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ENVIRONMENTAL CRISIS -
The Missing Dimension in the North-South Dialogue

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Zusammenfassung

Je erfolgreicher die Umweltpolitik in den Industrieländern wird, um so mehr wird die fortschreitende Umweltkrise in den Entwicklungsländern für die Welt insgesamt bedeutsam. Obwohl die Welt als homogene ökologische Einheit begriffen werden kann und muß, wird sie umweltpolitisch zunehmend heterogen. Im vorliegenden Beitrag werden Ausmaß und Dynamik der Umweltkrise in den Entwicklungsländern skizziert, und es wird - exemplarisch - die Frage gestellt nach den Rückwirkungen auf die Industrieländer, d.h. nach gemeinsamen Problemen und den möglichen "gemeinsamen Interessen" an ihrer Vermeidung und Behandlung. Der Beitrag endet mit einem Plädoyer für eine teleskopische Problembetrachtung, d.h. ein frühzeitiges Erkennen der interdependenten Zusammenhänge von "Ökologie und Ökonomie" im Nord-Süd-Kontext.

Summary

At a time when environmental policies in industrialized countries are beginning to prove successful, the growing ecological crisis in developing countries is progressively becoming a problem of worldwide significance. Although our earth can and should be understood to be a single homogeneous ecosystem, from the standpoint of environmental policies it is moving increasingly towards structural heterogeneity. This paper outlines the extent and dynamics of the ecological crisis in developing countries, and demonstrates, with relevant examples, its repercussions for the industrialized countries. The presumably "mutual interests" in preventing or alleviating these negative repercussions are examined. In conclusion, the author recommends taking a telescopic view of the environmental problems and calls for an early recognition of the interdependencies between "ecology and economy" in the North-South context.

"The two basic causes of the environmental crisis are poverty and misused wealth:

The poor in the world are compelled over the short run to destroy precisely the resources on which their long-term subsistence depends, while the wealthy majority makes demands on the resource basis, which in the long run are unsustainable--thus making the poor substitute victims."

Mostafa K. Tolba

1. Introduction

The United Nations Environmental Programme (UNEP) and its director, Mostafa K. Tolba, have drawn attention over and over again to the environmental crisis of the world in general and the developing countries in particular. Not only the economic gap between "North" and "South", but also the ecological North-South gap has been dramatically aggravated. The more successful environmental policy becomes in the industrial countries --notwithstanding the still persisting deficiencies as to its effectiveness--the more significant becomes the growing environmental crisis in the developing countries for the world as a whole. Awareness of ecological problems and problem-solving capacities have grown in the past decade, but far more in the North than in the South. Although the world can, and must, be conceived as a homogeneous ecological unit - the "blue planet" - with regard to environmental policy it is highly heterogeneous and, indeed, divided. A new theme has come to the fore and the "North-South dialogue" has to incorporate a new dimension, the ecological dimension.

Erhard Eppler has described graphically the vicious circle of economy and ecology in the developing countries: "Because ever more people need firewood to cook their millet gruel, ever more trees have to die. Because ever more trees die, the land area on which millet can be grown becomes ever smaller.

Because the land area becomes smaller, and the desert makes inroads, ever more people crowd together in places which the desert has not yet reached and thus ensure that they will be reached a little earlier." (Third World Yearbook, 1983, p.22).

The progressive loss of ecological stability and the aggravation of the ecological crisis in the developing countries is depicted on many pages of the UNEP Ten-Year Report (The State of the Environment 1972-82). On a few pages in the following, the magnitude and dynamics of the environmental crisis in the developing countries will be outlined and the question raised as to the repercussions on the industrial countries, i.e., the common problems and the possible "common interests", and a (provisional) answer will be offered. The paper concludes with some strategy proposals.

2. General Outline of the Problems

Following the first world conference on the environment in Stockholm (1972), public opinion and the awareness of the population with regard to environmental issues was sensitized considerably - and not only in the North, but also in the South. Since then, in many countries of the world that awareness of problems has been institutionalized, the environmental problems are being "dealt with".

While in 1972 there were only ten countries with some sort of organized environment administration (ministries, councils, commissions and other bodies), they now number roughly 120, including about 80 developing countries. Moreover, the concept of "eco-development" - as a strategic approach to harmonization of development and environmental (protection) objectives - has meanwhile found widespread resonance. However, the economic crisis that set in shortly after Stockholm has complicated the situation considerably.

While we now know from experience that low growth rates of the economy alone are not a remedy for destruction of the

environment (as was postulated in the early nineteen-seventies), and conflict between (short-term) economic interests and (long-term) ecological necessities has not lessened, but rather become more intense, both in the North and the South. Local, regional and national environment movements have gained in number, but less in influence. Furthermore, they find themselves confronted with powerful, partial economic interests, which above all and ever and again advance one argument, namely the loss of international competitiveness. In contrast, even against the background of increasing unemployment, up to the present the job potential of active environmental protection policies have at best been recognized partially, in a few countries, a few economic sectors and a few environmental spheres.

One praiseworthy exception would seem to be the energy-saving policy in the wake of the first oil-price shock in 1973, which simultaneously had environment-relieving effects (reduction of resource consumption, reduction of pollutant emission). That energy saving, however, was not a distribution-neutral process - either national (a generally familiar fact) or, and above all, internationally.

In the oil importing developing countries, the new situation had negative environmental effects in a double sense: On the one hand, "the second energy crisis among the poor" had a devastating effect on timber stocks (especially due to the substitution of firewood for kerosene) and hence on the fertility of the soil and on food production. On the other hand, on account of inadequate adjustment of the import structure, the ensuing balance-of-payments crisis gave rise to over-utilization and increased exploitation of exportable natural resources, i.e., export expansion to stabilize the trade balance. The present situation appears correspondingly bad and the prospects not very encouraging: In the developing countries, the economic and ecological crises are mutually reinforcing.

To transform the circulus vitiosus into a circulus virtuosus for the developing countries it seems necessary, inter alia, to change the prevailing methods of resource utilization - to put an end to the processes of deforestation, soil erosion, desert expansion, climatic changes, etc., brought about by unsuitable industrial and agricultural techniques and by efforts to raise short-term productivity. Alternative development patterns which ensure ecological permanence and lower social costs are known and technically feasible - although they are not, or not yet, realizable everywhere. Whatever the case, in assessing the prevailing environmental crisis in the developing countries (which will be described in more detail in the following) it is necessary to avoid a false conclusion; namely, that the recommendable way out of the current environmental crisis can be one which neglects the functioning of the ecological systems. A conclusion with respect to the general strategy debate might read: It is vital to determine and to back up energetically the possibilities of attaining an ecologically sustainable, socially desirable and economically productive utilization of resources.

3. Environmental Problems of the Developing Countries - An Overview

The hitherto most comprehensive attempt at a stock-taking of the environmental problems of the developing countries - the UNEP Ten-Year Report - begins with a qualification: the data position is extremely weak and, what is more, very fragmentary. Neither for the burden on individual sectors of the environment nor for the overall burden is there an internationally reliable reporting system. The national environmental reporting of most developing countries (in the sense of measuring environmental quality) generally has a marked regional bias (e.g. São Paulo region in Brazil). In international environmental reporting, on the other hand, data from the western industrial countries dominate in terms of quantity and quality. The general level of environmental reporting can be placed on a par with economic reporting many years ago.

The level and structure of environmental problems can be analyzed on the basis of a great diversity of reporting concepts: media-specific, area- and sector-specific, regionally and globally specific. Two of the possibilities for environmental reporting on developing countries are presented in summarized form in Figures 1 and 2.

Figure 1: Environmental Trends and Environmental Problems

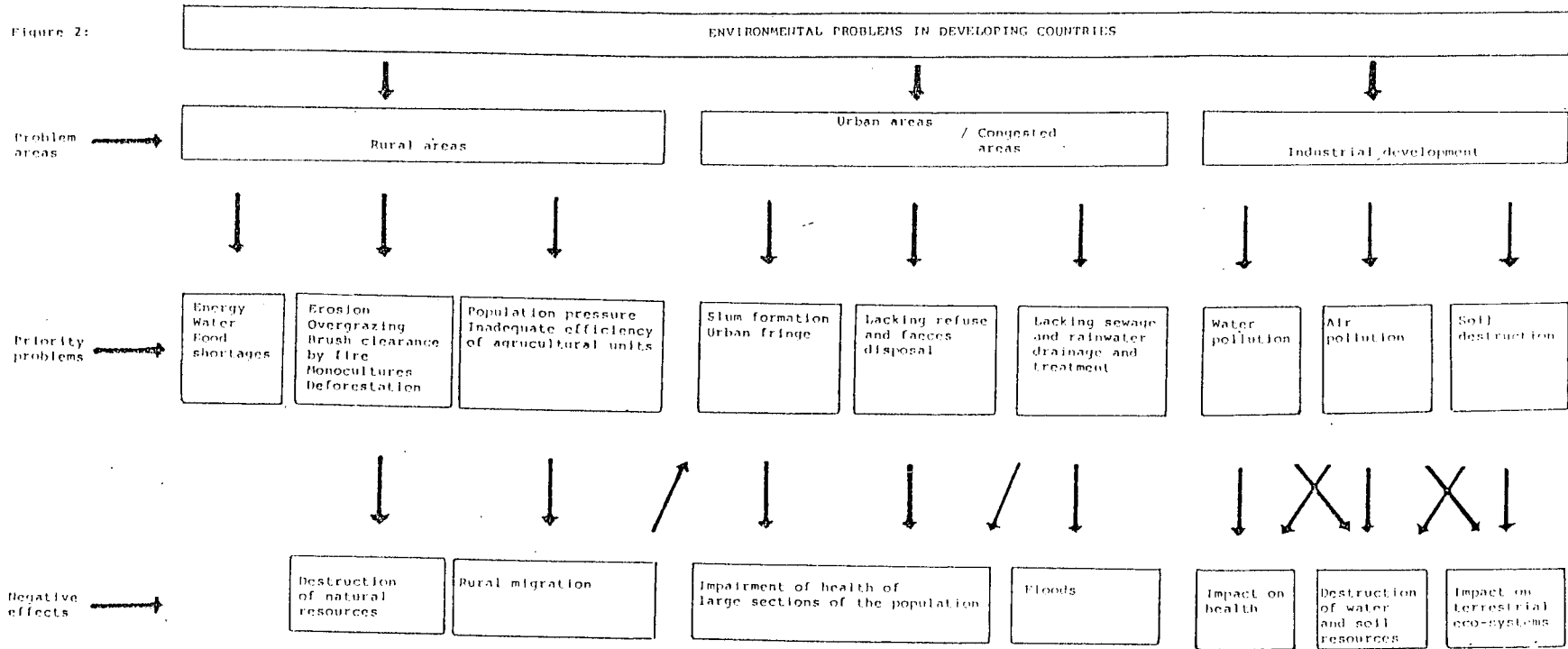
A. The Natural Environment

1. Atmosphere
2. Oceans
3. Water
4. Lithosphere
5. Terrestrial Biota

B. Man and the Environment (Social Environment)

1. Population
2. Human Settlements
3. Human Health
4. Bioproductive Systems
5. Industry
6. Energy
7. Transport
8. Tourism
9. Environmental Education and Public Awareness
10. Peace, Security and the Environment

Source: UNEP: The State of the Environment 1972-1982,
Nairobi 1983



Source: Weimert et al.

The following overview of the environmental problems in the developing countries initially conforms to the broad concept of the UNEP Ten-Year Report. Then, using a sectoral approach, the interdependence of ecological and economic problems in the North-South context will be demonstrated with examples.

The UNEP report on the state of the environment is based on a rough division into the "natural environment" (A) and the "social environment" (B). With regard to the natural environment (A), the data and analyses are essentially aggregative, considering the world as an ecological unit, while for various components of the social environment (B), they are grouped to a greater extent according to specific characteristics of the developing countries.

With regard to the atmosphere as a subsystem of the natural environment, the data available at the beginning of the nineteen-eighties show that, compared to the early nineteen-seventies, the CO₂ concentrations in the air have increased considerably and a consequence, global temperature increase (so-called hothouse effect) cannot be precluded. The developing countries are the cause of the problem in that their energy structure and their industrialization efforts give rise to a substantial CO₂ effect, and accordingly a further significant increase in CO₂ concentrations must be reckoned with. The developing countries are affected by this hothouse effect, since their ecological systems are in some instances extremely sensitive.

The precipitation of "acid rain" and the consequent problems have increased all in all worldwide and in some areas have taken on dramatic forms. Compared to northern Europe and North America, the developing countries have so far been less affected, but regionally they have not been entirely unafflicted either. If, and to the extent that the migrant poisons SO₂ and NO_x can be regarded as decisive factors for the death of forests and overacidification of the soil, the increase in the relative emissions in step with the

industrialization and urbanization processes will confront the developing countries, too, with the ensuing problems. Locally, this process is already well under way.

For example, atmospheric pollution in the big cities of the developing countries has increased drastically and assumed dangerous dimensions. The pollution of the air in Mexico City and Calcutta - to name just two examples - is so severe that smog conditions occur frequently, which can be compared with those in London in the early nineteen-fifties - a negative example of air pollution control that is known throughout the world. In contrast to London, however, where an answer was found relatively quickly once the problem was understood, the cities in the developing countries, whose number and size is growing continually, will probably not be in a position in the foreseeable future to guarantee effective control of industrial emissions, fast structural adjustment and improvement of the efficiency of energy supplies, control of the emissions of the still rapidly growing number of private vehicles, etc. In most developing countries, a private vehicle control system (comparable to the German Technical Inspection Association) is completely unknown and there is no environmental supervisory authority for industry and trades.

As far as fisheries and the marine eco-systems are concerned, the UNEP report proceeds from the assumption that at global and regional level no significant impact has occurred, despite the pollution of the high seas (especially oil pollution) and of inland waters (especially by heavy metals). However, it is found that the actual fish catches lie far below the potential catches possible under competent management, and that chronic effects that may become significant in the long run cannot be excluded. The population of several developing countries is highly dependent on fish supplies. The prevention of water pollution and improvement of the management of the stocks of fish and of fishing therefore rank as important tasks of environmental policy, a fundamental requirement for

which is improvement of the respective environmental reporting.

The growing world population and the rising water consumption per capita have in some regions overtaxed the quantitative water resources, involving progressive jeopardization of water quality and increased spreading of disease through the medium of water. One political consequence was that the nineteen-eighties were officially declared the "Drinking Water and Sanitation Decade." The relative programmatic declarations were aimed primarily at the developing countries; this "Decade" is correspondingly not well known in the industrial countries. It is foreseeable that the proclaimed objectives of the "Decade" will not be achieved in the developing countries; but it can also be foreseen that water in certain regions of the industrial countries will become a political theme in the course of this decade.

In the lithosphere, similarly disquieting trends can be observed. While in the industrial countries the environmental problems connected with mining activities are being recognized to an increasing degree, though by no means solved (as shown, for instance, by the re-import and continued use of polychlorinated biphenyl PCB, for which a production shutdown had been ordered), mining output and attendant damage to the environment in the developing countries have increased. In most cases, the necessary balance between extraction of natural resources and the "repair of nature" has not been reached up to now.

With respect to recycling and substitutes for mineral raw materials, in developing countries the efficiency of techniques is still relatively low; in contrast, the organizational, institutional management of recycling is amazingly efficient. Where the standard of living is high, economical handling of raw materials has to be "relearnt", where poverty prevails, it is often the only chance of survival.

The UNEP report shows how food production has increased in the past decade, but the growing demand could not be satisfied either quantitatively or qualitatively. The agricultural productivity of the developing countries has increased rapidly in some instances ("green revolution"), but was accompanied by considerable losses of high-yield soil, desert expansion, salinization and other consequences of inadequate soil management. In most developing countries, many natural rural ecosystems are in danger; deforestation and the decrease in species and genetic reserves have in some cases assumed dramatic proportions.

These trends resulted in the proclamation of the "World Conservation Strategy", which essentially calls for conservation of resources by processes of ecologically and socially sound development. The question as to the success of the "World Conservation Strategy" remains open. Although this initiative is not very well known, general awareness of the related problems has grown.

The UNEP report sees the real dichotomy between industrial and developing countries revealed by a closer consideration of the various realms of the "social environment" (B). It begins with the dynamic nature and structure of population growth.

The birth rates in the developing countries have dropped in the past decade, but the spatial concentration of the population has increased markedly. In the train of this rapid urbanization local environmental conditions have deteriorated drastically in some instances: increasing air and water pollution, noise, deplorable sanitary conditions and the like.

In 1983, there were about 100 cities in the developing countries with a population of more than a million, 22 cities had over 4 million inhabitants. If this trend continues, the urban population of the developing countries will have doubled once again by the year 2000. Projections proceed

from the assumption that by then 60 cities in developing countries could have a population of more than 4 million, while the corresponding figure for the industrial countries will rise from 16 to (merely) 25; by that time 18 cities in developing countries would have exceeded the 10 million mark.

This rapid urbanization process must be considered against a background of low incomes. The spatial population concentration in the big cities goes beyond the capacity of the developing countries to provide accommodation and municipal services at the same time; the mushrooming of slums and settlements without adequate public utilities is the result. The proportion of slum inhabitants in the total population of big cities in the developing countries not infrequently lies above the 60% mark, and the annual growth rate of such settlements is in many cases more than 25%. Inadequate housing conditions and lacking infrastructure, such as water supply and sewage systems, electricity, health care, schools and other services are characteristic of the situation in the big cities of the developing countries and make them examples of a lacking harmony between ecology and the economy and of unsolved environmental problems.

The state of health of the population of the developing countries reflects this dichotomy. Six diseases which are attributable to unsolved environmental problems are responsible for the death of 5 million children annually. Ever more parasites and bacteria are becoming resistant, a problem which is demonstrated particularly clearly by the renewed increase in cases of malaria. The average life expectancy in most developing countries is still less than 50 years. The great challenge to environmental medicine undoubtedly lies in the developing countries, although at present the subject of chronic long-range effects of environmental pollution in the industrial countries is rightly attracting special attention.

With regard to the immediate environmental effects of further industrialization of the developing countries, the UNEP report is relatively optimistic. It confirms the increasing endeavours of many governments not to allow the developing countries to become "pollution havens". Recycling, it says, has become attractive, although not all types of recycling are free from negative environmental effects. An important requirement, however, is the more intensive application of non-polluting technologies and the faster replacement of polluting technologies. The "ecological modernization" of the economy is a global necessity. The capacity for such an ecological structural change, however, will not be distributed much differently than the unequal distribution of general economic potential between industrial and developing countries.

The oil price increases of the nineteen-seventies hit the oil importing, developing countries hardest. Appreciation of this fact led to the definition of the MSAC group (most seriously affected countries). The manner and speed of adjustment of energy supplies to this decisive change in relative prices in the economy vary from country to country. Common to all are the burden on the balance of payments, aggravation of the debt problem and the - in some cases far-reaching - jeopardization of local ecosystems as a result of substituting domestic energy sources for petroleum and petroleum products. Attention has already been drawn above to this special environmental effect of changed international trade relations to the disadvantage of the developing countries.

In concluding this overview of the environmental problems of the developing countries, mention should be made of two further problems which are described in relatively great detail in the cited UNEP report. The report is quite optimistic with respect to increasing environmental awareness and the success of environmental education in the developing countries. At the same time, it pleads for more positive

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and less negative presentations in the mass media, that is for "trend reporting". This plea is legitimized by a reference to the scanty total resources available for propagating environmentally sound development, and a reference to the danger that more funds might be made available for highly publicized environmental scandals than for everyday environmental issues. This stand on the problems can, of course, be viewed critically. Elsewhere the report relativizes this standpoint in stating with respect to the implementation of environment-oriented strategy proposals: "The ratio of words to action is weighted too heavily towards the former. And despite the evidence that people's perception of environmental problems has improved, it is less clear that many groups have adapted their life styles in response" (p.629).

There is also another point to be considered: The scarcity of resources may not be so great as is assumed, if waste of resources is eliminated. This problem is dealt with only towards the end of the report: The funds spent by the governments of developing countries for military armament and for local and regional wars have reached extraordinary proportions and continue to exhibit disproportionately high growth rates. The stopping of this arms race and the conversion of arms expenditure into efforts to conserve the environment could initiate a return to harmonization of the ecology and the economy. In the words of the UNEP report: "The reversal of the arms race and its underlying spiral of costly technology would do much to release resources needed to assure the future of mankind and the environment" (p.629).

4. On the Interdependence of Ecological and Economic Problems, or: Common Interests of North and South?

In the past decade, the terms used to describe the interdependence of North and South have changed frequently, but have lost nothing in clarity: "Only one earth", "Global 2000", "Spaceship Earth", "Life-boat", and the like. Their import is that what is involved for North and South is more than

international, economic division of labour: What is at stake is the transition from the decision to co-operate for a specific purpose to recognition of the fact that they are compelled to co-operate, i.e., they must jointly avoid problems that threaten both. The interdependence of the ecology and the economy in the North-South context assumes a diversity of forms; only some of its facets will be dealt with in the following.

The Second Report of the Brandt Commission (1983) identified the urgent need to halt the further deterioration of environmental quality as one of the "common interests" of North and South. On this point it states: "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 chemicals and fertilizers and erosion destroy the soil and the agricultural potential of scarce land, and cause serious damage to the environment...We therefore emphasize the need for means with the help of which these processes of ecological decay, which has meanwhile reached emergency proportions, must be stopped and reversed" (p.126).

Other recent reports, too, bear witness to the increased awareness of the interdependence between ecology and economy and have contributed towards making the two sides of that interdependence clear: On the one hand there are certain areas in which international co-operation can bring benefits for all ("positive-sum games"); on the other hand, there are disadvantages for all if improved co-operation is not achieved ("negative-sum games"). Several such problem areas will be examined in the following.

An assessment in advance: The examples of environmental problems under consideration are found above all in the South and are (or were) regarded by many people in the North merely as "remote problems of the South". Conversely, many people in the South consider these problems to have been caused by

the North, via technologies, institutions and interests. Appreciation of the fact that they could be common problems for which mutually acceptable solutions must be found is not (yet) very marked, but it does exist and is being expressed in increasingly articulate terms: The ecological issue has (or will) become an integral part of the "North-South dialogue".

4.1 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; one out of ten terrestrial species could die out in the course of this and 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 should suffice to show what immediate dangers can arise for the overall, quantitative stock of the world's animal and plant species from poverty-induced depletion and profit-induced wasteful exploitation, that is to say, excessive utilization of natural resources in the developing countries. A loss of species of the quoted order of magnitude in developing countries, however, would also have other worldwide effects, 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, useful plants in the industrial countries have only a limited genetic basis. The loss of species in developing countries therefore concomitantly reduces the possibilities of stabilizing or increasing the yield of

food plants in the industrial countries. Many medicines and pharmaceutical products in industrial countries depend directly on the diversity of species in the developing countries. For instance, about 40% of the medicaments now used are obtained wholly or in part from natural products which, in turn, come for the most part from developing countries. The innovation potential - and hence the economic future - of biotechnology is likewise dependent on the genetic reserves from developing countries.

Despite these manifest interdependencies between ecology and economy, the irreversible loss of species is continuing worldwide. In the developing countries themselves, it is not only knowledge and know-how which is lacking; there is also a lack of economically realizable alternatives - and, above all, there is a lack of incentives to protect existing species. The developing countries so far obviously have few economic advantages deriving from the utilization of their own diversity of species in or by the industrial countries. And precisely for this reason, there is too little interest in developing countries in long-term protection of species. Consequently, due to a deficiency in long-range reasoning and to the logic of day-to-day survival, the chain linking economically rational utilization and ecological permanence breaks. Once utilized or exported, the value of natural resources is lost. This, however, increases rather than diminishes the responsibility of the industrial countries when it comes to harmonizing ecology and economy in developing countries.

A conclusion: One implication of the ecological-economic interdependence in the North-South context is that any significant loss of species in the developing countries will adversely affect health and prosperity in both industrialized and developing countries. Therefore, North and South should recognize their common interests in effectively curbing the decrease in the diversity of species.

4.2 Loss of Tropical Forests

Many experts have meanwhile adopted the view that the tropical forests are utilized (exploited) to an extent and in a manner which is (should be regarded as) ecologically and economically intolerable.

Estimates of the diminution of timber stocks due to changes in utilization and degradation vary, but the message is clear: A joint research project conducted by FAO and UNEP arrives at an order of magnitude of 14% by the year 2000, or 7.6 million hectares per year - the figures being calculated for alternative utilization and closed tropical forests only. Studies which include degradation arrive at a corresponding figure of 40%, or 20 million hectares per year. In contrast, reforestation currently accounts for only about 10% of the areas cleared of timber.

From an individual or micro-economic point of view, these activities are pursued for the purpose of short-term profits, and from the macro-economic point of view, to achieve economic growth, employment, and stabilization of the balance of payments. In terms of the world economy, the South-to-North transfer of natural capital (natural resources) corresponds to a transfer of money capital (monetary resources). The question of the final distribution (incidence) of the income (flow) deriving from the utilization of nature may remain open, but the loss of natural resources (stock) is definitive. No one has so far presented a convincing assessment of the significance of these ecological losses in terms of their long-range impact on the economy and on the chances of sustained growth in the future.

The patterns of deforestation processes 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 - and the significance of

each varies substantially. Considered on a worldwide basis, the ratio of timber felled in tropical forests for firewood and charcoal to that felled for industrial use has been estimated at 4:1. Estimates of this sort may be controversial, and in any case are subject to change over time. What cannot be disputed, however, is that energy needs are one major cause of increasing deforestation in developing countries, and, those needs are, in turn, greatly aggravated by it. The shortage of firewood in many African and Asian countries is locally acute and nationally increasing (the so-called fuelwood crisis). On account of the interrelationships within the ecological systems, this in turn gives rise to a great number of serious consequences. The 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 so it means crops and fuelwood for the future are at risk" (p.167).

Hence, far-reaching ecological effects can result from short-term economic decisions: erosion, floods, climatic changes, salinization of irrigation systems and hydroelectric plants - all of which ultimately jeopardize the capacity to export raw materials. According to UNEP estimates, the forest reserves in Malaysia and the Philippines could be largely exhausted in about 10 years' time; in the event of continuing intensive exploitation, Thailand's forests would be entirely cleared in 25 years from now.

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

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

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

The example of the rapid clearing of the tropical forests in the developing countries brings out a further point: The sum of the environmental protection measures in individual countries is not an adequate basis for solving the environmental problems of the world as a whole. National, domestic environmental policy alone (e.g. forest protection in the industrial countries, or the reduction of forest decay in the Federal Republic of Germany) is just not enough. The environmental issue must become a topic for foreign policy and development policy. The success (or failure) of environmental policy cannot be measured within national boundaries, because the environmental problem (most environmental problems) does (do) not stop at frontiers.

The environmental conditions in the developing countries and the industrial countries are directly interlinked by a further economic chain: With worldwide needs continuing to grow (population increase), the loss of soil fertility due to ecological damage in developing countries will lead to increased food production in the industrial countries (for exports and emergency programmes) and there results (on marginal lands) in soil erosion and at the same time increases (via more chemicals used) the danger of growing pollution of the soil and water.

A conclusion: The disadvantages of rapid depletion of the tropical forests are weighty for the developing countries, but also for the industrial countries. Although the direct effects of deforestation occur in the developing countries, the ecological and economic repercussions are highly significant for the 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 more rational utilization of natural resources.

4.3 Environmental Standards and Industrial Location

In the past decade, altogether nearly half of all industrial and quasi-industrial investments in the Third World did not come from the developing countries themselves, but through external channels, mostly via multinational corporations. A large proportion of these foreign direct investments were related to the utilization 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, UNCTAD, etc. have demonstrated a trend towards locating certain industries predominantly in developing countries. This trend is particularly marked in the case of some traditionally heavy industrial polluters such as steel, aluminium, asbestos and toxic chemicals. However, differences in the environmental standards and protection regulations (environmental protection costs) between industrial and developing countries do not seem to be the decisive factor for such location decisions: the type of resources, size of the domestic market, labour, energy and transport costs also play a part, and in general they are more important. At the same time, it is striking that nevertheless the developing countries assigned no high priority to environmental protection when negotiating agreements with multinational

firms: taxes, foreign exchange controls, employment guarantees and technology transfer were invariably more important themes.

As a result, such agreements contain no or only limited references to or provisions on environmental protection. According to a study of 21 agreements relating to mining, 9 provided for absolutely no and 12 merely for very general precautionary measures to prevent environmental damage. None of the agreements contained anything resembling a complete set of environmental standards. So far, no appreciable pressure has been 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 a given case.

Nonetheless there is a need for action with respect to harmonization of environmental standards - and not only regionally (e.g. catalytic exhaust converter in Western Europe), or on the West-East basis (e.g. action on transnational air pollution), but also in the context of North-South relations. In particular, the developing countries run a (continually growing) risk, on account of low environmental standards in production, of losing markets for their products in industrial countries (e.g. import restrictions 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 problems from abroad (e.g. re-import of prohibited DDT via the import of foodstuffs); the need for developing countries to pay closer attention to environmental protection regulations will increase also for this reason.

A joint report by UNCTAD and UNEP on the interrelationship between resources, environment and foreign trade presents the following proposals:

- The governments of resource-rich developing countries should initiate environmental legislation forthwith.

- In all agreements on the extraction of natural resources in developing countries, stronger emphasis should be placed on environmental protection measures.
- 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 conclusion: The interest in participation in the possible benefits of a functioning international system requires adherence to mutually agreed rules. This should apply not only to economic rules, but also, more and more, to the environmental "rules of the game". Environmental standards and protection regulations must not be completely identical in industrial and developing countries; there is, most certainly, a trade-off between environmental protection and income growth. In poor countries the necessity of increasing income will compete more strongly with the necessity of protecting natural resources than is the case in industrial 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 future as they have in the past.

5. Concluding Remarks

The object of this paper was, first, to outline the serious environmental problems of the developing countries. Second, it was intended to show that with respect to both their genesis and the way they are handled these problems must be seen in an international perspective. Third, the interdependence between the ecological and the economic problems in the industrial countries and the developing countries, between North and South, generates common interests of North and South. It is, fourth, essential to recognize this interdependence better and faster and to make it a topic in the North-South dialogue.

Without doubt, the seriousness and intensity with which this topic is dealt with will depend on the time horizon, on the telescopic abilities of those participating in the discussion. The further they look ahead into the future, the clearer will be the close connection between environment and development - and the clearer it should also become that in view of the ecological and economic interdependence, the division into First, Second and Third World is basically obsolete and must ultimately be overcome.

This plea for a telescopic viewing of problems - "the more distant the view, the clearer is the picture" - may seem strange to many people at first. Nevertheless it should prove significant as a perspective for considering the interdependence of ecology and economy in the North-South context.

Selected Bibliography

- Brandt, W. (Ed.): Common Crisis North-South: Cooperation for World Recovery, London: Pan Books Ltd., 1983.
- Eckholm, E.P.: Down to Earth. Environment and Human Needs, London: N.W. Norton & Co., 1982.
- Evangelische Akademie Loccum (Ed.): Umweltprobleme und Umweltschutz in/der Dritten Welt (Environmental Problems and Environmental Protection in the Third World), Loccum Protocols No. 21, Rehburg-Loccum 1982.
- Hartje, V.J.: Umwelt- und Ressourcenschutz in der Entwicklungshilfe. (Environmental and Resources Protection in Development Aid), Frankfurt, New York: Campus, 1982.
- Holdgate, M.W., Kassas, M., White, G.F. (Eds.): The World Environment, 1972-1982. A Report by the United Nations Environment Programme, Dublin: Tycooly, 1982.
- IUCN (Ed.): The World Conservation Strategy, Geneva: IUCN, 1982.
- Jahrbuch Dritte Welt. Daten, Übersichten, Analysen (Third World Yearbook. Data, Surveys, Analyses), Munich: C.H.Beck, 1983, 1984.
- OECD (Ed.): Economic and Ecological Interdependence, Paris: OECD, 1982.
- The Global 2000 Report to the President, Washington, D.C.: U.S. Government Printing Office, 1980.
- UNEP: The State of the Environment 1972-1982, Nairobi: UNEP, 1982.
- Weimert, F., Kress, R., Karpe, H.-J.: Umweltprobleme und nationale Umweltpolitiken in Entwicklungsländern (Environmental Problems and National Environmental Policies in Developing Countries), Munich, Cologne, London: Weltforum, 1981.