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THE ROAD TO SUSTAINABILITY – THE POLITICAL HISTORY

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6.1 Establishing an international agenda

Environmental problems, which are commonly regarded as local, regional or national, may have international or even global implications. Some issues go beyond the jurisdiction of any national government and are inherently international: for example, climate change, depletion of the ozone layer and exploitation of the common seas. Other issues, such as tropical deforestation, may be localized in particular countries but impact upon many others. But also high levels of consumption in western industrialized societies affect the environment, both in the immediate surrounding areas (pollution and health effects) and in those (often developing) countries from which resources are extracted and exported. Although the environment has always been affected by human activities throughout history, it was not until the turn of the last century that they became a matter of political concern on the international agenda.

An issue cannot become international until it becomes a matter of national concern. All current aspects of international environmental policy assume negotiation, agreement and cooperation among nations. Most, but not all, of this interaction is intergovernmental. However, the growth of non-governmental organizations (NGOs) during the past century has changed the character of international relations, broadening their scope, multiplying their participants and sometimes achieving more far-reaching environmental goals than those suggested by the formal protocols of international

diplomacy. Yet even though these multinational organizations participate in shaping international environmental policy, the implementation of the agreements is highly dependent on the support from national governments.

Environmental policy tends to be focused, at least initially, on specific and concrete emergencies or events. Public attention can be easily drawn to those immediate, comprehensible problems like the effects of acid rain, the plight of fur seals or pollution from pesticides - as compared to more complex problems which may become evident only in a longer perspective (for example, global warming, desertification and preservation of biological diversity). Within science, however, critical issues do not necessarily correspond to the perceptions and priorities prevailing in governments and international organizations. An issue becomes critical to a government only when there is concern among the public, or among key actors who can raise the media's attention to the problem. Therefore, the emergence of international environmental policy follows both the growth of the environmental movement and the development of scientific understanding about fundamental ecological processes. Most of this development has taken place during this last century.

The emergence of the common environment as an issue in international policy and international relations can be divided into four phases. The *first phase* began with bilateral fisheries treaties in the 19th century and concluded with the creation of the new international organizations in 1945. The *second phase*, during which the environmental movement was

largely established, commenced with the creation of the United Nations and culminated with the UN conference on the Human Environment in Stockholm 1972. The *third phase* between 1972 and 1992 was an explosion of new environmental institutions and treaties. Finally, the *fourth phase* was set in motion by the United Nations Conference on Environment and Development in Rio in 1992 and can be characterized as the period when environmental concerns should become integrated into all public and private sectors and into all human activities.

6.2 First Phase: Be-ginning with Common Sea Water Resources

The earliest conventional forms of international environment-related cooperation were established to clarify jurisdiction and to manage the uses of international waters, especially boundary lakes and rivers. Migratory wildlife also became an early focus of attention because no nation could unilaterally ensure its protection when threatened by the growth of industrial societies. For example, in 1872 the Swiss government had already proposed (unsuccessfully) an international regulatory commission to protect migratory birds in Europe. Much earlier, governments had taken conservation initiatives, mainly for national economic reasons, to protect forests, inland waters, mineral deposits and preferred forms of wildlife.

With the exception of the Fur Seal Convention of 1911, these early attempts to regulate the common environment demanded

so much further negotiation that they tended to be largely ineffective. In addition to virtually no binding commitments, strong political boundaries and cultural differences contributed to the implementation problems. Efforts to protect the great whales have become one of the more frustrating episodes in the history of international environmental protection. The Convention for the Regulation of Whaling was signed in Geneva in 1931 and twenty-four nations ratified or adhered to it by 1935. However, the Soviet Union and Japan, who were two of the most offensive whale-catching nations, never signed. Even for those who had signed, the obligations were minimal. The International Whaling Commission (IWC) was established in 1946 on the initiative of the United States. A code for the whaling industry was formulated and the commission was empowered to amend it without the necessity of further formal conferences. Despite this power, it was unable to overcome the short-range interests of the whaling industry. Even its own scientific advisors' words fell on deaf ears within the commission. At the 1972 Stockholm Conference the whale became the symbol of mankind's anti-ecological behaviour. A whale march was organized and the conference concluded with recommending a ten-year moratorium on commercial whaling. This was intended to pressure the IWC into more effective action. But it took ten more years before a moratorium was adopted.

The Fur Seal Convention, however, succeeded in protecting the seals from the direct impact of man by controlling the taking of seals on islands and in the surrounding seas. Why did international cooperation succeed in saving the fur seals and initially fail to protect the whales? The fur seals were a single species with highly predictable behaviour and a localized breeding habitat under control of mostly one nation (the US). The whales, by contrast, consisted of many species ranging widely among the oceans, their behaviour poorly understood,

their numbers difficult to estimate and management of stocks complicated by different political, economic and geographical factors. The IWC was dominated by interests from the whaling industry itself, established to regulate whaling and not to prevent it.

Not until in 1982 did the IWC vote to end commercial whaling for five years, following a three-year phase-out period. Major whaling nations were still opposed, including Japan, the USSR, Brazil, Peru, Norway, Iceland and South Korea. At the IWC meeting in 1990, however, with the five-year moratorium ending, the US led a majority of IWC members to continue the ban. In the end, the opposing states are unlikely to resume commercial whaling because they have too much to lose, both in their political and business reputations.

6.3 Second Phase: The Emerging Environmental Movement and the UN

The number of non-governmental organizations (NGOs) formed with environmental issues as their common denominator grew from the end of World War II onwards, with support from governmental efforts at national and international levels. Grassroots responses to the world's problems are organized around four major themes: (1) nuclear, biological and chemical proliferation as well as military expenditure and war; (2) poverty, both absolute and relative; (3) the environmental crisis characterized by resource scarcity, waste, pollution and loss of biodiversity and (4) the denial of human rights. However, the same international events have had different responses and effects on social and environmental movements in different countries, depending on national political cultures. For example, in such similar national settings as in Denmark, Sweden and the Netherlands, the environmental movements have distinguish-



Figure 6.1 Rachel Carson, whose book *Silent Spring* (1962) became an alarm clock for the environmental movement (photo Pressens)

able national traits in terms of their specialization and degree of professionalism. They range from large membership organizations to small expert-oriented groups. Some are concerned with more general environment and development issues, while others are formed around one or a few issues only. They can also be classified according to their dominant environmental ideologies.

In the 1960s, there was a surge of interest in the natural environment from a scientific and an economic point of view, and this was to have a profound impact on the way that the environment was viewed in intellectual, if not yet political, circles. In 1962, for example, Rachel Carson published *Silent Spring*, a damning indictment of the overuse of pesticides and their deleterious effects on ecosystems and on human health. Although at the time criticized by most of the scientific community as 'emotional', many, if not all, of the pesticides attacked by Carson are now banned. If in 1962 there was unease about the state of the environment, by 1970 it had changed to a vocal insistence on societal change. The concern of a few scientists, administrators and conservation groups blossomed into a fervent mass movement that swept the industrialized world. Many of the old established conservation societies were by-

passed by activist groups and left to catch up as best they could. The transformed New Environmentalism was more dynamic, more broad-based, more responsive and more political than were the previously established nature-conservation organizations.

The new environmental movement came to play a major role in international relations with regard to environmental protection. Environmental organizations exert pressure on national governments to formulate and implement effective environmental policies. They are at the same time important actors at international as well as local level. Through regional and global networks, environmental NGOs collaborate in acquiring information and devising strategies for environmental protection. At local level, they gather groups and individuals to solve pertinent local environmental problems.

Although there is great variation among the new environmental movements of grassroots orientation, they have certain features in common. According to Escobar, they can be characterized as striving for greater autonomy over the decisions that affect their lives rather than power *per se*, and are non-party political formations. They are also of a pluralistic nature, and generally do not conceive of their struggle in purely economic terms or only in terms of economic classes. Local culture and communal aspirations are often equally important concerns. More particularly, they do not accept at face value the knowledge of the 'expert' and of government agents.

Mobilizing participation from NGOs can take many forms - from passing on environmental information and changing attitudes, to initiating and implementing development policy. Moreover, NGOs range in size from small, locally based social institutions deriving their authority from a kind of unspoken community sanction to large, bureaucratic and international NGOs with established political programmes. Some forms of participation from these various kinds of movements

The tragedy of the commons

In 1968 the biologist Garrett Hardin published an article in the highly respected international journal *Science*. He argued that there is an inherent conflict in the management of common property resources (such as the air, seas, mineral resources and common lands) which he called 'the tragedy of the commons'. The conflict concerns the relationship between the individual and the common interest. For an individual, it is rational to enjoy the benefits of common property, and everybody is therefore inclined to use it as much as possible in his or her own interest. The cost, however, for this marginal additive use is spread among all the users. The common resource thus becomes over-exploited. The 'tragedy', according to Hardin, is the inevitability of this behaviour, leading to the destruction of resources in a world that is limited. He uses a lifeboat metaphor to illustrate this problem: we cannot let everyone in when there is limited space. To avoid the 'tragedy', the participating individuals must agree to authoritative management of the common property. Hardin proposes a regulative executive to determine the allocation of use.

cannot be regulated, let alone manipulated. Spontaneous action is already taking place and organized locally without support from outside actors.

In addition to the grassroots movements described above, two other categories of NGO in international environmental policy are worth mentioning. Firstly, restricted-membership organizations with essentially scientific or professional interests, such as the International Council of Scientific Unions and the World Conservation Union. Both of these were actively involved in preparing the United Nations Conference on the Human Environment in Stockholm, 1972. Secondly, there are institutes and centres for purposes of information, education and consultation. These include, for example, the International Institute for Environment and Development, the Institute for European Environmental Policy, the Foundation for Environmental Conservation and the World Resources Institute.

International co-operation over environmental issues has to a large extent been organized through the UN system. The Charter of the United Nations was signed in San Francisco in 1945 at the conclusion of the United Nations Conference on Human Organization. The environmental role of the United Nations has both political and technical as-

pects. It helps to bring issues onto the international agenda and it assists countries with technical advice. The United Nations works through a structure of committees, commissions, councils and semi-autonomous special bodies. Of the three specialized councils, only Economic and Social Affairs (ECOSOC) is directly concerned with environmental policies. Of the sixteen specialized agencies of the UN system, less than half of them are directly involved in environmental protection. Among these, the United Nations Environment Programme is by far the most influential in environmental policy. It was established in 1972, as a direct result of the Stockholm Conference on the Human Environment.

The principal source for international funding for economic development, and hence an important factor in environmental policy, is the International Bank for Reconstruction and Development, known as the World Bank. It heads a larger group of agencies known as the World Bank group including the International Monetary Fund, the International Finance Corporation and the International Development Association. They were established in 1944 on an essentially Keynesian vision to create a stable, growing and interdependent world economy for liberal trade and economic co-operation. In the 1950s

and 1960s the world economy, and international trade, indeed grew. However, fundamental problems were emerging by the 1960s, which eventually resulted in the oil crisis of 1973. The oil crisis coincided with a sudden concern about the 'limits to growth'.

6.4 The Club of Rome and Limits to Growth

The Club of Rome (a loose association of scientists, technocrats and politicians, of whom most are European) published its report *Limits to Growth* in 1972, at a time when capitalist liberal democracy was plagued with internal crises and criticisms and concerns for civil liberties, peace and the environment were on the rise. *Limits to Growth* focused on the predicted results of continuing levels of resource depletion, pollution and population growth. Its goal was to foster understanding of the links between the economic, political, natural and social components of the 'global system' and to encourage the adoption of new attitudes and policies to address the problems. It showed how the world would develop until the year 2100, based on a system analysis computer model (the first of its kind), from which they could extrapolate from previous growth between 1900 to 1970. The message was that, unless major changes were to occur, the world would collapse

by 2100. Moreover, the model illustrated the highly interdependent development within the five areas (industrialization, resource depletion, pollution, food production and population increase). Changes in one single factor would merely push problems over to other factors. Technical innovations to modify or deal with the consequences of growth in each factor could not halt the general trend. The report was a major criticism of the dominant belief at this time in technological fixes for environmental improvement. Although criticized for its western bias, as well as for its system dynamics method, *Limits to Growth* introduced new thinking on the world agenda. It launched a new, and more holistic view of the global environment. Parallel to this debate, other compelling arguments were also raised against the current trends in the destruction of common resources (see Box page 38).

The years 1968-1972 witnessed a world-wide raising of consciousness of the environment. As a result, since 1970 the World Bank has taken a rhetorically positive although cautious position in relation to ecologically sound development. It has been heavily criticized for lending money to large-scale and environmentally hazardous development projects. For example, it has subsidized tropical deforestation, ecologically and socially destructive water projects and monoculture

export agriculture. Not until 1987, however, was an Environmental Department established within the World Bank to monitor and be mentor to its four regional offices. More recently, policies have been changed within the organization to include the notion of sustainable development. The fundamental role of the organization to support economic development remains, however, and for the outsider it is not always easy to see any evidence in change of direction.

6.5 Third Phase: From Stockholm 1972 to Rio 1992

In 1968 and 1972, two international conferences were held to assess the problems of the global environment and, more importantly, to suggest corrective action. The first was the Biosphere Conference held in Paris. It was mainly a scientific meeting to discuss human impact on the biosphere, including the effects of air and water pollution, overgrazing, deforestation and the drainage of wetlands. Although often overlooked by the much greater and political impact of the second meeting - the Stockholm Conference - the Biosphere Conference served to raise formal international attention to many of the global environmental problems. The United Nations Conference on the Human Environment in



Figure 6.2 The opening session of the United Nations conference on the Human Environment on June 5, 1972 in Stockholm (photo Jan Collsiöö).

Stockholm 1972 was without doubt a landmark event in the growth of international environmentalism. It was the first time in an international forum that environmental problems were discussed in relation to economic and social development. It resulted directly in the formation of a new UN agency: the United Nations Environment Programme. It also marked a transition from the New Environmentalism of the 1960s to the more established political and global environmental movement of the 1970s. The Stockholm Conference confirmed the trend toward a new emphasis on the *human* environment as opposed to pure nature conservation. Above all, it brought industrialized countries and Third World countries together in a debate about North-South relations and the impact of development policies on the state of the environment. Finally, the presence of so many NGOs at the conference (they held a separate NGO Forum in conjunction with the official gathering of representatives from national governments) marked the beginning of a new and more insistent role for NGOs in the work of governments and intergovernmental organizations.

By the early 1980s, it was estimated that there were approximately 13,000 environmental NGOs in developed countries (30 per cent of which had been formed during the previous decade) and an estimated 2,230 NGOs were believed to exist in developing countries (60 per cent of which had been organized in the same decade). Grassroots in the Third World have often played the role of an alternative to the political venues blocked by governmental corruption. In parts of eastern Europe and in the Baltic countries of Estonia, Latvia and Lithuania, environmental movements were important forces in the struggle for independence. The growth of this movement in particular can be explained by the combination of disapproval of Moscow being the centre for decision-making that affected the management of industry and natural resources and, secondly, a growing recogni-

tion of the impact of heavy pollution on public health.

The Stockholm Conference set in motion a number of international initiatives. In the Baltic Sea area, at the end of the 1960s, scientists had revealed an alarming increase of water pollution and oxygen depletion. All the seven surrounding countries (Denmark, Finland, the German Democratic Republic, the Federal Republic of Germany, Poland, Sweden and the USSR) agreed to take measures against further pollution. The Convention on the Protection of the Marine Environment of the Baltic Sea Area was set up in 1974 and an interim body, known as the Helsinki Commission (HELCOM), was formed to monitor and further develop the joint programme. This was a unique effort at the time, in that both eastern and western European countries decided to co-operate over common environmental problems. It established the link between environmental co-operation and general security issues. Prior to the recognition of the GDR in 1972, such co-operation had been impossible.

In the mid-1980s, perestrojka and glasnost further emphasized co-operation between East and West. The First Ministerial Meeting in 1984 adopted an action plan for four areas: research, reduced emissions, safety of navigation and oil-spills. The plan could be regarded as political support for a scientific-technological strategy. Problems of national implementation were not dealt with and there were no binding commitments. In the Second Ministerial meeting, held in 1988, 78 recommendations were adopted but many urgent problems were still to be solved. There was a lot of criticism of the slow progress and demands grew for applying more concrete measures and goals. Quantitative goals had been set in the Geneva Protocol on Long-Range Transboundary Air Pollution in 1986 (negotiated within the EEC and in the North Sea Declaration of 1987. It was agreed to adopt the goal 'in the order of' a 50 per cent reduction by 1995 on heavy metals and toxic or persistent organic

substances and nutrients. Hence, a political-programme strategy was formed at the 1988 meeting.

The 1990 Baltic Sea Declaration in Ronneby took an important step towards securing national implementation of the international goals. It adopted an action programme co-ordinated by a task force of national and international experts as well as financial institutions (including the World Bank, the European Investment Bank, the Nordic Investment Bank and the European Bank for Reconstruction and Development). National programmes and regulations for reduction of polluting substances were introduced. In 1992, this plan was strengthened in the Baltic Sea Environmental Declaration, further ensuring the economic strategy of financing environmental investments.

6.6 The seminal books –Our Common Future

In the United Nations system, environment and development issues had come to stay on the political agenda. As a response to the UN General Assembly in December 1983, a commission, led by Norway's Prime Minister Gro Harlem Brundtland, was set up to re-examine critical issues and to formulate proposals to deal with them. It was launched as a renewed search for multilateral solutions and a restructured international economic system of cooperation. The commission held public hearings on all the five continents and its report *Our Common Future*, released in 1987, has been widely used both within and outside the UN system to report country-wise how its goals have been incorporated. Its definition of *sustainable development* is a hard-won consensus of policy principles forming the basis for sound and responsible management of the Earth's resources.

Within the environmental movement, an ideological turning-point occurred in the early 1970s. This was spurred both by the Club of Rome's report *Limits to Growth* and by the publication of *The Ecologist's A Blueprint*

The UNCED agreements

At the United Nations Conference on Environment and Development (the 'Earth Summit') in Rio de Janeiro 1992, five documents were produced: two international agreements, two statements of principles and a major action agenda on world-wide sustainable development:

- The Rio Declaration on Environment and Development, defining the rights and responsibilities of nations as they pursue human development and well-being according to 27 principles.
- Agenda 21, a blueprint on how to make development socially, economically and environmentally sustainable.
- The Forest Principles – a statement on how to guide the management, conservation and sustainable development of all types of forest, which are essential to economic development and the maintenance of all forms of life.
- The Convention on Climate Change to stabilize greenhouse gases in the atmosphere at levels that will not dangerously upset the global climate system. This will require a reduction in our emissions of such gases as carbon oxide, a by-product of the burning of fuels for energy.
- The Convention on Biological Diversity requiring countries to adopt ways and means to conserve the variety of living species and ensure that the benefits from using biological diversity are equitably shared.

for *Survival* in 1972. There was a realization that national and international political movements were required to complement the work of concerned scientists and industrialists, such as those in the Club of Rome, and that they needed to formulate a new philosophy of life. Green parties began to emerge, beginning in New Zealand in 1972 and followed by Britain (1973), France (1974), Belgium and West Germany (1978), Switzerland and Luxembourg (1979), Finland (1980), Sweden (1981), Austria and Ireland (1982), The Netherlands (1983) and Italy (1984). By 1984, Green parties from seven countries ran for election to the European Parliament.

In 1979, a new dimension was added to the argument of holism, of humankind being part of a greater natural system, through the publication of James Lovelock's *Gaia: A New Look at Life on Earth*. Lovelock's thesis was that the Earth is controlled by its living organisms and that these organisms behave as a single entity. All life-forms are interconnected in a self-sustaining biosphere. The Green parties have to varying extents taken up these theories and adapted them to the political programmes. Thus, the environmental movement became divided into ecologists who cared for the environment because of

the intrinsic value that they associated with the Earth (a biocentric focus) and environmentalists who were concerned with the environment simply for the betterment of human society (an anthropocentric focus). More importantly, however, the debate led to a more widespread recognition of the limits to the economic development of human societies in terms of its use of natural resources and environmental space. The principle of spatial responsibility was raised, that is, of a commonly shared environment that must be governed in cooperation between countries with mutual responsibility.

6.7 Fourth Phase: The Period of Integration

The United Nations Conference on Environment and Development (UNCED or the 'Earth Summit') in Rio de Janeiro in June 1992 was the largest and most complex conference ever organized by the UN. It was attended by 179 governments and some 120 Heads of State. The preparatory process had taken two and a half years and generated floods of words and reams of paper. The event had extensive press coverage. The national governments were joined by officials from United Nations organizations, municipal governments, business, scientific, non-government and

other groups who participated in the discussions on the numerous issues of international concern. These included protection of the atmosphere, land resources, oceans and freshwater resources, conservation of biological diversity, environmentally sound management of biotechnology, hazardous wastes, solid wastes and toxic chemicals. The immediate result of the conference was five signed documents (see Box) which represent the lowest common denominator of national interests, the inevitable effect of the UN insistence of consensus. Nevertheless, the Rio Conference played a crucial role in further establishing the global issues of sustainable development, in questioning North-South relations and in explaining environment and development links.

In addition, a high-level *Commission for Sustainable Development* (CSD) was created in order to follow up the results of the Conference, in particular the progress of the implementation of Agenda 21 at national, regional and international levels in order to achieve sustainable development in all countries. A complete review of the progress is to be made and presented at a new international meeting called UNCED II in the summer of 1997.

Agenda 21, which was one of the documents signed in Rio, calls

Sustainable development

The concept of 'sustainable development' originates from ideas about wildlife or nature preservation and conservation, inspired by the writings of Romantics, philosophers and travellers throughout the eighteenth and early nineteenth centuries. American environmentalism divided into two camps at the turn of the century: the preservationists and the conservationists. The former sought to preserve wilderness from all but recreational and educational use, while the latter wanted to exploit natural resources in a rational and sustainable manner. These two basic camps of environmentalism can still be traced in today's debate on the meaning of 'sustainable development' - one of the most frequently used terms in current environmental policy.

With the growth of the environmental movement, sustainability issues were at the centre of environment and development concerns at the end of the 1970s.

In The World Conservation Strategy (IUCN 1980) three objectives for conservation were identified: firstly, the maintenance of essential ecological processes; secondly, the preservation of genetic resources and thirdly, the sustainable development of species and ecosystems. It was a new approach in that it tried to draw together the preservation and utilization of nature, thus combining environmental and developmental goals. These objectives became the basis for the Brundtland Report *Our Common Future* in 1987 which brought 'sustainable development' onto the global political agenda. The reason for its success is that *Our Common Future* starts with people and goes on to discuss what kind of environmental policies are required to reach certain socio-economic goals instead of starting from the premiss of the need to conserve ecosystems.

on governments to adopt national strategies for sustainable development. These should be developed with wide participation, including non-governmental organizations and the public. It emphasizes the need for a broad series of partnerships with international organizations, business, regional, state, provincial and local governments and non-governmental and citizens' groups. The document certainly represents a very brave attempt to draw up a master plan for environment and development into the next century. It provides a comprehensive inventory of the issues pertinent to sustainable development, highlights links between them and suggests principal action programmes. As such, it provides an important framework and point of reference for future work. Its 40 chapters (over 500 pages) are organized under four sections: social and economic dimensions, conservation and management of resources for development, strengthening the role of major groups and central themes and implementation.

The principal shortcoming of Agenda 21 is that it is not funded. The cost estimated by the secretariat comes to a total of US\$600 billion annually, of which US\$125 billion was to be covered by foreign aid, was a totally unrealistic figure in terms of what actual money could ma-

terialize. In practice, the *Global Environmental Facility* (a result of the Brundtland Report in 1987) managed to add US\$1300 million for the years 1991-94 and another US\$2000 million in 1994-98 for action within global warming, pollution of international waters, biological diversity and protection of the ozone layer. Still, the total sums of foreign aid from the North to the South (including multinational and bilateral financing organizations) are currently declining due to both economic and political factors. Part of this development can be ascribed to the end of the Cold War: developing aid is increasingly diverted from Third World countries to countries in the former communist bloc. For the Third World, this means less money also from the eastern bloc since those nations are now struggling for their own survival. Additionally, previous trade relations between eastern Europe and Third World countries are deteriorating, thus leaving developing countries in a political vacuum where they must search for new partners. But the decline in foreign aid is also a reflection of the economic crisis where most nations have chosen to cut down their overall commitments to international development assistance.

Against the background of environmental deterioration in

the former eastern bloc, the tussle between Third World and eastern European countries in receiving assistance from the West is worrying. There remains a lot to be done to achieve sustainable development in the former communist countries (see Box page 46). Above all, however, it is a matter of giving political priority to environmental goals in times of economic recession. This can only come about through public concern and pressure from environmentalist organizations. In all of the eastern European countries where Green movements were previously an important force in the struggle for independence, priorities have recently changed. Many of the representatives of Green parties who were voted into the new Parliaments during the first free elections, have lost their seats in later elections. Among the general public, economic issues now tend to dominate the political agenda. But there are also signs of progress towards adopting national strategies for sustainable development that cannot be ignored. As in western Europe, this movement is taking place at several levels of society: among central politicians and bureaucrats, regional and local authorities and, not least, among various grassroots organizations and industrialists.

6.8 Greening of business

Some speak of the need for an 'eco-industrial revolution' to allow for long-term structural changes in production and consumption patterns. Instead of continuing to focus on a reactive way on minimizing environmental damage from industrial activities, the goal would be to redefine corporate goals, logistic systems and technologies. A radical transformation of the industrial paradigm would move away from an economy of use-and-disposal towards an economy of reconsumption. In recent years, some initiatives in this direction have been taken.

For example, in 1989, the Round Table of European Industrialists decided to establish a permanent Working Group on Environment, to look at waste-disposal practices, particularly of chemical companies, and analyze changing corporate philosophies to see whether more firms are applying the 'cradle-to-grave' impact of their products. Also, Green Consumer Guides have made their way onto best-seller lists in many European countries. Through these guides, along with several different systems (some official and some internal within companies) for environmental labelling of consumer products, the share of the general public who selected one product over another because of 'environment-friendly' packaging, formulation or advertising has increased considerably.

In the 1990s there has been a rise of consciousness among industry world-wide to attain sustainable production methods. Many companies realized that minimizing resource use and pollution will increasingly be a competitive advantage. The Business Charter for Sustainable Development, launched in 1991 by the International Chamber of Commerce, indicates that a radical change in business attitudes might be underway. It declares that companies should apply the same environmental criteria world-wide. (In the absence of a follow-up plan of action, there is no guarantee, however, that this will occur.)

Yet at the same time as these

signs of increased environmental concern by private firms are emerging, the European Commission's proposed carbon tax has been blocked by industrial lobbying. This inconsistency shown by business demonstrates that there is no unified approach. Instead, companies and countries have evolved various management paradigms, ranging from 'environmental management' (reactive pollution control) and 'environmental competition' (market- and consumer-driven) to 'sustainable development' (environment as the basis of corporate activity). In practice, company responses to environmental issues have mostly been driven by legislative demands. Few companies have yet made environmental performance one of their top priorities.

As a result of new public concerns, industry associations have introduced numerous codes of conduct to exert peer pressure and improve public image. This has coincided with the emergence of new market-driven pressures on companies from the 'green-consumer' movement. By necessity, environmental efforts have been greatest in environment-intensive industries, such as petrochemicals, where large US, European and Japanese multinationals have now established specialized environmental departments and inaugurated company-wide environmental programmes. Successful corporate programmes have relied heavily upon strong support from senior management and have required significant reforms in organizational procedures and management structures.

Studies of good environmental practices in business show that there is considerable potential for moving towards cleaner production within a relatively short time (less than one year to two years) considering the pay-back of new investments. In developing countries it has been estimated that a general industrial rule of thumb for an old plant is that 50 per cent of pollution abatement can be achieved by better operation and minor plant modifications. Studies of energy prices and economic performance over the last 15 years

in Japan, western Europe, the US and the former USSR, have revealed that those economies who have maintained high energy prices at home have developed particularly well. For example, Japan's higher energy price has lowered its energy intensity to half of that of the US, which has led to a 5 per cent cost advantage for Japanese companies over their American competitors.

As most countries are now moving towards deregulation, private initiatives and global markets, corporations will increasingly be questioned about their role and legitimacy in economic and social activities. Systems for monitoring and auditing environmental performance have been introduced by the EU and national governments. The EMAS and ISO 14000 procedures are new ways for following up environmental policy within private companies as well as government agencies. Private companies and public agencies are also required to make Environmental Impact Assessments (EIA) for some activities with potential damage for the environment. There are few instances, however, where negative EIA results are legally prohibitive for pursuing such projects. An increase in democratic transparency for these various auditing systems will probably be necessary to accommodate criticism by environmental organizations. To summarize, both industry and government need to become more open and accountable and to develop effective partnerships with citizens, employees and consumers in order to adopt more environmentally sustainable practices.