GUEST EDITORIAL

Towards a World Strategy of Conservation

Among the many concerns that beset our world today, two in particular stand out—not because they capture daily headlines, as the 'oil crisis' has done recently, but because they are so profound that they threaten the continuing existence of civilization. The first is too-rapid population growth and the crushing poverty of hundreds of millions of people in the Third World; the second is the increasing rate of degradation of the environment and utilization of living natural resources at levels that cannot be sustained. The two problems are linked: as one intensifies, it exacerbates the other; and action taken to ease one must be designed also to ameliorate the other.

The linkage is not widely understood. Many of us, even among conservationists and environmentalists, have only recently begun to appreciate the significance of poverty as one of the major impediments to achieving conservation (another is excessive consumption by the well-to-do); many advocates of development still see conservation as a concept of marginal importance that is of interest to only a few. At the worst they are apt to consider conservation an impediment to progress and to react accordingly.

The problem of poverty and under-development manifests itself in such stark human terms as starvation, malnutrition, slums, filth, and crime, and is thus better known and deemed more important by more people than is the resource–environment problem. Solutions to the former problem have been, and are being, sought through a complex of measures that are currently being presented and reformulated in the United Nations' Third International Development Strategy*.

Importance of Self-reliance

Such measures, all of them worthy, include national development strategies based on self-reliance and closely geared to domestic needs, international agreements to stabilize markets for commodities produced in the Third World and linked with adjustment assistance programmes on the part of developed countries, and economic arrangements aimed at collective self-reliance in the Third World.

The importance attached to developing self-reliance is particularly significant because it clearly illustrates the vital linkage between conservation and development. The well-known proverb 'He who gives a fish to a hungry man feeds him for a day; he who teaches a hungry man to fish feeds him for life' demonstrates the wisdom of self-reliance; but unfortunately, the proverb fails to address the whole problem. It should go on to say '...*so long as he does not over-fish or destroy the fish-pond*'.

Vital points to realize are that development is practically essential, must proceed without degrading the environment, and should result in lasting improvements in social and economic conditions. In a word, development must be *sustainable*. It follows that a fundamental characteristic of development policies, programmes, and projects, must be a reflection of the need to maintain the healthy functioning of life-support systems and the productivity of ecosystems. In other words, development must embody conservation principles and practices.

True Basis for Conservation Strategy

The foundation for the achievement of conservation is the popular will that it be achieved. It cannot be widely achieved while the everyday lives of hundred of millions of people are shadowed by the threats of starvation, disease, and natural disasters. The concerns of these people are those of the moment, not of tomorrow. Unfortunately, conservation is most urgently needed in those parts of the world where poverty and under-development preclude any popular understanding of the need of it. Conservation will succeed in the Third World only when a sufficient number of its inhabitants can concern themselves with something more than simple survival. That is why conservation must espouse the principles of sustainable development for all.

The foregoing is the essence of the World Conservation Strategy (WCS), which will be published by UNEP, WWF, and IUCN, early next year. The concept of the WCS emerged from discussions between UNEP and IUCN some years ago. WWF recognized its importance in programming their own efforts in conservation, and soon expressed an interest in helping in its development.

In the second half of 1977, IUCN consulted widely among its constituency of more than 400 members on conservation priorities, and, in 1978, prepared a first draft of the Strategy based on the results of that review. This draft was sent for comment to more than 1000 persons. A second draft was the subject of a full day's discussion by the participants of IUCN's 14th General Assembly in October 1978. It was well received as an overview of conservation priorities, but a number of participants felt that it would not convince decision-makers, especially in developing countries, that it was relevant to their concerns.

During 1979, the Strategy has been redrafted several times, with the help of review panels, to take account of the views expressed at the IUCN General Assembly and by UNEP, which recently has involved itself fully in the review process. There have been fruitful consultations with FAO and UNESCO as well.

Thus we have been engaged in the time-consuming process of consensus-building—first among those in the conservation community who are familiar with the issues of ecosystem management, sustainable yield, life-sup-

*Another valuable initiative could come from having a Global Resource Strategy as presaged in the latest Editorial in *Environmental Conservation* (Vol. 6, No. 2, pp. 85–7, Summer 1979).

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port systems, and species survival—and now among the members of that broader constituency whose support is essential if soundly-based conservation action is to result. The process, though difficult, has been constructive, and has caused significant readjustment of opinion in many cases. The WCS may not be quite as some conservationists or some developers would have envisaged it, but we believe it will reflect a positive and realistic approach to an immensely complicated set of issues.

Interdependence of Conservation and Sustained Development

The complexities of conservation and development are such that their planning and undertaking require not only care and diligence, but also an understanding of the heterogeneity that exists within almost all societies, be they in the developed countries or in the Third World. For example, there are social systems in cities, villages, and the countryside throughout the world, where centuries of oppression, benevolent or tyrannical, indigenous or colonial, have inhibited not only self-expression and self-realization but also the very formulation of a positive view of self *vis-à-vis* the environment: in such situations, social animation is the key to both development and conservation.

In all parts of the world during the past few decades, powerful propaganda based on increasingly effective communications technology has altered the consumptive habits and aspirations of millions. The most significant increase in the consumption of goods has been in the developed countries, and that increase alone threatens the sustainable use of many resources. But similar patterns of consumption by the well-to-do in the Third World have contributed to the dangerous gap between rich and poor within those countries. These are negative factors to be reckoned with in attempting to achieve conservation in the framework of sustainable development. They will be overcome only by the broad dissemination of information and understanding relevant to conservation and development, and by the acknowledgement in principle—and in action—of the right of people to participate in decisions of which the outcome could affect themselves.

Conclusion

Like this essay, the WCS reflects a global view and has the advantages and shortcomings of all such aggregated syntheses. It is inevitable that global analysis should obscure important social, economic, and ecological, differences between and within regions. Consequently the Strategy cannot be more than a guide to the solution of problems which must be worked out pragmatically within the local strategic framework at whatever level is practicable. But there are ecological and environmental principles and interdependencies which transcend national and even regional boundaries, just as there are far-reaching interdependencies in trade and monetary affairs, as well as broadly-accepted principles of development. There are also moral precepts in which all the world's religions are rooted, and to which mankind, broadly-speaking, attempts to conform. It is these common aspirations, universal principles, and global interdependencies, that legitimize and indeed demand the global view.

We are one species and it is one Earth; we must refine and apply together the principles of conservation and sustainable development if we are to maintain and, be it hoped, improve our civilized state.

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Different Chlorophylls Discovered

Scientists at the University of Illinois, led by Dr Constantin A. Rebeiz, Professor of Plant Physiology, have reported discovering several new and chemically different chlorophylls—a finding which could help to explain how Nature harnesses and uses solar energy to produce food.

Plant scientists have assumed since the start of the 20th century that only one chemically distinct chlorophyll *a* and one chlorophyll *b* occur in higher plants. It was believed that these two chlorophylls combined in different ways with fats and proteins in plant-cell membranes during photosynthesis to convert solar energy into food. The newly discovered chlorophylls are found in all higher plants and in Algae, Dr Rebeiz reported. The chlorophylls are all chemically different from one another, and the research team is now seeking to determine what these differences are.

Dr Rebeiz believes that the discovery of the chemically different chlorophylls, and a thorough understanding of their structure, biosynthesis, and function, may bring closer the day when it will be possible to develop man-made photosynthetic membranes that could be even more efficient than plants in the conversion of solar energy, water, and carbon dioxide, into food.*

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*Meanwhile we note from *National Science Foundation News* of 7 August 1979 that 'A University of Texas chemist has produced amino-acids, the fundamental building-blocks of proteins necessary for all... life, by using sunlight to duplicate certain aspects of photosynthesis, substituting inorganic substances for the chlorophyll utilized by green plants'. Could this presage yet another ray of hope for the future?—Ed.