

# INTERNATIONAL ENVIRONMENTAL PROBLEMS AND THE ROLE OF LEGISLATORS

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"The ratio of words to action  
is weighted too heavily  
towards the former."  
UNEP Report, 1984

## INTRODUCTION

In the past decade or so, the terms to describe the economic and ecological interdependence of North and South have changed: "Only one Earth", "Global 2000", "Spaceship Earth", "Blue Planet", and the like. Their message, however, is clear: What is involved for North and South is more than an improved international division of labor - although the economic system is very much in disorder. What is at stake is that man is in conflict with nature and thus on a collision course with his own future. It is, therefore, necessary to learn more about the interdependence of the economy and the ecology in the international context. This interdependence, of course, assumes a variety of forms. In this paper, I will focus only on some of its facets. Before doing so, I would like to quote from a well-known international report.

The Brandt Commission in its report of 1983 identified the urgent need to halt the further deterioration of the environmental quality as one of the common interests of North and South. On this point the report stated: "Growing pressure on the available land, increasing use of chemicals, desert expansion and deforestation are diminishing the productivity of the soil in many parts of the world. The clearance of forests, incautious use of pesticides and fertilisers, and erosion destroy the soil and the agricultural potential of scarce land, and cause serious damage to the environment. We therefore emphasize the need of means with which to stop and reverse the processes of ecological decay, which has meanwhile reached emergency proportions."

The Brandt report did not elaborate on acid rain and the damage it causes to the forest stock, soil, buildings, and human beings, and the necessity for an effective international environmental policy. However, only two years later the above issues have become questions to be discussed by follow-up commissions, e.g. the World Commission on Environment and Development (Brundtland Commission).

Other activities, academic reports, as well as practical work by thousands of environmental organisations bear witness to the increased awareness of the interdependence between economy and ecology. They have contributed towards making that interdependence clearer. Disadvantages for all are to be expected if improved cooperation is not achieved, i.e. areas of "negative-sum-games". International co-operation can bring benefits for all, i.e. areas of "positive-sum-games".

In the following, I will examine four large-scale areas as examples of such "games", representing at the same time the two typical sides of the environmental problem - i.e. the depletion and the pollution issue or the process of influencing natural cycles and creating environmental damages. With these examples, I would like to show that not only common problems are involved when talking about international environmental issues, but also common or collective efforts must be undertaken by parliamentarians and other decision-makers.

Serious problems of resource depletion are found above all in the South. Many people in the North therefore regard them as "remote problems". Conversely, many people in the South consider the existing environmental problems in the form of pollution, caused by production and technology, as manageable or even as solved. They view the debate on stricter measures on such problems as "colonialism in disguise".

In other words, appreciation of the fact that depletion and pollution could be common international problems requiring mutually acceptable solutions, may not yet be very marked. However, environmental issues have become part of the North-South debate.

## I. RESOURCE DEPLETION ISSUES

### *1. Decrease in the Diversity of Species*

About 25.000 plant species and more than 1.000 animal species are considered in danger of becoming extinct due to human activities. One out of ten terrestrial species could die out in the course of the next decade. Extinction on this scale would be without precedent in human history. Roughly two thirds of all terrestrial species, and the majority of the endangered species, are found in the developing countries (the tropical forests alone are the habitat for about 40 % of all species).

These few figures are sufficient for indicating the threats that can arise for the overall quantitative stock of the world's animal and plant species from poverty-induced and profit-induced exploitation, i.e. excessive utilisation of natural resources. A loss of species of the quoted order of magnitude in developing countries would also have indirect worldwide effects on the future development of agriculture and industry, on health, and the quality of life in general. The quantitative loss of existing species also gives rise to impairment of the quality of the remaining species. For example, many important plant species in the industrial countries have only a limited genetic basis. The loss of species in developing countries therefore concomitantly reduces the possibilities of stabilising or increasing the yield of food plants in the industrial countries. To give another example, about 40 % of the pharmaceutical products and medicaments now used are obtained wholly or in part from natural products which come from developing countries. Likewise, the innovative potential, and hence the economic future of biotechnology, depends on the genetic reserves from the developing countries.

Despite this manifest interdependence between ecology and economy the loss of species is continuing worldwide. Why? In the developing countries it is not only knowledge and know-how which are lacking; so far they also have limited economic benefits from the utilisation of their own resources. There is also a lack of economically realisable alternatives and, above all, a lack of incentives to protect the existing species. In order to pay for their debt burden and balance the returns due to decreasing world market prices, overproduction of raw materials is taking place, thus leading to environmental degradation. This cause-and-effect chain has especially severe consequences for countries which in their trade activities rely on the export of a few raw materials only.

#### *Conclusions:*

Obviously the incentive structure is too weak or just nonexistent for the needed long-term protection of species. Due to the logic of day-to-day survival, utilisation of resources and sustainability of the ecological systems are not yet compatible. Once utilised or exported, non-renewable resources are lost. These relations exemplify the responsibility of the industrial countries when it comes to harmonising ecology and economy internationally. The ecological-economic interdependence in the North-South context implies that any significant loss of species will adversely affect health and prosperity in both industrialised and developing countries. Therefore, North and South should recognise their common interests in effectively curbing the decrease in the diversity of species and should develop an effort to tackle such problems.

#### *2. Loss of Forests*

Complex in structure and rich in species composition, forests represent a set of the principal natural formations of the world. The forests are menaced by two different environmental hazards:

- (1) Forests in temperate regions are afflicted by air pollution, and
- (2) forests in the tropics are subject to depletion through excessive cutting.

Atmospheric pollution results from combustion of fossil fuels and emission of sulphur and nitrogen oxides together with other industrial effluents into the air. These air-borne pollutants spread over considerable distances and interact chemically and photo-chemically, producing acid precipitation, photo-chemical oxidants, etc. These exert insidious damage on forests, especially the more sensitive coniferous forests. Hundreds of thousands of hectares of forests are seriously damaged or have been totally destroyed in Germany, Poland, Czechoslovakia, and progressively in France and Switzerland.

Tropical rain forests are being exploited to an extent and in a manner which should be regarded as ecologically and economically intolerable. Estimates of the diminution of timber stocks in tropical regions due to changes in utilisation and degradation vary, but the message is clear: FAO and UNEP in 1983 arrived at an order of magnitude of 14 % by the year 2000, or 7.6 million hectares per year - the figures being calculated for alternative utilisation and closed tropical forests only. Including degradation of forests, one arrives at a corresponding figure of 20 million hectares per year. In contrast, reforestation currently accounts for only about 10 % of the areas cleared of timber.

According to a study by the World Resources Institute, Washington, and the World Bank, which was represented in October 1985, approximately 40 % of the formerly existing tropical forests are destroyed every year, and the estimation to the year 2000 is that this will add up to a further 220 million hectares. It is more than likely that the tropical forests of Africa and Latin-America will succumb to the same processes that are now underway in the Himalayas, a spiral of de-forestation and erosion with all its disastrous consequences. Of course, the developing countries and the world as a whole will pay heavily for this rapid loss, if it goes on unchanged. The authors of the report estimate that about 8-10 billion dollars would be needed to stop the trend.

Now, from an individual or micro-economic point of view, these activities are pursued for the purpose of short-term profits and income generation; from the macro-economic point of view, to achieve economic growth, employment, and balance of payments equilibrium. In terms of the world economy, there is in fact a South-to-North transfer of natural resources. This parallels the transfer of monetary resources, which due to the high interest rates also has become a net South-North transfer, not a massive North-South transfer (just to call into memory the proposals of the Brandt Commission).

(According to a recent estimation, in 1987 the developing countries will subsidise the Federal Republic of Germany in the magnitude of several hundred million Deutschmark).

For the world economy as a whole, the question of the ultimate distribution of the income flow deriving from the utilisation of nature may remain debatable, but the loss of the stock of natural resources is definite.

The following patterns of deforestation differ from region to region and from country to country: provision of settlement areas, conversion to pastureland and for other agricultural purposes, use as firewood, charcoal production, export of timber for industrial purposes... Considered on a worldwide scale, the ratio of timber felled in tropical forests for firewood and charcoal to that felled for industrial use has been estimated as 3:1, although estimates of this sort are controversial. Energy needs are one major cause of increasing deforestation in developing countries, and in turn, those needs are greatly aggravated by it. The shortage of firewood in many African and Asian countries is locally acute, due to the so-called fuelwood crisis. The interrelationships within the ecological systems give rise to a great number of serious consequences. A UNEP report describes the cardinal problem in a few plain words: "The imperatives for survival lead to action like cutting the last wood on slopes prone to erosion to secure warmth and cooking for the present, even though it means crops and fuelwood for the future are at risk".

Other factors deserve more international discussion. These are:

- the import activity of natural resources, especially of precious wood, by the industrial countries, and
- the economic activities of those companies which provide the respective exports from the developing countries.

Far-reaching ecological effects can result from short-term economic decisions: erosion, floods, climatic changes - all of which ultimately jeopardise the capacity to export raw materials. According to UNEP estimates, the forest reserves in Malaysia and the Philippines in the event of continuing intensive exploitation could be largely exhausted in less than 20 years. Thailand's forests would be entirely cleared in about 25 years.

In the light of such trends, the prevailing local and national timber production and forest clearing practices have become global problems. Therefore, the rediscovery and implementation of a traditional, ecological principle in forestry at a worldwide level would seem to be needed: "Do not cut down more timber than can grow to replace it!" Simple as the application of this principle may seem under normal conditions, it proves very difficult when those conditions are disturbed.

#### *Conclusions:*

In many developing countries, short-term crisis decisions are reducing the ability to take long-term decisions at all:

- Intensified forest utilisation to secure short-term energy supplies (firewood, charcoal) poses a threat to long-term survival on the basis of local resources.
- Deforestation aimed at increasing timber exports for short-term stabilisation of the balance of trade in the long run precisely jeopardises the country's export capacity.

Therefore, the dangers of rapid depletion of the tropical forests are serious for both developing countries and industrial countries. Although the direct effects of deforestation occur in the developing countries, the ecological and economic repercussions are highly significant for industrial countries as well. Some of the consequences of "doing too little" and "acting too late" will be irreversible. Nevertheless, or precisely for that reason, joint action is now essential. The industrial countries and the developing countries do have common interests, though for different reasons, in achieving a more rational utilisation of resources.

## **II. POLLUTION ISSUES**

### *1. Industrial Production and Environmental Standards*

In the past, a considerable part of industrial investments in the developing countries (about 40 %) came through external channels, i.e. mostly via multinational corporations. These investments cause certain negative environmental effects. In addition, the internal industrialisation efforts of the developing countries, such as products and technologies, are very much tailored to Western or Eastern models. These have severe negative effects on nature, society, and on future generations.

Regarding foreign direct investment in developing countries, a large portion has been related to the utilisation and exploitation of natural resources, such as fuels, minerals, timber, fish, etc. (the final consumption of which, however, took place mainly in the industrial countries). Recent studies by OECD and UNCTAD have demonstrated a trend towards locating certain traditionally heavy industrial polluters, such as steel, aluminium, asbestos and toxic chemicals. It is striking that up to the present the developing countries have assigned no high priority to environmental protection when negotiating agreements with multinational firms. Taxes, foreign exchange controls, employment guarantees, and technology transfer were and still are more important themes. As a result, such agreements contain no or only limited references to or provisions for environmental protection.

According to a study of 21 agreements relating to mining, 9 provided for absolutely no measures, and 12 for general precautionary measures to prevent environmental damage. None of the agreements contained anything resembling a complete set of environmental standards. No substantive pressure was exerted by the developing countries on the industrial countries or the multinational firms to modify any commercial advantage resulting from low environmental standards in their own favour, however great this factor may be.

In later years we may have to differentiate these questions into "pre-and-post Bhopal", as with the discussion on chemical risks in Europe as pre-and-post Seveso. However, the Bhopal accident not only shows that there is a problem of differing environmental and safety standards but also that enormous efforts will be needed to implement stricter standards.

In a contribution in the *Environmentalist* (No. 2, 1985) the respective imperatives for decision-makers were put as follows:

- Proper location of hazardous or toxic industries including the re-examination of existing locations.
- Firms buying and selling technology from abroad should insist on the necessary safety precautions.
- Government inspections should be made more stringent.
- Trade unions, and other social groups, should take a deeper and more sustained interest in industrial safety and health.
- A general clause casting the responsibility for ensuring the safety and health of employees on the employer, should be incorporated in the statutes.
- Legislation should make it necessary for the agencies responsible, to pay compensation to the accident victims. Norms for compensation should be fixed to reduce the delay in getting assistance or aid. The laws regarding compensation are insufficient and the responsibility of multinational corporations vis-a-vis their subsidiaries not specified.
- Parent organisations should make sure that their subsidiaries enforce all safety regulations.

In summary, the Bhopal accident makes it necessary to re-examine policies, and this should be undertaken in terms of: safety precautions, factory laws, compensation laws, reporting systems, crisis management facilities, industrial location, design of systems, technology choice procedures, technology acquisition regulations, toxicology research, inspection and regulatory processes for risky systems, involvement of trade unions, and the government systems for risk regulation and control. A God-like task, one might say.

### *Conclusions:*

There is a need for action with respect to harmonisation of environmental standards - not only regionally (e.g., catalytic converters in Western Europe), or on the West-East basis (e.g., action on transboundary air pollution), but also in the context of North-South relations. In particular, the developing countries might become "pollution hells", and also run the risk, due to low environmental standards in production, of losing markets for their products in industrial countries (e.g., import restrictions might be imposed because of pesticide residues in foodstuffs). As national environmental policies become more effective, the industrial countries, too, are faced with a growing risk of importing environmental hazards (e.g., re-importation of prohibited DDT via the importation of foodstuffs). The need for developing countries to pay closer attention to environmental protection regulations will increase for the same reason.

Therefore, I am in sympathy with a joint report by UNCTAD and UNEP on the interrelationship between resources, environment and foreign trade which presented the following proposals:

1. The governments of the resource-rich developing countries should initiate environmental legislation forthwith.
2. In all agreements on the extraction of natural resources in developing countries stronger emphasis should be given to environmental protection measures.
3. Taxation of resource extraction and resource export should be improved and the revenue be used to finance the treatment of existing or emerging environmental problems.

A functioning international system requires adherence to mutually agreed rules. This should apply not only to economic rules, but also to the environmental "rules of the game". Environmental standards and protection regulations must not be completely identical in industrial and developing countries. But that does not mean that the developing countries can abstain from environmental protection or exploit their natural resources or allow them to be exploited in the future, as they have in the past. Domestic firms operating abroad should be required to adhere to environmental standards no less stringent than those prevailing domestically.

### *2. Deficiencies of Environmental Policy*

"Environmental policy can be defined as the sum of objectives and measures designed to regulate society's interaction with the environment as a natural system; it comprises aspects of restoration, conservation, and structural adjustment." Practice, however, does not conform to such a broad definition. Generally, only selected parts of the set of relations between environment and society may become the subject of environmental policy. So far, environmental policy has mostly been designed as react- and-cure strategies concerning the control of air and water quality, noise abatement, and waste disposal, with emphasis on the restoration aspect. For a variety of reasons, this conventional environmental policy was and is meaningful and still necessary. It has a number of deficits, however, some are serious. The need is to overcome them through preventive environmental policy, i.e. anticipate-and-prevent strategies.

Since 1972, when systematic records began to keep track of the funds appropriated for environmental protection, the sum has been steadily increasing (in the Federal Republic of Germany it has come to the handsome total of about 200 billion marks). We thus appear to be paying for the negative effects of production and consumption accumulated in the past.

Figures like these, however, are ambivalent. On the one hand, they give cause for proud political statements about the success of environmental

protection. On the other hand, they are the absolute minimum of what is necessary to secure the very basis for society's long-term existence. They also symbolise the shortcomings of past environmental policies: Expenditures for environmental protection are made when damage to the natural environment has occurred. They are belated; they are repairs to the process of economic growth, signs of a post-fact policy that reacts to damages (and must react to them) but does not, or cannot, prevent them.

Reactive environmental policy has many shortcomings:

- It is expensive.
- The measures it employs take effect so late that the ecosystems involved can no longer be saved.
- It is focused on only a part of the relations between environment and society.
- It is pursued as a media-specific policy, i.e., controlling air and water, noise, and waste.

Thus, it runs the risk of lacking coordination between its measures, which may result in shifting an environmental problem from one medium to another (e.g. from air to water) and, through spatial displacement, from one place to another (e.g. long-range, transboundary pollution).

In addition, reactive environmental policies become entangled in a "dilemma of principles". If immediate steps simply must be taken, the argument gets shifted from the polluter-pays principle - which is advocated in general - to the taxpayer-pays principle, thus switching the distribution of the burden of environmental protection from the individual polluter to the community, to government, or society at large.

Preventive environmental policy can counter these shortcomings. However, to pave the way towards a transition from react-and-cure strategies to anticipate-and-prevent strategies, conceptual innovations as well as institutional and organisational changes are needed: Conceptual innovations are called for because of

- the tasks to be accomplished (e.g. significant reduction of emissions) and the need to find solutions that are accepted economically;
- the need to identify future environmental problems at an early stage (e.g. the impacts of new technologies);
- the priorities for action that have to be set in time. Implementing preventive environmental policy is difficult because
- preventive environmental policy is confronted with problems of complexity and uncertainty;
- new political procedures are required that are not sufficiently tested, as e.g. environmental impact assessment on national and international level;
- new institutional arrangements and special administrative skills are needed in order to make anticipatory action possible (e.g. enacting preventive measures and programs).

Furthermore, a different perception of preventive environmental policy seems needed. This view may be called "ecological modernisation of environmentally relevant policy areas". Along with and beyond established environmental policy, the decisions in other established policy areas impinge on environmental quality. This is especially true for those policy areas that have a part in regulating the material cycle and corresponding technical systems, as e.g. agricultural, industrial, and energy policy. In terms of preventing environmental pollution, it is necessary to ask if, and how far, ecological considerations and approaches have been incorporated into these traditional policy areas, or how ecological thinking can be introduced into policy areas relevant to the natural environment.

I am sure that parliamentarians know what it means to make administrations ecologically sensitive.

In short, preventive environmental policy on production, consumption, communication and transport systems should be ecologically re-adjusted. Information on environmental problems and the respective curative management capacities must be supplemented by more and better information on the causes of environmental problems, such as:

- polluting emissions and harmful wastes,
- the products and technical processes which deplete resources and pollute the environment.

There are factors which favour such a change, and others that make a rapid development of preventive environmental policies difficult (despite all the preparatory, conceptual work done by the OECD and other experts). To mention just a few such factors which in some way or other will also affect the work of parliamentarians:

- The necessary information gain for the environmental institution will simultaneously mean a relative information loss for other institutions. This will change the pattern of administrative competence and political power, and not only in the sense that the minister for the environment will gain and the economics minister will lose influence.
- Furthermore, there are the interests of those individuals, firms and authorities, whose actions are to be reported on from an environmental perspective.
- Finally, practical environmental policy in most countries is patterned according to specific environmental media (i.e. air, water, noise, waste) and not according to a systematic ecological and holistic approach of policy. It may be possible to accomplish only a partial, and gradual transition towards institutional arrangements favourable to preventive environmental policy, a policy that prevents harmful emissions from the beginning or brings them down to low levels.

*Conclusions:*

The path that future national and international environmental policy should take is clear: to transform from react-and-cure strategies to anticipate-and-prevent strategies. This implies a drastic change from polluting products and emission-intensive technologies to cleaner products and low emission technologies. In order to follow this path, it would be necessary to know to what extent the existing institutions of environmental policy, the given goals, and the instruments used, have failed or have been successful. Evaluation of past failures is a prerequisite for the projection of future options.

May I end with a symbolic picture: I think that the seriousness and the intimacy with which environmental problems, depletion, as well as pollution issues, are discussed, will very much depend on the time horizon and the international orientation of those participating in the discussion. The more you look into the future and across the national boundaries, the close connection between economy and ecology becomes clearer. Success or failure of environmental policy cannot be measured within national jurisdiction and on a short-term basis only. ("The nation state and the environmental problem" may be a topic by itself.)

A plea for such telescopic viewing of problems, however, may seem strange to many people at first. Nevertheless, it might prove significant as a perspective for considering the interdependencies of ecology and economy in the international context.

A final plea in the form of a philosophical guideline: In order to keep somebody - be it the reader, the producer, or the consumer - happy, it might be wise to follow the word of a great philosopher. Arthur Schopenhauer once said: "Happiness is a function of given expectations and personal efforts. To stay happy, you either have to lower your expectations or you must increase your efforts!"

#### **APPENDIX RESOLUTION ON ENVIRONMENTAL POLLUTION\***

Adopt as an international principle that depletion of resources and pollution of the environment should be at minimal achievable levels.

In the implementation of this principle, there should be:

- 1) emphasis given to stimulating general environmental awareness and the development of environmental expertise,
- 2) improvement of environmental monitoring and reporting systems and of the efficiency of environmental protection agencies,
- 3) support for the environmental protection activities of social groups and non-governmental organisations,
- 4) promotion of national programs for clean technologies and low waste products, and elimination of international barriers to the adoption of such programs,
- 5) integration of environmental impact assessment procedures into all major economic and political decisions,
- 6) a code of environmental conduct for multinational firms and donor agencies agreed upon,
- 7) continued reliance on command and control measures, including strict liability, designed for changing environmentally harmful production and consumption patterns,
- 8) provision of economic measures designed to (i) encourage the reduction of emissions by polluters and (ii) impose the costs of pollution on the polluters.

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\* Discussed at an international meeting of environmentalists, economists, and technicians at the Aspen institute in Berlin, FRG.

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