happened in the past on Earth. According to conservative estimates, the current extinction rate is over 5,000 species a year. This is between 5,000 to 25,000 times faster than the natural rate of extinction. Pessimists claim that no less than 150,000 species become extinct every year (Dobrzaski et al., 1997). In other words between 0.6 and 17 species disappear from the Earth per hour. Despite these facts many people still do not understand the real problem. They do not realize the tragic consequences of our attitude towards Nature. Even some scientists ignore the symptoms of the ecological crisis, claiming that it is a natural process and suggest that we should wait and see.

Fortunately, more and more people become aware of the particular moment in time in which we live, and it becomes a challenge for them. This specific moment in our history is addressed by several authors: Alexander King, the founder of the Club of Rome discussed it in "Great Transmutation." Fritjof Capra talks about it in "Turning point." According to Henryk Skolimowski, we observe the dawn of the "Ecologial era."

Environmental philosophy and eco–ethics is a response to the environmental threat.

When looking for the reasons for the dangerous situation and thinking about some solutions we can find help in the science of ecology. Ecology deals with the structure and function of Nature. It studies the interactions between organisms and their environment. Ecology tries to understand the miracle of life on the Earth. It is worth mentioning that probably we will never be able to understand entirely the functioning of our living system, the Earth. Norman Myers expressed this idea in following words:

"Our ignorance is so vast that we are not aware of it ... we know next to nothing about the workings of the Earth's ecosystem ... and have only begun to grasp the nature of planetary life as a whole" (Capra, 1983).

The following figures will probably easily convince you about this. Science has described more or less 1.5 million of species. We know how to estimate the number of stars in our galaxy or the number of atoms in a glass of water, but we can only calculate that we know between 1.5 to 5% of species still living on the Earth. Erwin (1982) suggested that there are 30 million species of insects and Ehrlich and Wilson (1991) supposed that even 90–100 millions species exist on Earth. Nevertheless, much emphasis has been placed on ecology in an attempt to provide guidance.

Ecology has discovered or rather rediscovered for humanity the laws of nature, laws by which living systems have developed and functioned. Unfortunately we still act against these laws. Let us consider a few examples (Commoner, 1972):

"Everything is connected to everything else." But we prefer to treat things separately.

"Nature knows best." But we rather prefer to think about ourselves as wiser than Nature.

"Everything must go somewhere." There is turnover of matter in nature and it does not produce waste. We replaced this process with a linear flow of matter from resources to waste.

"There is the unity of humans and non–human nature." It is still difficult to accept ourselves as a part of nature, being dependent on its other elements.

"Nature is diverse." We replace diversity with uniformity, such as mono–culture. In forests or on agricultural land, only a small number of species are favoured, at the expense of many others.

"Nature uses only renewable sources of energy." We based our civilisation on non–renewable sources which caused enormous ecological problems.

Acid rain, radioactive pollution, the ozone hole, and the extinction of species are often treated as separate problems. Whereas, we should ask the following questions: "Are these not only symptoms of real illness?" "Which of the principles of scientific–technical civilisation are causes of environmental problems?" "How important are bonds with Nature for feelings that our life has a value and is meaningful?" Some people are convinced that to solve our environmental problems it is not enough to undertake some even spectacular projects with regard to environmental protection. The ecological crisis is in reality a crisis of values. Therefore, what we really need in order to solve our problems is a new philosophy, a new ethics, new values, and a new model of life.

"Everything depends on our consciousness, on our approach to these problems. However, nobody thinks, that he is just the person, whose behaviour has to change". (Paul McCartney).

But in this case we all have to change.

Yours with friendship,
Piotr Skubala, Baltic University teacher in Katowice, Poland

Figure 21.8. Rolf Edberg, Sweden (right) and Alexey Yablokov, Moscow (left), classical writers and philosophers of environment discussing the book with the urgent title 'S*unday is too late'* which they wrote together after one week of discussions in Moscow and Stockholm in 1987. In the book they attempted to show how man has engaged himself in a reversed creation threatening to make the Earth a deserted planet again. The last discussion between Edberg and Yablokov, which took place in 1997, is published in the Baltic University booklet *From Intention to Action,* 1997, just weeks before Rolf Edberg died. His life work is now continued by the Life Academy in Karlstad, Sweden, which conducts courses in sustainable development for individuals from the entire world. (Courtesy of Rolf Edberg family; Photo: Genrikh Anokhin.)

The Council of All Beings

As a ritual of despair and empowerment, the Council of All Beings developed within deep ecology. It was not intended to be a substitute for social action, but a preparation for it. The Council brings to consciousness the natural history of the planet and conveys an authority to act on its behalf. Identification with Earth and its beings empowers each person and removes doubts and hesitations (Merchant, 1992).

PS

Ecofeminism in action

In Kenya, women of the Green Belt Movement gathered to plant millions of trees to combat land degradation. In Sweden, feminists prepared jam from berries sprayed with herbicides and offered members of parliament a taste: they refused. In Canada, feminists went out on the streets to gather signatures against uranium processing near their towns. In the United States, housewives organized local support to clean hazardous waste sites.

PS

wilderness areas are becoming smaller and smaller, and biological richness and diversity are quickly declining.

Non-human centred, biocentric, ethics

Not all individuals have the human centred ethics discussed above. There are two large groups of environmentalists, often referred to as conservationists and preservationists. The goal of *conservationists* is to conserve the environment for use by present and future generations, much as described above. *Preservationists* on the other hand want to protect the environment against present and future human exploitation. The solution of environmental problems according to preservationists is not that we need to use natural resources more efficiently or more sustainably but rather that we have to respect nature and its integrity.

The biocentric, or life-centred, ethics is not new and has been argued for throughout history. The famous Swiss physician, scientist, and musician Albert Schweizer was respected for his life-long stand. In 1949 he wrote:

> "The great fault of all ethics hitherto has been that they believed themselves to have to deal only with the relations of man to man. In reality, however, the question is what is his attitude to the world and all life that comes within his reach. A man is ethical only when life as such is sacred to him, that of plants and animals as that of his fellow men, and when he devotes himself helpfully to all life that is in need of help… The ethics of the relation of man to man is not something apart by itself: it is only a particular relation which results from the universal one" (Schweizer, 1949).

A more strict definition of a biocentric environmental ethics would be:

> "… the view that living beings, and only them, has internal value and are morally significant, that is can be treated morally right or wrong, and humans have moral obligations towards them" (Stenmark, 2000).

A *strong biocentric ethics*, e.g. as detailed by e.g. Taylor (1986) argues that man does not constitute a higher form of life than everything else alive. Instead humans are members of a global life community in the same sense as all other forms of life. From this follows a series of duties, namely 1) not to hurt other living beings; 2) not to limit or violate the freedom of other living beings; 3) not to misuse the trust of another being; and 4) a duty to compensate those who have been treated in a morally wrong way (principle of justice or compensation).

It is obvious that all these moral obligations, if generally accepted, would have great consequences for the way we conduct environmental policy and work. For example, it would not be permitted to hunt wild animals unless that would be the only possible way to stay alive. Areas of relative wilderness, protected areas, should be much expanded. Man has taken too large a share of the common living space on Earth.

In a recent poll in Sweden the question, "whom has a larger value, man or animal," a third answered that they have equal value, especially the younger part of the respondents. This indicates that a biocentric ethics is embraced by a large share of the population. However, in another poll the question asked was if you would save a dog or a man if both were threatened. Most answered that they would save the person. It is not easy to find out what a person's ethics really are in practice.

But one may also adopt weaker forms of bioethics. A special form is the so-called *weak biocentrism* (Stenmark, 2000). This form of bioethics holds that actions should be judged based on how they influence other living beings, but with preference for humans and other sentient beings. This standpoint is in many countries codified in animal welfare polities and law. Bioethics are also part of the regulations for ecological farming, where it is required that animals are able to behave naturally. This rule is obviously grossly violated in much of the animal production in Europe.

Review
Box 21.2

Trends in environmental philosophy

Environmental Philosophy and Environmental Ethics

Environmental ethics is a field of analysis located within the larger field of environmental philosophy. Where environmental ethics, in a strict sense, deals with questions mainly concerning the question of nature's intrinsic value, environmental philosophy adds analysis of knowledge (epistemology), meaning (semantics), and existence (ontology). Environmental philosophy also, more so than environmental ethics, adds spiritual, religious, and theological elements.

One way of defining environmental philosophy is to divide it into four main categories of analysis. The first category is *environmental ethics*. As the presentation above indicates, environmental ethics is any ethical theory that in its analysis incorporates questions about the relation between humanity and nature. Furthermore, environmental ethics is mainly concerned with questions about nature's presumed value and the reasons for as well as practical consequences of such a value. Environmental ethics typically label different theoretical positions accordingly, i. e. anthropocentrism, biocentrism, and ecocentrism.

The second category is *anthropocentric reformism*. According to this analytic perspective, the question of nature's intrinsic value is not in focus. That is, no effort is made to argue for the intrinsic value of nature as a way of solving the ecological crisis. Rather, one assumes that the main reason for ecological degradation is not anthropocentrism per se, but a specific kind of anthropocentrism; a shortsighted, economically greedy, and ecologically uninformed anthropocentrism that does not take into consideration the ineffective use of nature's resources.

The third category is *radical ecophilosophy*. Radical ecophilosophy is typically divided into three sub perspectives; deep ecology, social ecology and ecofeminism. Roughly speaking, they all agree that the cause of the ecological crisis is to be found, not in the actual behavior of humanity, but in background circumstances such as worldviews, social structures, and gender perspectives. They also agree that in order to get to terms with the ecological crisis a kind of revolution is needed on these levels.

The fourth category is *ecotheology*. Ecotheology is a branch within theological analysis and addresses environmental and development issues in terms of religion, spiritualities, and theology. It is not strictly limited to Christian analysis but includes other religious perspectives as well. This category can be seen as a reaction to the way Western Christianity has been pictured as one of the causes of the environmental crisis. A claim mainly related to the idea of domination expressed in the creation story in the Old Testament. This category is also relevant because of the effort to reevaluate so called indigenous peoples perspectives on nature and humanity's relation to nature.

Another way of defining environmental philosophy is as a way of thinking about one self, the society, and nature, and, the relations between these three elements of reality. "Philosophy" is here understood as every individual's basic attitude concerning values, knowledge and the nature of our existence. It is not, as the definition above, a manner of academic scholarly analysis. If one follows this definition, one can of course find environmental philosophical elements in several theories and practical movements on the environmental and development arena. Something that is not possible according to the first definition.

The following cases of environmental philosophy combines both theoretical positions as well as movements that are more political.

David Kronlid

Some environmental philosophy movements

Deep ecology. The term Deep Ecology was coined in 1972 by the Norwegian philosopher Arne Naess. Ecology in his version of philosophical ecology (or ecosophy) can be contrasted with "shallow" environmentalism which in his opinion was the underlying cause of the current environmental crisis. Deep Ecology was founded upon the wisdom of the science of ecology and modern physics, the wisdom of Eastern religions and ancient native American philosophy. Deep ecologists call for a new ecological consciousness. They reject the dominant world-view and social paradigm based on mechanical thinking, instrumental rationality and economic growth, which render humans isolated from each other and from nature (Marshall, 1992).

The basic idea of deep ecology is that each human and non-human living being has a value in itself and the value of non-human beings is independent of their usefulness to humans. Deep ecology is also a popular social movement and many important ecological organisations, e.g. Earth First or, in Poland, Workshop of All Beings, represent this ideology.

Ecological humanism. A school of ecological philosophers worked out a new humanism which assures harmony between people and the biosphere. They claim that we should not give up anthropocentrism.

One of the best known philosophers in this school is Henryk Skolimowski. He lectured philosophy in Los Angeles and Ann Arbor during 1964-1990 and then started his activity in Poland. He propagates reverence for life and the environment as a whole. About Earth he says that it is holy, sanctified, and that we are keepers of it. In his books he criticizes today's civilization, materialism, and the way we treat nature. At the same time we find in his books approval of the world, which is in reality beautiful, full of divinity, and worth fighting for. He deeply believes that people are responsible for the environment and are able to live in harmony with nature.

Social ecology. Social ecology was founded by Murray Bookchin, an American philosopher and political thinker, during the 1970s. Bookchin argues that the roots of environmental problems lie in human relations to one another rather than (as deep ecologists suggest) in human misunderstanding of their connection with the natural world. Therefore, if we want to resolve environmental problems, humans' relationships with one another must first be changed. He rejects the idea that humans should live in societies of hierarchical relationships in which some individuals are dominant over others. He advocates social equity and freedom. Once there is equity and an end to dominance in human societies, the end of dominance of nature will follow (Palmer, 1997).

Ecofeminism. The term ecofeminism was first used in 1974 by Francoise D'Eaubonne, who called upon women to lead an ecological revolution to save the planet. Since then ecofeminism has become a large but diverse movement (liberal, cultural, social, and socialist feminism), encompassing a wide range of perspectives from within the feminist and environmental movements. What all ecofeminists have in common is the view that there is a link between the domination of nature and the domination of women. They argue that oppression of women and the natural world are twin oppressions that must be addressed together.

Piotr Skubala

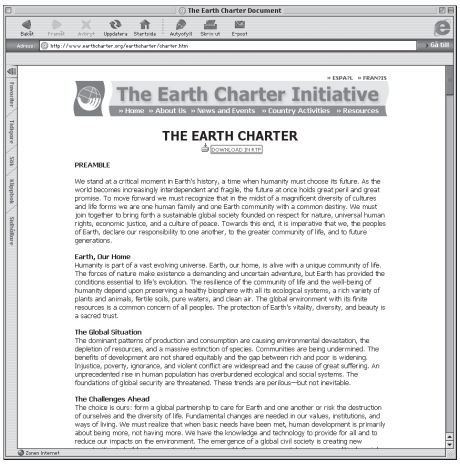


Figure 21.9. The Earth Charter, where ethics of UN conventions is enlarged to include also nature, is developed by a network of involved individuals from all over the world. Important strongholds in the development are found in e.g. Boston, USA, Moscow and Buenos Aires. Their website http://www.earthcharter.org is an important meeting place.

Ecocentric ethics

It is not common to consider all individuals of all species to be equal. Instead one argues that humans have human rights, but others have their rights: dogs have dog rights, etc. Often human rights are considered a higher right than those of other species. However in this group there are those who hold that species or ecosystems are objects of moral consideration and need to be respected. This form of ethics is called *ecocentric ethics*. One way to define this ethics is,

> "the view that in addition to all living beings, also species, ecosystems, rivers, mountains has a value of their own and are morally significant, that is may be treated in a way that is morally right or wrong, and man has moral obligations towards them" (Stenmark, 2000).

A proponent for this view was the American scientist and writer Aldo Leopold. He developed what he called a "land ethics," and he writes that " land ethics simply enlarges the boundaries of the community to include soil, water, plants, and animals or collectively: the land" (Leopold, 1949). Earth is seen as a living being which may be healthy and may be damaged or in fact treated morally right or wrong as it has integrity, a value of its own. A healthy Earth is, says Leopold, able to provide all living beings with water, nutrients, and everything else they need. It is a "fountain of energy" and therefore is part of the living system and should be respected.

A form of ecocentric ethics is accepted if we hold that species and ecosystems have a value of their own. If this value is second to that of humans we talk about a *weak ecocentrism* (Rolston, 1988). A general acceptance of any form of ecocentrism would have a large influence on environmental policy. We may adopt the rule that the original ecosystem should be left with enough space to continue to thrive. Protection of biological diversity would have a higher priority. Today it appears that biological diversity is only considered to have an instrumental value; It is protected because it may be a useful resource to man at some point in time. In fact it would in principle be possible to calculate the value – in economic terms – of an ecosystem or species as compared to other economic values developed (such as a hydropower station) as the ecosystem or species is lost. With an ecocentric ethics the building of the hydropower station might simply be morally non-defendable, even if it is economically advantageous.

A more careful development of ecocentrism will lead to a series of principles, and for each of these principles there are consequences for environmental policy.

A hierarchy of values

Some values are more basic than others. Obviously survival is a very basic value while enjoying good food is less central. When it comes to rights of others there seems to be a similar hierarchy. Values of concerning environmental ethics could be seen as part of such a hierarchy.

In the domain of human relations respect for the same group, such as family, extended family and later the ethnic group was first established. Much later came respect for other humans in general. Slavery was not abolished in Russia and in the United States until the 1860s. Voting rights and early democracy respected the rights of men but not until much later the right of women to vote. When it comes to many areas of society still today there is a lack of respect for other ethnic groups (e.g. anti-semitism and the ethnic wars in the 1990s), women (abuse of women), and children (abuse of children, children soldiers, and working children).

A policy to implement and defend human rights is pursued in many countries by the Council of Europe and the United Nations. The catalogue of common rights are expanding, and the more recent one is a Convention on the Rights of Children. This work in fact constitutes an effort to develop a global ethics, as asked for by the Brundtland Commission. Can such a global ethics include in

a more clear way the environmental values discussed above? Some of the documents referred to initially do this, e.g. in the Rio Declaration. The values discussed in these documents are all anthropocentric but have expanded from traditional ethics into intergenerational ethics.

The next step might be an ethics that declares that also the non-human part of the ecosphere has an integrity to be respected. The *Earth Charter* process aims to produce such a document. The Earth Charter has been in preparation for several years in an effort where interest groups from all over the world take part. The intention was originally to have the charter accepted by the United Nations General assembly in 2001. It is seen as an ethical foundation for sustainable development, and could be understood as an enlargement of the Declaration of Human Rights, or a basic document for a global environmental ethics. The text is available at the Website www.earthcharter.org.

Environmental education and public awareness

The roles of knowledge and awareness

A first step in promoting the improvement of the environmental situation is to make information and *knowledge* about it available. Is such knowledge enough? May we expect that action is taken as soon as facts are on the table?

In practice there are all kinds of relationships between knowledge and action. In a simple, clear situation the information is enough. For example, do not feed the wolf, he will bite you. The consequences of not reacting to the information is immediate and you do it. However in other instances the consequences are not so close, such as with the environmental damage we cause. In fact, consequences might not be seen until the next generation, and also far away geographically. At the same time they might be overwhelming.

To make people aware of something that is far away and very dangerous but invisible in everyday life, is difficult. People need to be aware of a danger or situation before wanting to learn more about it. This was the strategy of the first individuals who wrote alarming reports about environmental impacts. These were enough to arouse some sectors in society and cause political action. For the general public it took longer. *Learning* more about environmental matters, for example how things work in your own household or neighbourhood, is often the platform to be aware of the environmental situation in general, not least globally. Awareness rising and education go hand in hand.

The third step is *action* – change of behaviour. It is not self-evident that action follows directly from awareness and knowledge. It might for example be perceived as costly to change habits, and it might of course also be costly to, e.g., buy eco-labelled products. Action often is not a private concern but a concern for society and policy makers. They promote changes of behaviour by economic and legal instruments. However, these measures would be difficult to accept in a society if there is no preparedness for a change of behaviour. A law to sort waste is better accepted if information is available about why it is necessary. Today action is often part of environmental education and many schools promote environmental projects as an educational tool.

Figure 21.10. Environmental education needs to start at an early age to touch your belief system. These children of ten years in a school in middle Sweden had environmental education since they were seven. Here they draw a picture of Linneus, one of the environmental heros of the country. (Photo: Lars Rydén.)

In the literature, we find the sources of some of the ideas, which pointed to the importance of environmental education and helped to develop it to what it is today. In 1962, Rachel Carson, an American genetic biologist, published *Silent Spring*. This book, a classic description of the negative effects of the indiscriminate use of chemicals, became a major breakthrough to make known their wide impacts on the environment itself, and on human beings. She stated that, unless we recognise that human beings are only a part of the living world, our progressive poisoning of the planet will end in catastrophe (Carson, 1962). The publication of *Silent Spring* promoted widespread debate in the mid-1960s about the preservation of the environment.

Other earlier landmark publications, including *Limits To Growth* (Meadows et al., 1972), *Blueprint For Survival* (The Ecologist, 1972) and *Small Is Beautiful* (Schumacher, 1973), added to identifying the range of environmental problems world-wide and proposing solutions to these problems.

Walter Leal Filho

A brief history of environmental education

There is no consensus as to when exactly environmental education began. One of the first persons to promote the link between environmental quality with the quality of education was a Scotsman, Sir Patrick Geddes (1854-1933), who also innovated many educational techniques and ideas including the concept of interdisciplinarity, and the educational potential of the outdoor environment. But it was not until the late 1960s and early 1970s that the large array of papers, documents, journals, and books on the subject of environmental problems and management gave rise to the emergence of "environmental education."

In 1970, at a workshop held in Carlson City, Nevada, USA, organised by IUCN (then called the International Union for the Conservation of Nature and Natural Resources), a proposed working definition stated that (IUCN, 1970):

> "Environmental education is the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture and his biophysical surroundings".

The definition goes on to state that environmental education also entails the development of a code of good practice among individuals, in other words, why they should behave wisely in relation to the use of environmental resources.

In response to the by then widespread awareness of environmental problems at the grass-roots level and in society in general, politicians became increasingly

Outlook
Box 21.3

International recognition of environmental education

The 1975 UN International Environmental Education Programme

At the 1972 "UN Conference on the Human Environment" in Stockholm a series of recommendations were agreed upon to combat environmental degradation. Recommendation 96 was concerned with environmental education and awareness. It stated that the UNESCO and member states:

> *"... should after consultation and agreement take the necessary steps to establish an international program in environmental education, interdisciplinary in approach, in school and out of school, encompassing all levels of education and directed towards the general public...".*

To respond to the concern of nations for safeguarding and improving our environment, the United Nations also decided, in Stockholm in 1972, to create the UN Environment Programme, UNEP. Together with UNEP, the United Nations Educational, Scientific and Cultural Organisation, UNESCO, jointly implemented Recommendation 96 by launching, in 1975, the International Environmental Education Programme, IEEP. The main focuses of IEEP are:

- the development of general environmental awareness,
- improvement of information and knowledge,
- the refining of concepts, methods and approaches,
- the incorporation of environment, development and population dimensions into the educational process of all countries,
- the promotion of values, attitudes and behaviours,
- the fostering of ethical responsibilities,
- the promotion of commitments for actions for the protection and improvement of the environment,
- the stimulation of participation in development decision-making and activities, and
- the improvement of the quality of life.

From Stockholm to Rio

In the following years a series of international conferences dealt with environmental education.

The 1975 international Environmental Education Workshop was held in Belgrade. This conference produced the Belgrade Charter, one of the most significant landmarks in the history of environmental education.

The 1977 Tblisi Conference constituted a more formal intergovernmental recognition of the importance of environmental education.

In 1987 the Tblisi Plus Ten Conference was held in Moscow and was jointly organised by UNESCO and UNEP. The major theme which arose out of the conference was, again, the linking of ecology with economics. The event served to reinforce the vital importance attached to environmental education in the role of environmental improvement.

In 1988, the Council of the European Community gathered and agreed on the need to promote environmental education throughout the European Community. A resolution was passed by the Council of Ministers of the European Community making it a matter of priority for environmental education to be promoted at all school levels.

The 1992 historic United Nations Conference on Environment and Development (UNCED) was held in Rio de Janeiro, Brazil. Agenda 21 gives a new focus of environmental education. Chapter 4 and Chapter 20 are some of those chapters with direct relevance to environmental education. The emphasis throughout the document is on increasing public awareness, public participation, as a basis for action.

Walter Leal Filho

Figure 21.11. Outdoor studies are most efficient, especially for basic ecology. The children have gathered and aligned the number of spruce cones a squirrel needs to eat from a cold winter day to keep alive. It is more than 200! (Photo: Lars Rydén.)

concerned with environmental issues. The United Nations meeting of government members at the highest level in 1972 in Stockholm, Sweden, "UN Conference on the Human Environment" was a historic one in that it reflected a very high degree of consensus in the recognition of and concern for environmental problems world-wide.

The meeting produced several recommendations, also stating that education and training on the environment was "a key supporting measure of this action plan" (Recommendation 19, see Box 21.4). Thus environmental education was for the first time recognised by the world community as one of the most critical elements of an all-round attack on the world's environmental situation, and perceived as an important tool in the fight against environmental degradation.

A follow-up to the Stockholm Conference was an international Environmental Education Workshop held in Belgrade in 1975. This conference produced the Belgrade Charter, one of the most significant landmarks in the history of environmental education. It stated that the major purpose of this area of learning was:

> "...to develop a world population that is aware of and concerned about the environment and its associated problems and which has the knowledge, skills, attitudes, motivation and commitment to work individually and collectively towards the solution of its current problems and prevention of new ones" (UNESCO, 1976).

Another fruit of the Belgrade Workshop was the establishment of an international information exchange network, in the form of a newsletter, known as "Connect," published by UNESCO. This newsletter, currently published in eight languages with a total circulation of over 25,000, reaches ministries, non-governmental organisations, government and private organisations, research

Agenda 21 on education

"Education, including formal education, public awareness and training should be recognised as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of people to address environment and development issues. While basic education provides the underpinning for any environmental and development education, the latter needs to be incorporated as an essential part of learning. Both formal and non-formal education are indispensable to change people's attitudes so that they have the capacity to access and address their sustainable development concerns" (UN, 1992).

Agenda 21 and environmental education

Chapter 36 of Agenda 21 requires actions in several fields described below.

1. Education

a) Countries should endorse the recommendations of the Jomtien Conference on Education for All.
b) Governments should prepare strategies to integrate environment and development into education at all levels.
c) Countries should set up co-ordinating bodies or round tables representative of various interests groups to encourage partnerships, help mobilise resources and provide a source for information.
d) Educational authorities should set up training programmes.
e) Relevant authorities should ensure that every school is assisted in designing environmental activity work plans.

2. Increasing public awareness

a) Countries should establish advisory bodies for public environment and development information.
b) The existing UN system should review its education and public awareness activities.
c) Countries should provide public environmental and development information services.
d) Countries should stimulate educational establishments in all sectors to contribute more to awareness building.

3. Promoting training

The promotion of training has four main objectives.

a) To establish vocational training programmes that meet the needs of environment and development with access to training opportunities.
b) To promote a flexible and adoptable workforce to meet growing environment and development problems.
c) To strengthen national capacities, particularly in scientific education and training, to enable Governments, employers and workers to meet their environmental and development objectives.
d) To ensure that environmental and human ecological considerations are integrated in all functional management areas, such as marketing, production and finance.

centres, all levels of educational institutions, social and voluntary organisations, and environmental education specialists.

The aims of environmental education

The brief overview of the history of environmental education provided above serves to illustrate the fact that, when compared to other areas, environmental education is a fairly recent field and one which developed rather quickly. In relation to its goals, the Belgrade Conference lists "Environmental Education Objectives" as being:

1. *Awareness*: to help individuals and social groups acquire an awareness of a sensitivity of the total environment and its allied problems.
2. *Knowledge*: to help individuals and social groups acquire a basic understanding of the total environment, its associated problems and humanity's critically responsible presence and role in it.
3. *Attitude*: to help individuals and social groups acquire social values, strong feelings of concern for the environment and the motivation for actively participating in its protection and improvement.
4. *Skills*: to help individuals and social groups acquire the skills for solving environmental problems.
5. *Evaluation Ability*: to help individuals and social groups evaluate environmental measures and education programmes in terms of ecological, political, economic, social, aesthetic and educational factors.
6. *Participation*: to help individuals and social groups develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action to solve these problems" (UNESCO, 1976).

The Belgrade Charter also set out the guiding principles of environmental education. It maintained that environmental education should:

1. Consider the environment in its totality – natural and man-made, ecological, political, economic, technological, social, legislative, cultural and aesthetic.
2. Be a continuous lifelong process.
3. Be interdisciplinary in approach.
4. Emphasise active participation in preventing and solving environmental problems.
5. Examine major environmental issues from a world perspective.
6. Focus on current and future environmental situations.
7. Examine all development and growth from an environmental perspective.
8. Promote the value and necessity of local, national and international co-operation in the solution of environmental problems.

An interesting feature of the above aims and goals is that, despite the fact that they have found wide acceptance, the extent to which they have been implemented differs a great deal among countries. We have on the one hand nations where environmental education is fairly well-established and counts on official support, while we have, on the other hand others (the majority of developing nations) in which support to environmental education is superficial and is limited to some areas, as opposed to providing a comprehensive basis against which real progresses can be seen, measured or evaluated.

The delivery of environmental education and the role of communication

It is widely accepted the fact that environmental education involves not only the transmission of knowledge about the environment, but the incorporation of cognitive and affective values that may stimulate people to change their attitude towards the environment and foster positive behaviours (Filho, 1995).

Figure 21.12. A Baltic University student group. Students at the Borki student's conference during a role game on city democracy and development, where a selected green group has to fight with economic and other interests. In the 2001 conference 100 students from 13 countries and 40 universities participated. (Photo: Lars Rydén.)

The Baltic University Programme
is the major Baltic Region wide university cooperation for environmental education. It is further described on pages 1-20, and on the website www.balticuniv.uu.se

There are three major approaches used in the delivery of environmental education. Namely, the *formal*, the *non-formal* approach, and the latter also incorporating informal programmes. A review of the environmental education literature reveals that both the non-formal and informal approach are used interchangeably and in some cases the border between them (i.e. when one starts and the other ends) is difficult to spot.

Formal education refers to the development of curricula for short courses, modules, topics, and curriculum inserts (Schneider, 1992). It involves "education about the environment" which seeks to discover the nature of the area of study; thereby emphasising knowledge and understanding of natural and human systems and their interactions; "education through or in the environment" in which the environment is used as a medium of inquiry and discovery which may enhance the learning process; "education for the environment" which aims at developing an informed concern for the environment, and nurturing caring attitudes and values. Formal education combines awareness, knowledge, skills, attitudes and participation.

Non-formal education is characterised by the absence of operation in "a given set of rules with a strict structure, curriculum and examination procedure." Hence it is considered, at least theoretically, more capable of responding to local environmental issues which have more social meaning and usefulness to the community and is less dominated by academic requirements. The non-formal approach is just as important as the formal one and therefore should be considered a must along with formal environmental education, if the ultimate objective is to produce an environmentally-informed, intelligent and effective citizenry.

In order to be effective, environmental education needs to be delivered, practised or implemented using the windows of opportunities provided by both formal and non-formal education. It should, in other words, be combined with *environmental communication*, so as to truly fulfil its role. The key components of communication, which are equally relevant to environmental communication have been described by Cerovsky (1977) as:

- scientific soundness – all methods/resources should be in accordance with the latest scientific knowledge in the applied interdisciplinary sciences;
- beyond science – all means of communication should include inputs which relate to social, economic, aesthetic, ethical and other elements of significance in environmental considerations and decision making;

Baltic 21 Education

Baltic 21 was introduced in 1996 as the Agenda 21 for the Baltic Sea Region. Very early education and information were identified as key factors for the success of the process. As a consequence, in spring 2000, education was introduced as a new sector in the Baltic 21. It includes all levels of education, from kindergarten to adult education. Higher education, being in a central positition regarding research and education on SD, is represented in a separate working group. The two others are schools, and non-formal or adult education.

Among the obstacles and gaps identified one could mention – in addition to the lack of economic and human resources – the limited credit for inter-disciplinary studies, and difficulties to conceptualize and translate the term SD into national languages. Another is the unclear relationship between education for sustainable development and environmental education. The strong traditions in natural science are identified as obstacles for the involvement of the other dimensions of SD, i.e. economy, social science and humanities.

In a majority of the national reports, the Baltic University Programmes course A Sustainable Baltic Region was mentioned as a good example of education on SD, including the study materials and teachers courses as good support for the students and teachers.

Among the opportunities are the possibilities to create relevant alliances, with universities, municipalities (Agenda 21) and enterprises, and the unique opportunities to introduce new teaching and learning approaches. Methods that are relevant in education for SD are project based, participatory and include the handling of complexity, in situations where the answers are not given in advance.

The final Agenda 21 was adopted by the ministers of education in January 2002.

Paula Lindroos

Figure 21.13. Awareness. The grey seals at the Marine station at Hel peninsula outside Gdynia attracts up to 6,000 visitors daily during the summer months. Many hundreds of the children from 4 years and older are given a one-hour basic environmental playful introduction in the "Blue School", an excellent example how an academic institution contributes to environmental awareness. (Photo: Lars Rydén.)

- educational quality – all methods/resources should be adapted to the mental and physical background of the learner and conform to all other pedagogical principles;
- critical thinking – all means of communication will reflect a certain bias, and in making this explicit, critical thinking, as an essential ingredient of the environmental education process, can be fostered; and
- high effectiveness at low cost – all methods/resources should be as cheap as possible, be broadly available and to be used internationally.

However, besides the common difficulties such as finding political and economic support for environmental education strategies, a number of other issues exacerbate existing problems, e.g., the need for systematic, inter-institutional action. Environmental education is in many countries performed by single institutions (e.g. the Ministry of Environment or Education) with little or no coordination which others, which goes against the principles of environmental education and prevents real progress.

Another issue is confusion, particularly in the developing world, due to the diversity in concepts and descriptions of environmental education in formal and non-formal teaching. An example is the tendency in northern, English speaking countries to use expressions such as "education for sustainability, education for a sustainable future, education for sustainable living, and sustainable development education" in order to describe the re-orientation of environmental education towards sustainable development (Leal Filho, 1995). The Belgrade Charter and the Tblisi recommendations had already suggested the need to use, apply, or employ environmental education as a tool for sustainable development. Thus, incorporating the concept of sustainability is not new. Further, there is no suggestion, as some claim, anywhere in Agenda 21 that the term "environmental education" should be changed. Agenda 21 merely appeals for a re-orientation of educational systems towards sustainability, a task which is all but a simple one.

Another issue of concern is the lack of sufficient information on environmental issues in an easily assimilated language for non-specialised teachers. Information on the environmental issues is not always seen as easy to understand and may cause some teachers to be reluctant to deal with environmental themes. Some sort of "popularisation" of environmental education could help to address this problem.

What is more, there is a relative lack of research on themes related to the topic of environmental education in non-formal education. To date, around three

Figure 21.14. Children practicing composting. Teaching practical knowledge and skills is important in the Baltic Sea Project. This school has a compost for organic waste such as banana peels and left overs from the meals. (Photo: Lars Rydén.)

quarters of the environmental education initiatives undertaken in EU countries, including research, is concentrated on formal education. Since non-formal education is equally important, a balance should be found.

The list above is obviously not exhaustive, but provides some examples of some of the work which needs to be done.

Behaviour and the environment

How to influence behaviour

What do we know about the importance of education, information and ethics/attitudes for the change of a person's lifestyle?

Today there is a considerable body of evidence and research results on this. In this research it is not often that the concept of lifestyle as such has been used. Lifestyle after all is simply the sum of a person's behaviours. It is not clear that behaviours related to environment are always coupled to each other in some special way so we can talk about an environmentally friendly lifestyle and another which is not. Instead we see all kinds of combination of behaviours, some good and some bad for the environment, and they are in general studied one by one. Behaviours often studied include those connected to energy use, waste management, and mobility.

From the point of view of psychology we may ask what the *incentives* to certain behaviours are. For example, why do some people use safety belts in a car while others do not? Is it because of increased safety or because the law requires it, or because the driver asks for it? The studies on behaviour here indicate, e.g. that laws do not contribute much to a change of behaviour. In opposition to the legal requirement many individuals seems to avoid a change if they are forced into it. The option of a free choice seems better, and in such a situation a choice is made more readily and also leads to a more long-lasting change.

The study of environment related behaviour has its historic roots in studies of health related behaviour, such as smoking, eating habits, alcohol drinking, and physical exercise. Many patterns of behaviour detrimental to health are similar to patterns of behaviour detrimental to the environment in the sense that they are not illegal but rather part of the normal and accepted repertoire, in contrast to for example criminal behaviour. It is clear already here that information received by an individual that his or her behaviour is damaging does not automatically lead to a change. In fact information alone seems to have very little effect (Leymann, 1984). Nor does the fact that health is an important value for an individual make that individual change their behaviour. Thus values and information are *by themselves* limited as incentives to behavioural change. This is true also for environment related behaviour.

Information alone seems to be important however in situations where there are internal factors that block a change, e.g. if the individual is lacking information, that he or she has not been aware of the problem before, or does not trust what he or she has seen earlier. Information, if used, should focus on making individuals aware of a problem, increase confidence, and convince people. But if the external factors are the most important, such as structural obstacles, lacking infrastructure, etc., then information is not sufficient. The slogan "information and knowledge is not enough" summarises the situation.

Inernational networks for environmental education

The Baltic Sea Project, BSP,
is a project within Unesco, Associated School Project (ASP) which started with the purpose to increase environmental awareness among school children. ASP now consists of four subregional projects: the Blue Danube, Baltic Sea, Mediterranean, and Carribean projects.

BSP was started 1989 by Finnish school authorities as a cooperation on the school level. The urgent environmental situtation of the Baltic Sea was the starting point. The project aim not only to increase knowledge of the environmental impact, but also to demonstrate that the environment is coupled to our lifestyles, and how society is planned. Improved knowledge of neighbouring countries and their cultures was also part of the BSP.

The BSP has developed as a network of schools. Today about 200 schools participate in 12 countries. Among the different activities, seminars for teachers are arranged and four books have been published. The Baltic Sea Project Newsletter with articles on environmental education is published twice a year. (http://www.skolverket.se/studier/miljo/bsp.shtml)

Life-Link Friendship-Schools
promotes contact and cooperation between young people around the world and their schools, through active participation in shared projects, vital for our time, especially on Environment, Human Rights, Conflict Resolution and Constructive Collaboration. Life-Link projects centre around three main areas of attention: Care for ourselves – Care for each other – Care for the environment. Life-Link is today a well recognised non-governmental organisation with international contacts in more than 60 countries worldwide, including the Baltic Sea region (http://www.life-link.org)

***The Global Rivers Environmental Education Network,* GREEN,**
organises education between several schools around a common water, river or lake. GREEN develops educational material in several languages on the environmental situation of water, and provide educational resources you need to successfully implement a school-based water monitoring program and how to protect water resources nearby. (http://www.green.org)

Figure 21.15. Waste management. In the apartment houses in Örebro, the tenants deliver all compostable waste to a special container that is emptied once a week. The city also provide all information needed and special bags that are compostable. (Photo: Margareta Grauers Rydén.)

Behavioural community psychology

Behavioural community psychology is a research area that was initiated in the 1970s and became well established during the 1980s. In the field of environment it includes studies of behaviours related to e.g. energy saving, littering, reduction of air pollution, recycling of natural resources, and use of municipal transport. Behavioural community psychology is (Geller et al., 1982):

- is problem oriented,
- is intervention directed,
- uses experimental research designs,
- focuses on behaviours rather than attitudes, values, etc.

Behavioural community psychology also (Glenwick, 1990):

- strives to involve subjects in all phases of the intervention, and
- emphasises the antecedents to a behaviour.

Behavioural community psychology has during 2-3 decades of work learned much about behaviour and environment (Sjödén, 1999).

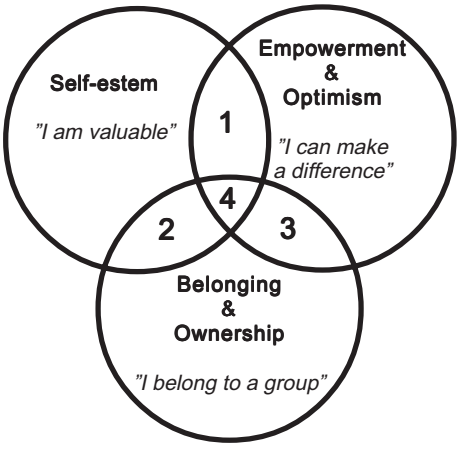
Among the factors that have been shown to be of critical importance for behavioural change is the concrete situation. It is part of the so-called *antecedents*: what is there before the effort to induce a change. It is easier to achieve a change if the practical conditions support it. In short, the behaviour should be easily *accessible*. It is obviously easier to buy eco-labelled products if you see them on the shelf, as it is easier to stop smoking if there are no cigarettes around. One of the most efficient methods to stop an environmentally adverse behaviour is to make it difficult to carry out. It is best if non-environmentally friendly products are not allowed or difficult to find. For example, outlawing non-returnable beer cans is quite efficient in decreasing littering with beer cans.

A second factor of importance are the *consequences* of a behaviour change. Since the effect on the environment itself is seldom immediate one needs to construct "artificial" consequences to promote behavioural changes. These have mostly been economic, e.g. decreasing energy costs when saving energy, or smaller fees for waste management if the waste is sorted.

A third factor is the *social situation*, that is how the individual experiences his or her situation. This was analysed by Scott Geller in his model of *actively caring* (Geller, 1991) (see Figure 21.16). The model introduces individual and social factors that are important. Geller points to three factors:

- self-esteem – I am valuable,
- empowerment and optimism – I can make a difference, and
- belonging and ownership – I belong to a group.

Figur 21.16. The model of actively caring. The four intersections represents: 1: "I can play a valuable part", 2: "I am a valuable group member", 3: We can play a role", and 4: "We can do valuable things". (Redrawn from Geller, 1991.)



These factors support lifestyle or behaviour changes. An idea of Geller's is to recruit people that work as "caring agents" and help them to influence others. The agents are those who already are involved in environmental work and are prepared to make an effort to help others become involved. The efforts of the society should accordingly be mostly directed towards helping and supporting agents who then will involve more people. One example is the so-called environmental teams or eco-teams. These teams have been organised in various residential areas to address questions of energy saving, waste sorting, composting, and transport, and been quite successful (see Box 21.7).

Geller and co-workers has summarised the experience from behavioural studies in the environmental field. He identified five components as key factors for success:

1. Information on which behaviour is asked for, especially if the impact of the present and new behaviour on environment is not well known, and if the target group is not knowledgeable about environmental matters.

2. Creation of involvement, e.g. through the action of agents as described above.
3. A degree of outer control, e.g. by positive consequences for those who change to the new behaviour and negative consequences for those who do not.
4. Establishment of social support, e.g. through participation of groups of families, or groups at working places, and that such groups sets up their own goals and monitor their own achievement.
5. That the individual has a sense of self-efficacy and empowerment, that it sees him/herself as capable of changing the situation. If this is large the chance that the new behaviour will last is much better.

Sjödén (1999) sees this as the best platform for the planning of future programmes for behaviour change in the environmental sector. This is relevant for larger programmes, but it should not be forgotten that often small projects, which may be carried out by school children or classes, or NGOs with very small resources, sometimes have proven to be just as efficient.

Stop littering and improve waste management

Many studies have been carried out on how to influence the tendency of people to indisciminantly throw away litter or solid waste. The environmental effects of this are in many cases trivial, but sometimes the effects are large, e.g. when old cars are left in the forest.

Case
Box 21.4

Lifestyle changes supported by the municipality

Örebro is a municipality with 120,000 inhabitants in central Sweden. In 1985 the chairman of the municipality board, Mr. Axel Gisslén, formulated the vision Örebro as "an ecological municipality" to be reflected in all activities of the municipality; and much has been accomplished.

Bicycles and public transport

Presently there are more than 200 kilometers of bicycle roads in Örebro. The municipality intends to improve and expand this network of bicycle roads so that using the bicycle becomes a safe and attractive transport option also during winter. Furthermore, the municipality has established attractive parking areas for bicycles. Special bicycle training courses have been arranged for immigrants.

Örebro wants to make public transport more attractive. In order to achieve this the bus and train stations have been modernised. Clear and easily accessible information about the departure and arrival times for the buses and trains is provided.

At several places in the outskirts of Örebro good parking facilities have been created. From these places it is easy to find a bus for further transport to the city centre. This has reduced the number of cars in the centre.

The personnel of Örebro municipality, together with the local politicians, wants to set good examples for the rest of the inhabitants of the city. One example is that for their local transport needs they make use of more than 700 municipal bicycles.

Each administrative unit of the municipality has accepted to promote the creation of car pools. In 1996 two large car pools were established in Örebro.

Energy and waste

Örebro also actively promotes the use of renewable energy resources and energy saving measures. In the city centre a facility for sustainable energy use has been established. It provides advice and sells energy efficient products.

Most of the inhabitants in Örebro live in flats. These people have become a special target group for the local policy makers. The municipality and the houseowners co-operate to involve the people living in flats. The aim is to establish fields for cultivation of plants, greenhouses, composts and special houses for separated municipal waste. Study circles are organised in many places. As a complement to written material, environmental information via personal visits has been given to over 6,000 households, and continues.

The municipality produces its own environmental magazine, "Balance," which is distributed free of charge to all households. This magazine reports about Örebro's progress towards sustainable development. In order to further improve the feedback to the citizens, it has been proposed to establish a local environmental barometer at the main square in the city centre.

The experiences

The lessons from Örebro can be summarised as:

- The alternatives leading to sustainable development must be made attractive.
- The alternatives should be close to the citizens, easily accessible, and visible.
- Information about the alternatives should be communicated in a clear and personal way.
- Local authorities have a responsibility to support and encourage citizens to take their own initiatives.
- Feed-back is very important.

Magnus Andersson

Case
Box 21.5

"Environmental Teams" or eco-teams

Figure 21.17. Mr Dick Tillberg in Nacka south of Stockholm together with friends started eco-teams in his neighbourhood.

In spite of the progress that has been made, many people still consider the results of environmental efforts far too little. They want to act for a better environment, thus positively influencing others. This can be done by joining an Environmental Team.

What is an Environmental Team
An Environmental Team is a group of five to six households which work together to live and act in a more environmental friendly way. They exchange information, help each other with waste handling, composting, energy conservation, transport, and environmental friendly consumption. They work on reducing the use of energy and unhealthy substances, and the amount of waste. They are supported by expertise from the municipality or by a study association. By sharing the experiences with other neighbours and other groups, i.e. through local media, they hope to be able to influence other households.

The Nacka eco-teams
The first Swedish Environmental Team started in Nacka, a municipality close to Stockholm, in 1992. The initiative was due to one enthusiastic person, Mr. Dick Tillberg. He had, together with his family, tried for some time to live a life as environmentally friendly as possible. They had succeeded in reducing their use of energy and water by half, and waste by 90% without having to make any substantial changes or sacrifices in their everyday life. Soon after, the municipality of Nacka employed Dick Tillberg as project leader to establish an Environmental Teams project. By 1994, 350 households were included in 65 teams. Dick hopes that half of the population will have a sounder lifestyle in 25 years.

The Environmental Teams are committed:
- to compost organic waste,
- to separate glass, paper, batteries, aluminium, and lead, and return them for reuse or recycling,
- to adjust heating to the functions and needs in different rooms,
- to, in due time, reduce the household's use of hot water by 50%,
- to consume products and take care of their belongings in a environmentally friendly way,
- to not use chemical substances when gardening,
- to try to reduce the fuel consumption for private transportation by car, bus, boat and aeroplane, and
- to mainly use means of transportation free of exhausts, and telecommunication whenever possible.

Madeleine Granvik

Studies have shown that the situation or the *antecedents*, are important. It was shown, e.g. that privately owned areas are less littered than public areas, and as a rule already littered areas become even more littered.

As well, *accessibility* to the new behaviour is crucial. To avoid littering it is important that the alternative is available, that is a bin, or container, for waste. Littering will decrease with 15-30% if waste containers are available, and it is even more efficient if the bins are nicely decorated or shaped and easily accessible (Geller, 1980). In one study where decorated and ordinary waste containers were compared the difference between them was 100%; the change was stable over 40 weeks. The space around the decorated containers was quite clean compared to the rest of the area.

An obvious way to influence behaviour is encouragement. These so-called *prompts* are normally verbal instructions, but sometimes they can be other persons, or objects. Successful prompts are distinct, they encourage behaviours that already exist in the repertoire of the individual, and they encourage behaviour that can be done there and then. Prompts become inefficient when there is too long a distance in time and space to the possibility to carry out whatever is asked for. Efficiencies of prompts in several studies were between 10 and 65%, with an average of 20% in urban environments (see references in Sjödén, 1999). Efficiency was found to be better with prompts that expresses a wish or a polite request rather than those that state a behaviour is obligatory or

forbidden. Such requirements often lead to a negative reaction rather than carrying out what is asked for. It is also clear that if a special effort has to be made, like actually picking up litter, a prompt has very little effect.

The *consequences* of behaviour change also come into the picture. As the true environmental effects will, as have been mentioned already, be far away one tries to create "artificial " positive effects, *rewards*, of a behavioural change. Economic rewards are easiest, such as deposit return on bottles, or participation in a lottery with a chance to win money. It has been shown that if there is an economic gain for delivering waste to containers, people even bring waste from other far away areas.

There are also studies on how to improve waste sorting, composting, recycling of e.g. papers and glass, as well as return of hazardous waste, e.g. batteries. In agreement with what is mentioned about littering, it is clear that the practical situation is important. It should not be a big project for a person to properly carry out waste sorting. If so, the most efficient way to improve behaviour is to make bins for e.g. paper and glass easily available. Information is important if the other factors are in place, for example on composting, where many urban inhabitants do not have the skills needed.

Figure 21.18. Green consumerism. Buying green products is one way to support environmental change. Today ecolabeled products are often only marginally more costly than conventional ones. (Photo: Lars Rydén.)

Consumption – buying green products

Consumers choices of environmentally friendly products should be mentioned since this area includes some of the classical achievements of change to environmentally good behaviour. In the late 1980s in Sweden the campaign to buy non-chlorine bleached paper became very successful, in particular since some large consumers, authorities and municipalities, decided to do so. It was also supported by an introduction of legal restrictions on use of chlorine bleaching. The industry had to adapt to the new market rapidly and did so. Another success was the introduction of phosphate-free detergents.

Today all kinds of environmentally friendly products are available in shops and many shops also have as a policy to highlight these products. The advent of eco-labelled products helps the consumer to change to environmentally friendly products. Still, it is not so easy since the new products are often more expensive, at least when they are produced in a small series. This will probably continue until conventional product prices include the cost of environmental damage, which is seldom the situation today.

Resource use – saving energy and water

Energy saving is most often addressed by technological innovations, that is by introducing new sources of energy and by information campaigns. In some studies, where customers were asked to save energy at home, it was possible to reduce energy consumption by 5-20% by behavioural changes (McClelland and Belsten, 1979-1980). *Discount* on energy when saving energy is one approach that has been shown to be efficient. An important component is *feedback*, that the consumers get information about energy consumption and costs on a very regular basis. Most individuals do not know these figures in detail.

The majority of these studies have been done in the United States where, in general, the opportunity to save energy is larger than in Europe. In the Baltic Sea region, price mechanisms have some influence. When energy costs hit the individual family, then saving becomes a priority. Insulation of windows is a typical measure. More far-reaching changes, such as installation of solar panels or district heating systems, are not yet common in the eastern part of the region, but will certainly be so when it is economically interesting.

Likewise, reduced water consumption has been addressed with technical solutions rather than behavioural approaches. New shower heads and toilets

Review
Box 21.6

Ecological living – eco-villages

In many cities, towns and villages, people, sometimes in co-operation with local authorities, have tried to find more ecological ways of planning, building and living in their own residential areas. One example is the city of Örebro where a new neighbourhood was planned and built, using ecologically sound principles and environmentally friendly materials.

Ladugårsdsängen

In 1988 the planning of a new neighbourhood, Ladugårdsängen, started in the city of Örebro in Sweden, using ecological principles with the understanding that a sustainable urban environment should be created. The inhabitants were expected to adopt environmentally conscious lifestyles. Early on new questions were asked, e.g. "Do we have to follow all the specified planning guidelines? Do we have to plan for cars? Do we need waste collection vehicles?" Although many of the ideas generated were not used, a new approach to urban physical planning came into action. In 1992 Ladugårdsängen was ready for habitation.

The largest "eco-village"

The neighbourhood encompasses 110 acres and consists of 13 blocks with 950 apartments planned by over 20 housing associations which privately and publicly owned rental units and condominium buildings. Ladugårdsängen is the largest ecological living area in Sweden, with 2,200 inhabitants and 500 workplaces in business and industry. The eco-cycles can be seen on many levels, from the municipal master plan via technical design, to the lifestyles of the people living in the area.

Traffic, waste, water, and green areas

The planning of the area is characterised by:

- the area was chosen because it is in easy reach from the city centre, about one km by bicycle;
- surface water is collected for soil infiltration and channelling to ponds for local rainwater management. This represents the changing approach to rainwater which used to be considered as a load on recipients;
- traffic separation to increase safety and improve the environment;
- a reduced number of parking spaces in residential neighbourhoods. New parking areas along the sides of the main roads and existing parking spaces being more rationally utilised has made it possible to reduce parking by up to 50% of the normal standard;
- green gardens with allotments make the environment more pleasant, have a positive impact on social life and increase property values;
- waste separation. The waste management plan for the area provides for a variety of solutions, extensive source separation and composting;
- the proximity of recreational facilities and excellent parks makes it possible for the inhabitants of the area to take part in sports and outdoor activities without the need of a car.

Ladugårdsängen was planned in times of general prosperity with a high degree of business activity. The interest in ecological planning and building was growing. In 1992 the Swedish Housing Fair invited everyone interested in ecological planning and building to Ladugårdsängen. About 126,000 people came to study the new area. Rainwater management, extensive source separation of waste, composting, and the garden allotments were highly appreciated.

Figure 21.19. Ladugårdsängen. The neighbourhood of Ladugårsdsängen in Örebro. (Photo: Margareta Grauers Rydén.)

Studying the area

A study was carried out by the University of Örebro about the inhabitants' opinion on the way of life in Ladugårdsängen. It was found that 50% of the inhabitants did not know very much about ecological living, but intensive source separation of wastes and composting, for example, made them aware of the problems. 42% said that they had changed their lifestyle, for example by trying to reduce the amount of waste produced. Experiences with waste separation and composting are very positive and it became popular. Some buildings have reduced the amount of waste collected by 30%. The inhabitants save money as a result of the reduction.

Other good experiences are:

- solar collectors have produced more energy than calculated,
- a small shop was started by 200 persons for "green" products,
- a cooperative for jointly-owned cars was started, giving 40 households the possibility to use cars when needed, without having to buy one themselves.

The improvement in environmental quality in Ladugårdsängen has been possible because the community, including local authorities and the inhabitants, were determined to transform good innovative ideas into sustainable practices.

Madeleine Granvik

that use less water are examples. In the Baltic Sea region, beginning in the late 1980s, increased consumer prices for water has been a very efficient measure. In some cases, water consumption has decreased up to three-fold and will probably stabilise around 100-150 litre per person and day, a level that is sustainable in many places (see Chapter 17).

Changed use of resources, with regards to energy and water, seem to be rather stable and from that point of view efforts to address use of these resources would be worth while.

Mobility – is less travelling possible?

One of the more spectacular aspects of a so-called modern lifestyle is the large mobility. As compared to the "old" (farming) society, where people walked to get somewhere else and seldom more than about one km a day, the difference is dramatic. Now we have an array of means of communication in which the car dominates. In Scandinavia in 1950 the distance travelled per person and day was about 10 km, half of that by car. Today the mean distance travelled per day is 40 km per person. In USA, where car use is the most extreme, mobility accounts for some 50% of the energy use in the households (and 6% of the time). For Sweden the figures tell us that there are 3.7 million cars or about one car per household. The distribution is uneven. About 20% of adults do not have access to a car, 60% to one car, and 20% have access to two cars. Two-thirds of the length of travel is done by car and about 50% of the number of trips. There is no sign of abatement in the upward tendency. A prediction is that around 2010-20 travelling will have increased to some 50-60 km per day and person and perhaps there will be 5-6 millions cars in the country (Vilhelmson, 1999). The increase in number of cars in the eastern Baltic Sea region is even more pronounced.

Obviously this society of travelling will be difficult to accept from the point of view of environmental protection, even if the technical and environmental standards of cars are improved dramatically. Many studies have been done to see if the mobility habits of people can be changed.

Why do people use cars and in general travel they way they do? Everything points to time use as a central factor. An average trip by car – counted from door to door – is 10 times faster than walking, four times faster than biking, and twice as fast as mass transport (air travel is not included in this study). Studies also point to the fact that a fairly constant time per day is used for travel. In Sweden this is 80 minutes. It follows that those who travel by car travel longer distances. Thus when a family can afford to use a car the added value is not changed into time, it is changed into distance. The figures differ for social groups – the elderly travel less than the middle-aged, and women travel less than men – but they do not differ much between urban centres and the less populated countryside (Vilhelmson, 1999). Possibly one may say that people living in average sized cities (around 100,000) travel the minimum amount.

Where do we travel? One might believe that most trips are forced: commuting to work and going to services such as health care or shopping. But in fact the voluntary trips to friends, sport events, amusements, etc., increasingly dominate the mobility scheme. So-called forced trips accounted only for about 1/3 in Sweden in the 1990s.

Travel is unevenly distributed in society. A small part of the population is responsible for a large part of the mobility. In Sweden, 10% travels more than 100 km per day, although this 10% is not the same persons every day. Half of the population travels less than 15 km a day. Thus, the long distance trips would be more relevant to look into.

The processes of behavioural change

The change from one habit to a new more environmentally friendly one is a process that goes through a number of stages. Biel (1999) has analysed the process that takes a person through this process. He sees seven stages in the process.

1. *Activation*. The person is reminded of the existance of a specific new behaviour, e.g. recycling of paper or use of certain environmentally friendly detergents. All kinds of information can serve this purpose: information from the municipality, discussion with neighbours, observation of somebody else with different habits, etc.
2. *Observation of one's own habits*. In this stage the connection between the habitual behaviour of the individual and the alternative becomes clear and its environmental consequences known, e.g. through relevant education and information.
3. *Alternatives are discussed*, e.g. the person looks into which alternative products exist or which alternative ways to handle waste are possible.
4. *Planning*. At this stage the individual finds out exactly how to carry out a different behaviour, e.g. by using information about where to buy alternative products or where to take sorted waste.
5. *Testing*. The new behaviour is tried, e.g. the new detergent is used to see if it works or used batteries are taken to the proper place.
6. *Evaluation*. Here for example economic and time use consequences of the new behaviour are evaluated and the new behaviour is either judged to be good, too costly, or just meaningless.
7. *Establishment*. If the evaluation was positive the new habit is accepted and established.

Figure 21.20. Living in an eco-village. The eco-village is not only work for environrment. It is often also being part of a good social network and support from friends and oportunities to spend time in close contact with nature. Hågaby eco-village, Uppsala, Sweden. (Photo: Per G. Berg.)

General conclusions about mobility in society are thus (Wilhelmson, 1999) that:

1. The distance travelled is mainly determined by the velocity. Today the car offers the best speed.
2. Economic possibilities determines how far people travel. Higher prices on car travel, e.g. more expensive fuel, is one of the most efficient ways to reduce car travel.

We may predict that more efficient transport systems will mostly be used for travelling longer distances rather than shorter times. If commuting becomes more efficient people will take jobs that are father away, not travel less. Changes in society that aim at reducing travel, such as densification of cities, will probably only move travel to other areas such as free time trips.

A conclusion might be that the large sector of free time travel can only be reduced if we change "attitude," and consider a life with less travel to be better.

Experiences from eco-villages – the post-materialistic lifestyles

Where will the discussion of ethics and behaviour lead? Will a "post-materialistic" lifestyle become important in the future? Is such a lifestyle necessary for successful environmental protection? An interesting movement that already exists today are the eco-villages.

Living in an eco-village is not only a question of less consumption of resources, of recycling of material, etc. In an eco-village all, or almost all, of the changes that have been discussed above have been implemented, some of them with large efficiency, such as energy saving. But life in an eco-village goes further, including a large component of social aspects. Practical parts of everyday tasks such as composting and taking care of gardens are much supported by co-operation between neighbours. Efforts are made to increase self-sufficiency. Local working places, local production facilities, local markets, local use of e.g. composts, are often part of the strategies.

Is life in an eco-village the beginning of a completely new lifestyle, a post-materialistic lifestyle, where nature is more important, where time is more important than money and consumption, and where life in the village and home is more important than travel? We do not know. Today, eco-village life is pursued only by few people, and is often experimental and supported from the outside. It will be interesting to see if the strategies of eco-villages and the knowledge gained in these environments will be applied more widely in the future.

Review questions

1. Which are the factors that decide a person's choice of lifestyle? Make a rough evaluation of the importance of each of them.
2. How is it possible to recognize that a question on choice of behaviour is concerned with ethics rather than other concerns such as legal requirements?
3. Describe the differences between anthropocentric, biocentric, and eco-centric ethics. What kind of ethics dominated the 1992 Rio Earth Summit documents?
4. Which kind of ethics form the basis of the *Caring for the Earth* document by the IUCN? Do you accept this ethics as your own?
5. Among the different environmental philosophies deep ecology has a special role. Give a brief description of its content and origin.
6. Identify the most important books and actions that spurred environmental awareness in the 1960s and 1970s.
7. Describe the field of behavioural community psychology.
8. What are the roles of information, accessibility, consequences and rewards in behavioural change? Give examples of how each of them contribute.
9. Explain Scott Geller's concept of actively caring and how it is applied in the work of eco-teams.
10. Describe how eco-villages work and how the experiences from eco-villages can be used in society as a whole. Find out if there are any ecovillages close to where you live.

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Internet resources

Arne Naess http://www.philosophenlexikon.de/naess.htm

Baltic University Programme http://www.balticuniv.uadm.uu.se/

Baltic21 http://www.ee/baltic21/

Bra miljöval - Good Environmental Choice
http://www.snf.se/bmv/index.cfm

CITES - Convention on International Trade in Endangered Species of Wild Fauna and Flora http://www.cites.org/

Committee on Recently Extinct Organisms
http://creo.amnh.org/index.html

Convention on Biological Diversity http://www.biodiv.org/

Council of the Baltic Sea States http://www.baltinfo.org/

Deep Ecology
http://www.lancs.ac.uk/users/philosophy/mave/guide/deepecol.htm

Descartes: Discourse On The Method Of Rightly Conducting One's Reason And Of Seeking Truth In The Sciences
http://promo.net/cgi-promo/pg/cat.cgi?&label=ID&ftpsite=ftp://ftp.sunet.se/pub/etext/gutenberg/&alpha=62

The Earth Charter Initiative http://www.earthcharter.org/

Ecospheric ethics http://www.ecospherics.net/

Eco-village Smeden
http://www.crosswinds.net/~ecovillage/lank.htm

Endangered Species http://eelink.net/EndSpp/

GREEN, Global Rivers Environmental Education Network
http://www.green.org

The Green Web http://home.fox.nstn.ca/~greenweb/

Henry David Thoreau 1817-1862
http://www.geocities.com/~freereligion/1thorea.html

James Lovelock and the Gaia Theory
http://www.lancs.ac.uk/users/philosophy/mave/guide/gaiath~1.htm

KRAV products from organic farming
http://www.krav.se/sprak/english.htm

Life-Link Friendship-Schools http://www.life-link.org

The Online Ethics Center for Engineering and Science – Rachel Carson
http://onlineethics.org/moral/carson/main.html

Rene Descartes (1595-1650)
http://www.orst.edu/instruct/phl302/philosophers/descartes.html

UNCED - United Nations Environment Programme
http://www.unep.org/unep/partners/un/unced/

UNEP - The United Nations Environment Programme
http://www.unep.org/

UNESCO – United Nations Educational, Scientific and Cultural Organization http://www.unescostat.unesco.org

United Nations
http://www.un.org/esa/sustdev/agenda21.htm

University of Aberdeen Centre for Philosophy, Technology and Society. This centre has an interesting programme on ethics and technology, including environmental ethics and global ethics.
http://www@abdn.ac.uk/cpts/

Whole Systems http://www.worldtrans.org/whole.html

The World Conservation Union
http://www.iucn.org

Glossary

animal rights, bio-centrism
an ethics in which actions should be judged based on how they influence other living beings, but with preference for humans and other sentient beings, in many countries codified in animal welfare politics and law

anthropocentric ethics
an ethics in which only humans have intrinsic value, and where natural resources and the environment is protected for the sake of humans; characteristic of most of the accepted policy documents such the Rio Declaration and Biodiversity Convention

behavioural community psychology
a research area, originating in the 1970s, which studies behaviour related to the environment such as energy saving, littering, reduction of air pollution, recycling of natural resources, etc.

bio-centric ethics
an ethics in which only living beings have intrinsic value and should be protected also for its own sake, that is humans have moral obligations towards them

Caring for the Earth
strategy for a world conservation policy published by the IUCN, the International Union for the Conservation of Nature, in 1990, where an ethics for sustainable development was proposed

conservationism
the view that the environment should be conserved for present and future humans

deep ecology
an eco-philosophy established in 1972 by the Norwegian philosopher Arne Naess, as a philosophical ecology (or ecosophy) to be contrasted with "shallow" environmentalism which in his opinion was the underlying cause of the current environmental crisis

Earth Charter
a document, worked on by several interest groups all over the world, and prepared for the United Nations, with the intention of establishing a global environmental ethics maintaining that also the non-human part of the eco-sphere has an integrity to be respected

eco-centric ethics
an ethics in which species and ecosystems have a value of their own; if this value is second to that of humans we talk about a weak ecocentrism

eco-feminism
an eco-philosophy propagated since 1974 by Francoise D'Eaubonne, who called upon women to lead an ecological revolution to save the planet

ecological humanism
an eco-philosophy propagated by the Polish-American philosopher Henryk Skolimowski in which he argues for harmony between people and the biosphere as a basis for a new humanism

eco-philosophy
a philosophy that discusses the relationship between man and nature, also called environmental philosophy, a philosophy with many schools

eco-villages
neighbourhoods in which several methods of environmental protection are practiced, and in which the inhabitants through their lifestyle minimize their influence on the environment

inter-generational justice
equal rights between people living now and future generations

intra-generational justice
equal rights between people living now

land ethics
the view that the Earth is a living being which can be healthy or damaged and has a value of its own as proposed by American writer Aldo Leopold, who wrote in 1949, "land ethic simply enlarges the boundaries of the community to include soil, waters, plants, and animals or collectively: the land"

Our Common Future
report of the World Commission on Environment and Development published in 1987, in which the concept of sustainable development was put forward as a key strategy for the world

preservationism
the view that the environment should be protected against present and future exploitation by humans

prompts
instructions, most often written, to encourage the public to carry out a certain behaviour, e.g. to reduce environmental impact

Rio Declaration
Declaration from the United Nations Conference on Environment and Development, UNCED, in Rio de Janeiro 1992, also called the Rio Conference or the Earth Summit

Silent Spring
a classic account, published in 1962, of the negative effects on the environment of the indiscriminate use of chemicals written by the American biologist Rachel Carson; the book was an alarm clock for the beginning environmental movement

suasion
political tool used by authorities to convince citizens to behave in defined way, e.g. environmentally friendly, without using legal means, only information

World Commission on Environment and Development
UN commission, chaired by Ms. Gro Harlem Brundtland, former Prime Minister of Norway and therefore also called the Brundtland Commission, that proposed a new development strategy for the world