

THE ENVIRONMENT TODAY, AND THE CHALLENGES AHEAD FOR IUCN

National Symposium on Sustainable Management of Natural Resources, 14 September 91
Madurai

By

Dr ~~Menkamban~~ S. Swaminathan, President, National Academy of Sciences of India
~~President of IUCN~~
and Director, Centre for Research on Sustainable Agricultural and Rural Development, Madurai

~~We shall hear many times today about how the world has been transformed~~

~~in many ways during the past 40 years. Since the founding of IUCN 40~~ ^{World} ~~years ago,~~

^{In recent decades} there has been an impressive growth of institutions dealing with the problems of the human environment -- at the national, regional and global levels. Sadly, there has simultaneously been a distressing growth in the degradation of the environment. Our basic life support systems -- land, water, flora, fauna and the atmosphere -- are under severe stress both in developing and developed countries. The pattern of consumption of the rich, gross economic inequalities, ecologically unsustainable exploitation of natural resources, lack of concerted efforts in the sustainable management of the national and global commons, careless technologies, mounting population pressures and political and social indifference to the problems of poverty and pollution are all threatening a happy common future for our species, which otherwise modern science and technology have brought within the realms of possibility.

The root of the problem lies in the growing violence in the human heart. This is reflected in so many ways -- the enormous growth of the armaments industry, racial and religious intolerance, social and political strife, unashamed abuse of basic human rights, drug addiction, and lack of concern for the poor, just to name a few. Over 50 years ago, Mahatma Gandhi said "We cannot have an ecological movement designed to prevent violence against nature, unless the principle of non-violence becomes central to the ethos of human culture". How can we learn to live in harmony with each other and with the earth which makes life both possible and worth living? This is the principal challenge facing our political systems, scientific and educational establishments and the mass media. Each will have to address these issues in their own way.

I would like to confine ~~the rest of~~ my remarks to issues where ~~IUCN~~ ^{Scientific and} ~~the~~ ^{academic institutions} ~~World Conservation Union~~, which ^{are} ~~is~~ privileged to have access to the best professional knowledge and advice around the world -- whether east or west or north or south -- can play a useful role during the rest of this

century and beyond. Professionally, I recognize five major areas which need study and understanding if we are to implement effectively the suggestions of the World Commission on Environment and Development, chaired by Mrs. Gro Harlem Brundtland and the Environment Perspective to the Year 2000 and Beyond of UNEP.

For the sake of convenience, I have been referring to them as the five "e"s. They arise in spheres of:

ecology;
economics;
energy;
employment; and
equity.

I wish to discuss them briefly.

The Ecological Challenge

The past 40 years have seen immense advances in our understanding of ecology, especially through such initiatives as the International Biological Programme and its successor, Unesco's Man and Biosphere Programme. This research has illuminated some of the intricate relationships between living organisms and between life and its physical setting. Science has also given us new understanding of the great biogeochemical cycles of our planet. Other research has demonstrated interconnections in the physical world, which makes climate in one area depend on sea temperatures and circulation thousands of kilometres away, and relates the patterns of rainfall and flood to those of forests and land use. In making these discoveries, we have only reaffirmed the truth that many indigenous peoples have known for generations, that "all things are connected". In this context, I wish to applaud ICSU's initiative in organizing an International Geosphere-Biosphere Programme to look at the problems of global change in a holistic manner.

Understanding of ecology is essential to the wise management of our planet. The ecological challenge is to preserve the diversity of the earth's living systems, knowing as we do that the more we impoverish them, the greater the risk becomes of disruption of our species' own future. We must conserve biological diversity both because our

life-support systems depend on it, and because our ability to utilize for human benefit the new tools of molecular genetics would depend upon the availability of genetic variability.

In about 35 years from now, our Planet
~~When IUCN celebrates its 80th birthday in October 2028, the earth will~~
have to support over 8 billion people, in addition to billions of animals. But of this eight billion people, over 6.5 billion will be in developing countries. Even now in many parts of the Third World widespread under-nutrition, malnutrition, poverty-related diseases and unemployment are widespread. Safe drinking water is a luxury in many nations. Tonight, at least 700 million children, women and men will go to bed hungry. These problems of hunger and poverty can be overcome only by improving economic wealth and sharing it equitably. Therefore, many countries in the Third World need accelerated economic growth which is sustainable over time. The challenge to ecologists lies in showing how economic improvement can be speeded up within the confines of ecological ground rules. While in affluent nations prevention of unsustainable development will be priority number one, so that the high standards of living already achieved can be preserved, in poor nations the emphasis has to be on the promotion of sustainable development. We need for this purpose well trained cadres of Economic or Developmental Ecologists.

~~Promoting the growth of such cadres is a priority task for IUCN's Field Operations Division and Commission for Sustainable Development.~~

The Economic Challenge

People preserve things they value, and this is where the economic challenge comes to the fore. In the past 40 years irreplaceable environmental resources have been lost in the course of development processes that, quite frankly, got their economics wrong. We need a new "ecological economics" that values the living resources of our planet better. We need to get away from discounting systems that give little value to the resources on which our grandchildren will depend. Too many countries today are crippled by the burden of debt incurred for little lasting benefit. Too many have to devote an ever-increasing share of their gross national product to servicing loans that have actually added to their long-term problems. As a result, essential resources are being over-exploited and the future capacity to build durable economies is being undermined.

The Energy Challenge

As we turn from the natural energy sources of human and animal muscle power and fuelwood, charcoal and biomass to commercial energy supplied via power stations and internal combustion engines, we risk stoking up a major environmental disequilibrium - the greenhouse effect. This year's severe North American drought has led to greater public awareness of the relationships between changes in the atmosphere and weather and of a possible hotter world, with sharper climatic extremes; a world with 50 centimetres deeper seas a century from now. Averting these changes - the largest brought by humanity in millions of years of slow evolution - is the biggest single challenge facing technologists and policy makers. And we simply do not know the answer. We do not know how much the situation can be eased by energy conservation and by the use of renewable sources like solar, wind or wave power or renewable biomass. We know that nuclear power averts a greenhouse effect, but we do not know how to dispose of its wastes. If the world is to pursue a path of durable development these problems, too, have to be solved.

The Employment Challenge

Human dignity demands not only adequate food, shelter, and clothing but the satisfaction of contributing to the communities within which individuals live, and this means employment. Unemployment is a waste of the creative skills of the individual and understandably breeds disaffection and disruption. Lack of opportunities for employment in rural areas is leading to the rapid expansion of urban slums in several parts of the Third World. As we progressively substitute the mechanical for the human, we must recognise that those human individuals displaced from productive labour need every bit as much care as the wealth which the processes of so-called development generates. This is a challenge for developed and developing countries alike, and I see few signs that it is yet being addressed in an adequate manner.

The Equity Challenge

All these problems must be solved with equity. It is inevitable that countries will not have equal shares of the earth's resources, but we must stand firm on the principle that every human being has equal basic rights, including the right to the dignity of a decent existence. Our national and international political and economic systems have not achieved this basic equity in human dignity and decency and are not doing

so now, and corrective action has to be taken if humanity is to be true to its values and is to avoid disruption and insecurity. One way forward lies in solving the economics challenge of which I have just spoken, avoiding financial systems which actually increase the burden on the poor. Rural women in developing countries who bear the responsibility to fetch water, fuelwood and fodder by often travelling long distances are the worst sufferers. Also, we have to look at equity issues not only from the point of the current generation but of generations yet to be born.

The Needs of the Future

In the next ¹⁰~~40~~ years, we must respond by making the ~~term~~ ^{topic} "sustainable ^{management} development" a reality rather than a cliché. I suggest that we have to do five things.

of the
Natural
Resources

First, we must harness our ecological understanding - within which I include my own special science of agronomy and genetics - to create more productive food plants, thus enabling us to use the areas in each country where intensive agriculture using land saving crop husbandry and grain saving animal husbandry techniques is possible on an ecologically sustainable basis, to undertake rehabilitation of degraded lands and to conserve our rich genetic estate.

Second, we must develop technology that uses energy efficiently, is economical in its demands on raw materials, and does not generate pollution that overstresses the natural cycles of the biosphere. I suggest that the limiting factor here is not human ingenuity but the sheer inertia of our national social and investment systems, which inhibit innovation.

Third, we must develop and introduce methods of economic assessment that demonstrate that it is unacceptably costly to dissipate the resources of the earth for short-term gain.

Fourth, we must find a way out of the debt trap. There have been welcome signs recently, at the Toronto conference and the Berlin IMF meeting, that the wealthy nations are genuinely seeking a solution. One element that I hope they will include in future machinery is the "debt for nature swap" which repatriates debt under terms that apply the resources for conservation.

The present situation where there is a net transfer of resources from the poor to the rich nations is untenable.

Fifth, we must accept that the obstacles to sustainable development commonly arise within social and political structures rather than because of lack of scientific knowledge. Information, education and training are needed, to increase the application of that knowledge by people who stand to benefit most from it, such as the rural poor. The mass media can play a pivotal in spreading relevant information.

Let me conclude with two suggestions which deserve ^{your} the consideration of ~~IUCN Members and Councillors~~. First, we need to review the institutional ^{and} legal instruments we have today to promote sustainable development -- some have become obsolete, some need sharpening and we may need a few new ones to deal with new challenges. ~~In my view, IUCN, working with others,~~ ^{We} should promote at the local, national, regional and global levels the development of political and social structures which can help to achieve a sustainable and equitable use of environmental systems. At the global level an International Undertaking for the Sustainable and Equitable Management of the Biosphere is urgently needed. Such an undertaking should include:

a) Law of the Atmosphere, as proposed ~~recently~~ ^{in 1988} at a global conference held in Canada on the Changing Atmosphere.

b) Law for the Conservation of Biological Diversity, an area ~~where IUCN has considerable expertise~~ ^{where UNEP is currently organising inter-governmental discussions}

c) Law of the Sea, which is already existing but whose ecological dimensions can be reviewed and appropriately strengthened, and

d) Law of the Antarctica, ^{an agreement to regard Antarctica as a global wilderness preserve.}

Considerations of sustainability alone, without attention to equity -- both intra- and inter-generational -- will not help us to achieve our ecological goals.

Secondly, as I stressed at the Ottawa conference on the World Conservation Strategy organized by IUCN in 1986, we need an organization which can draw the attention of the world community to grave threats to sustainable development caused by human greed, indifference or ignorance. The role of the UN Peace Keeping Forces in maintaining peace and harmony between and within nations has been rightly recognized

b) Charter for Land and Water, a set of guidelines which will foster the sustainable management of land and water resources

through their selection for ^{the 1988} ~~this year's~~ Nobel Peace Prize. Amnesty International, which was earlier given similar recognition, draws our attention to violations of human rights. We need a similar organization, characterized by high professional credibility and political impartiality to focus global attention on human heritage violations. This is essential if the concept of inter-generational equity is to be given meaning and content.

All this demands that we must bridge the growing gap between the world of words and the world of action. We need not only political will but urgent political action. We need not only professional skill but professional concern and compassion for the socially, economically and ecologically disadvantaged sections of the human community. Above all, we need not only people's interest but active people's involvement in the protection of the ^{local,} national and global commons. This is the central challenge of ~~the next 40 years.~~ ^{the decade of the Nineties}