

EDITORIAL

Global Resource Strategy

To think that all is well with our world one would have to lack even a modicum of foresight *and* be an almost fanatical optimist! The rest among us can foresee—only too alarmingly clearly—ever-growing shortages of often essential raw-materials and the difficulties of replacing them despite the ingenuity and resilience of mankind. Yet even with these qualities and his unique brain-power, which together give him the necessary knowledge and means to do it, the one thing that Man seems incapable of effecting is the control of his own numbers on Earth. Nevertheless this is clearly among the most fundamental of vital needs if our world is to continue to survive indefinitely in anything like its present form.

With the total number of humans on Earth actually continuing to grow substantially and their average demands rather naturally increasing all the time, the problem of depleting resources—of food, energy, and space, to mention only three categories—is further compounded and, according to some authorities, reaching dangerous proportions in some cases or anyway places. Yet the rise in total human population (now probably exceeding 4.4 thousand millions*), and concomitant pressures on our 'only one Earth', continue inexorably. Indeed the farther and faster we travel along the road of acquirement and profligate use of resources, which many still label 'success', the greater and perhaps also the sooner will be the seemingly inevitable disaster ending it. Even the feeding of the present population involves 'flogging' of soils, devastation of forests, and drastic over-fishing of the seas—to the extent that the life-support 'cake', not being endlessly subdivisible, could be the prerequisite to give way first.

For whatever may engender the present 'population swarming' of *Homo sapiens*, its outcome will surely be some form of 'crash'; and although humans have some unique means of delaying such catastrophes, they cannot (in the apparent absence of any other planet to colonize) avoid them for ever. This quite frightening rise of global human population (demomass) to constitute probably the world's greatest single-species fraction of animal biomass (the only possible rival being Antarctic Krill, *Euphausia superba*), will, sooner or later, exceed the world's carrying capacity or possibility of adequate support of food and/or space, even if energy and other problems prove surmountable. At the risk of seeming repetitive (as indeed we are of this, because people widely fail to comprehend the stark reality) we say it again: one cannot go on growing exponentially for long, or even in simple arithmetical progression indefinitely, on the periphery of a finite globe—any more than one could do so within it if it were hollow! Sooner or later something is bound to give way, and wars, nuclear holocaust, pandemic pestilence, world famine, or some other case or outcome of 'Nature's way', will be practically bound to restabilize the situation.

To be sure, there are some relieving features or even bright spots in this generally sombre prospect—including falling populations in some countries and the severe measures being adopted in the most populous one of all in order to reduce its birth-rate. But still the overall picture looks gloomy in the extreme, with the whole world's rate of population growth estimated at *ca* 2% and some countries exceeding double that rate*.

Depletion of Resources and the First ICEF

In the matter of resources, it is now being more and more widely realized that many—such as fossil fuels—are finite, 'once for all' commodities which are already becoming depleted, and that we must prepare for the future by developing alternatives if anything like the present human population is to be supported much longer at anything like its current level of nutrition and living-standards (let alone the higher ones that many politicians and others voice hopes of!).

Meanwhile we must be far less greedy and wasteful than heretofore in using the remaining stocks of fossil fuels and certain metals and other non-renewable resources, and far more careful in exploitation of such (theoretically at least) renewable ones as tropical rain-forests and marine fisheries. For although the latter could be far more rationally exploited than at present, they are not going to feed the world any more than is the so-called 'green revolution'. We also have to learn to be far more careful than formerly about pollution. But although there is now much talk about all these matters, there is never enough real action, and sadly little that is really concerted. Yet the pieces of the 'orchestra' which needs to be concerted for global survival probably all exist, and many, though by no means all, we believe are ready to start up: a global plan of action is needed, with bold leadership and energetic orchestration.

These and allied matters were widely considered in our first International Conference on Environmental Future, held in Finland in 1971 by invitation of the Government of that country,[†] *inter alia* to provide background material for the United Nations Conference on the Human Environment, which was held in Stockholm a year later and, under the able leadership of Maurice Strong, alerted the world politically to the worsening situation which was already all-too-evident to many scientists.

**World Population Estimates 1978*, published by the Environmental Fund, 1302 Eighteenth Street N.W., Washington, D.C. 20036: 1 p., with 'explanatory remarks and numbered footnotes... on the reverse side.' In some respects the prospects look less sombre than in others—see, for example, Dr Thomas F. Malone's 'Reflections' (published in his paper following the present comments) as Chairman of the Singapore Symposium on Science and Technology for Development, which to some extent grew out of our Second ICEF (see footnote[†] on following page).

[†]*The Environmental Future: Proceedings of the first International Conference on Environmental Future*, held in Finland from 27 June to 3 July 1971, edited by Nicholas Polunin. Macmillan, London & Basingstoke, England, and Barnes & Noble, New York: xiv + 660 pp., illustr. (1972).

Second ICEF and the Reykjavik Imperative

In 1977 we held the Second International Conference on Environmental Future, by invitation of the Government of Iceland, in their capital city of Reykjavik, where, under the title of 'Growth Without Ecodisasters', we considered many of these grave matters in more depth.[†] On this occasion we came out with what has been described as the strongest statement of environmental concern yet to emanate from any responsible international body. It was drafted by a special Resolutions Committee under the chairmanship of the President of the Conference, Linus Pauling, which included also Donald J. Kuenen, Gunnar G. Schram, Thomas F. Malone, E. Barton Worthington, and Letitia E. Obeng, who were elected at the opening session of the Conference.[†] After detailed discussion through more than 100 interventions etc. by nearly 50 speakers from among the ca 100 participants remaining for the Final Plenary Session, and as the main business thereof, the draft was amended and passed effectively by acclamation.[†]

Under the chairmanship of Maurice Strong, this Final Plenary Session decided, *nemine contradicente* and as its penultimate act, to call the amended statement 'The Reykjavik Imperative on the Environment and Future of Mankind'. As such, it was first published in *Environmental Conservation* (Vol. 4, No. 3, pp. 161–3, Autumn 1977) and has been in widespread demand by governmental and other institutions and organizations. A slightly updated version is in proof in the proceedings of the Conference,[†] of which it will comprise pages 629–34, being followed, on pages 639–42, by a statement concerning the sponsoring Foundation for Environmental Conservation: Auspices, Objectives, and Needs.

SIL Global Resource Resolution

As an outcome of our deliberations on the above occasion and in the spirit of a circulated draft of the Reykjavik Imperative, Societas Internationalis Limnologiae (SIL, the International Association of Limnology), at its Twentieth Congress, which was held in Copenhagen, Denmark, during 7–14 August 1977, adopted a 'Global Resource Resolution' concerning which their President, Dr John R. Vallentyne, published an account forthwith in our Journal.* From this account we quote: 'The preamble to this resolution drew attention to the lack of an adequate margin of safety in regard to current and projected rates of consumption of the natural resources of the Earth—also to the lack of internationally accepted principles on the use and partitioning, among nations, of the world's resources. Following this preamble, the Resolution directed the SIL Executive Board to: "1. Establish a working group to catalyze the formulation of a set of principles pertaining to the wise use and safe development of the natural resources of the Earth, with a view to their eventual ratification by nations; and 2. Make contact with other scientific organizations and, in cooperation with them, to develop a set of principles pertaining to the wise use and safe development of the inland water resources, living and non-living, of the Earth".' The latter point is an example in deference to SIL.

The 'logic' underlying the Global Resource Resolution as explained by Dr Vallentyne* was: (1) there are limits, for different times and places, to the carrying capacity of the Earth for Man; (2) because of the connection to resources supply, these limits are better described in demographic terms [i.e. population and technology combined] than on the basis of human population alone; (3) in terms of the quality of human life, these limits have been exceeded regionally in the past and, on the basis of current projections, are likely to be exceeded globally in the future; (4) the minimum lead-time to avoid surpassing these limits (i.e. for an orderly approach to a state of zero demographic growth) is 2–3 generations (50–70 years); and (5) there is an urgent need, on human grounds, for the formulation, and ratification by nations, of principles governing the uses and rates of consumption of the natural resources of the Earth.'

President Vallentyne having indicated how strongly he and SIL felt that something concerted should be done about the crying need for action concerning the world's rapidly-depleting resources, and the under-initialled, as Secretary-General and Editor of the International Conferences on Environmental Future, having been asked by unanimous approval of the Final Plenary Session of the 2nd ICEF to organize more of them,[†] suggested that other proposals be shelved in favour of devoting the next ICEF to working out a strategy to implement the SIL Resolution for the conservation and rational use of the world's depleting resources—which we all realize are widely in jeopardy but without doing anything concerted about the ever-deteriorating situation.

The response to the above proposals being positive and the idea widely favoured among international organizations and other bodies, we are planning to devote the next ICEF to discussing this topic of a global resource strategy, and if possible coming out with a plan-of-action or at least some guidelines—provided adequate backing is forthcoming, as we confidently expect it to be. For with the broader-than-popular conception of the environment that we envisage, such a conference should offer a welcome opportunity for associations and organizations to act all together in their joint interests and, ultimately, the world's.

Collaborating Organizations Desirable for 3rd ICEF

A conference of this nature could, we feel, best be organized in collaboration with such international organizations as (in the order of their indication of active interest) SIL, INTECOL, IUCN, FOE, WERC, ICVA, and probably UNEP, SCOPE, and WWF with perhaps some others. Of these the first-named passed the pioneering resolution indicated

[†]*Growth Without Ecodisasters? Proceedings of the Second International Conference on Environmental Future (2nd ICEF), held in Reykjavik, Iceland, 5–11 June 1977*, edited by Nicholas Polunin. Macmillan, London & Basingstoke, England, and Halsted Press Division of John Wiley & Sons, New York etc.: xxvi + 650 pp. of text (plus indexes), illustr. (in press).

*Global Resource Resolution, by J. R. Vallentyne: *Environmental Conservation*, Vol. 4, No. 4, p. 270, Winter 1977. See also his Presidential Address to SIL: 'Today is Yesterday's Tomorrow', *Verh. Internat. Verein. Limnol.*, 20, pp. 1–12, 1978.

above, the second (at its General Assembly held during the Second International Congress of Ecology), as its only adopted resolution, decided 'that INTECOL should support, at least in principle, the Global Resource Resolution of SIL ..., which is aimed at preventing the depletion of necessary resources throughout the world'[†], while the third is said to be revising rather widely the second draft of its 'World Conservation Strategy' to include due consideration of natural resources—in addition to disappearing species and, more gratifyingly, threatened ecosystems.

It is now hoped to hold the Third ICEF on the above topic of Global Resource Strategy (though others are still being mooted) in a suitably stimulating atmosphere most likely in mid-1981 but possibly in 1982. This would allow more than the time requested verbally by IUCN to revise and bring out their above-mentioned World Conservation Strategy, which has long been in preparation with the support of UNEP and WWF and the collaboration of numerous individuals, while enabling the Third ICEF to consider dealing with it in a usefully complementary (and, we would expect, appreciatively complimentary) manner. Our present, incipient plan involves having a separate drafting committee for our Resources Strategy, working in close collaboration with the International Steering Committee of the 3rd ICEF and, it is hoped, IUCN with their World Conservation Strategy. This drafting committee would prepare a tentative draft for consideration by the Conference of which a leading objective would be its perfection and ultimate passing—in the general manner of the Reykjavik Imperative but with more protracted forethought.

As regards the Constitution of the International Steering Committee, the standing regulations of the sponsoring Foundation for Environmental Conservation require that 'The International Steering Committee of each International Conference on Environmental Future shall consist of not fewer than 8 Members who shall be resident in 6 or more different countries representing at least 4 continents' (Clause 1), 'The quorum for decision shall be 5, and at their first meeting they shall elect a Chairman from among their number' (Clause 2), while 'The Committee for each Conference shall be disbanded at its end but without prejudice as to possible re-election of individuals in the future' (Clause 9). No new such committee has been convened for the 3rd ICEF but clearly it should include representation of each and every major collaborating organization.

The objective of the Third International Conference on Environmental Future as currently envisaged is to work out and recommend a proposed strategy by which non-political membership associations and others with interests that are 'long' in space and/or time—including humane ones considering future generations—will exert sufficient influence to preclude or contain 'creeping' conditions that are already threatening, and seem destined widely to destroy, human civilization and wild Nature. The essence of this proposal is not to create another association or complex of associations, but to bring together the philosophies and aims of 'long' associations with a view to establishing a strategy for enhancement of their common 'civilizing' interests. A change in emphasis will be needed if civilization is to come to grips with continued growth of human population and consumption of natural resources, with concomitant accumulation of ever-more-polluting wastes. In brief, the emphasis should be shifted from satisfying our selfish interests to *maintaining the biosphere*, of which Man should be an integrated component. Whether or not such a 3rd ICEF proves to be the logical initiator of a side-series of *ad hoc* conferences or smaller symposia will remain to be seen, but at least some later workshops would seem desirable.

The Goal of Biospheric Orchestration

To appreciate the need for a global integration and strategy to prevent erosion of the shared foundations of associations with 'long' interests and indeed of civilization as we know it, imagine yourself in a vast auditorium with leaders of these associations on the stage and ready to perform a symphony. Even before they start, you can envisage excruciating cacophony: each association will play a maybe beautiful tune, but one of its choosing and doubtless in its own key and tempo. Each is accustomed to playing to an international audience, and well; but they have not played together in a full symphony under common direction and with a common score—hence the cacophony.

The Third International Conference on Environmental Future is foreseen as a mechanism for guidance of the necessary orchestration of these associations and of the main components of the biosphere—physical, chemical, biological, and social. Its interest is to have at least a plan propagated for implementation before any 'final' crisis looms. Meanwhile the crises looming before us are in fact continuing crises, because of the lack of any *global strategy* for attacking the roots of their causes. As an outcome we have a much-disturbed biosphere in gravely declining health.

A strategy being a plan of action to overcome obstacles to achieving an objective—often of a military nature but in this case sheer biospherical survival—it should start with an analysis of what these obstacles to environmental health and biospherical survival may be, and continue with a plan of what to do to remedy the situation and how to do it. Quite apart from the International Steering Committee choosing the general programme, keynote speakers, sessional chairmen, and principal discussants, for the 3rd ICEF, there should be a Strategy Committee to integrate strategic concerns during the 1–2 years' period of preparation for the Conference, its Chairman being a member of the International Steering Committee with which the closest possible liaison should be maintained. With adequate consultation and planning, a draft Global Resource Strategy for 'long' associations and interests should be distributed to collaborating organizations and all leading participants at least two months before the Conference, whose priority work should be its refinement and final presentation replete with any biospherical components that may not be the concern of particular associations or global organizations.

N. P.

[†] See the account of this 'Second International Congress of Ecology, held [in] Jerusalem, Israel, ...September 1978', published in *Environmental Conservation*, Vol. 5, No. 4, pp. 309–311, Winter 1978, after checking with the Chairman of the Local Organizing Committee and the outgoing President of INTECOL (the International Association for Ecology, the sponsoring organization). The SIL Global Resource Resolution has also been approved by the International Association for Great Lakes Research and by Friends of the Earth (FOE).