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Environmental Protection

Environmental issues do not lack public attention. But in spite of general agreement on their importance theoretical and practical solutions are difficult to attain. The Stockholm Conference on the Human Environment—though being a signal of hope—gave a foretaste of complications still to come.

Second-best Solution at Stockholm

by Per Magnus Wijkman, Stockholm *

The "Human Environment" is a broad concept. The Stockholm Conference on the Human Environment faced an abundance of topics all bearing in some way on human environment, but its agenda was determined by political considerations of participating governments. Controversial issues where the need for international action is urgent were obscured by issues where—as on motherhood and patriotism—agreement is general but organised international co-operation slightly misplaced. Much energy devoted to these topics might have been better spent formulating central principles and obtaining general—rather than unanimous—acceptance of international measures to implement these principles.

In the quest for consensus, the international lawyers descended as *dei ex machina* upon the Conference, drafting and redrafting the declaration of principles until it was replete

with recommendations for "rational planning", "careful planning", "appropriate management", "appropriate steps", "adequate conditions", and even of support for "just struggles". Thus the Conference avoided the relevant and important issue of ecological warfare, wasted much time on important but in the context irrelevant problems of less developed countries, and formulated some important principles on the goals of environmental policy as well as some noncommittal principles on the means of environmental policy.

Discussion on Ecological Warfare Sidestepped

Perhaps the most central, and certainly the most controversial, issue sidestepped by the Conference was ecological warfare. A superpower prevented discussion of the ecological effects of certain weapons maintaining that this was a political and not an environmental issue. But the

purpose of the Conference was to discuss the ecological effects of various activities, and not the justification of the activities themselves. A disinterested and honest observer cannot deny that the Conference was an appropriate forum to ban the most blatant types of ecological warfare and that this could be done without discussing the political goals or foreign policy of individual countries. We do not accept e.g. that a big car producing firm blocks measures against carbon monoxide pollution on the grounds that they discriminate against the car industry and interfere with the sales policy of a large car company. Polluters—whether private firms or governments—should not go free because they are large and pollution is merely a side effect of commercial, political or other activity.

The duty of the Conference was precisely to insist that the

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polluters' activity be free of such side effects. Cooperation between citizens or governments on the national and international levels uses the collective strength of the many to protect against abuse of individual power by the few. Thus the delegates from the smaller countries shirked their responsibility by accepting that the final principle (§ 26) of the declaration¹ on nuclear weapons did not specifically mention other instruments of ecological warfare. Consequently, the declaration received the support of governments currently conducting ecological warfare, but not of the Republic of China. This nuclear power abstained from voting on the declaration. Silence on this major point caused many members of non-governmental organisations attending environment conferences in Stockholm to question the UN Conference's capacity for effective action if this crossed the interests of a superpower.

Development Problems — a Red Herring

The Conference neglected the ecological consequences of warfare which belonged to its domain but treated extensively the irrelevant problem of the economic development of the less developed countries (LDCs). The Stockholm Conference was at times but another forum for the LDCs to air their discontent with the international trade and aid system. Though the grievances of the LDCs in these respects are mostly justified, it is disheartening to see yet another international conference bog down on this issue. No less than five of the twenty-six principles in the Environment Conference's declaration repeat and vary the general demand that the LDCs receive increased aid and better

terms of trade and the specific demand that environmental measures should not burden the LDCs' economies.

Misplaced concentration on the general problem of economic development of the LDCs burdened the declaration of principles with irrelevant issues. However, this criticism should not be confused with the relevant consideration that the developed and the developing countries will necessarily have different environmental problems. A moment's reflection suggests that preferences between environmental quality and material goods will differ significantly between the developed and less developed countries. The more developed a country, the more it will prefer improved environment to more material goods. In her address to the Conference Prime Minister Gandhi testified eloquently to the obligation as perceived by a developing country to raise the level of material goods available to its citizens before undertaking environmental measures.

Different Aspects for Rich and Poor

The types of environmental deterioration will also differ between countries. Rich countries will be polluted by large amounts of industrial wastes and household residuals. In LDCs, environmental deterioration is caused largely by rapid and massive urbanisation creating shanty-towns lacking fundamental public services for education, health, and welfare. In addition, given existing prices of raw materials and labour, recycling of residuals is more profitable in poor than in rich countries. In high wage economies with an even income distribution, no-deposit bottles, tin cans, scrap paper and other labour-saving consumer devices are discharged into the environment rather than

recycled in the economic system because of the high labour costs. In LDCs with plentiful labour and skewed income distribution, recycling is more profitable. This can be confirmed by any tourist who has observed how garbage wastes are searched for edible remains and how shanty towns are constructed from waste materials. In short, both the environmental quality that is desired relative to material goods and the type of environmental deterioration that is socially profitable will differ greatly between the developed and the less developed countries due to their different preferences, income levels and factor prices.

The Conference wisely recognised that identical environmental standards are neither appropriate nor feasible for the developed and the less developed countries. But since the developed countries evidenced greater interest than the less developed in environmental issues the Conference established in principle 12 that they should pay for the LDCs' environmental measures. Here is another example of those second-best solutions which the international system enjoys producing.

Transfer of Funds — a Second-best Solution

In general, there is no good reason to tie assistance to the LDCs to environmental measures. An economist nurtured on the advantages of transfers in cash rather than in kind will quickly reply to principle 12 that transfers to LDCs if favoured on distributional grounds should be handed over in cash to governments to expend freely where the return is greatest according to that government's preferences. It is a safe bet that, confronted with the choice between improved environment or more material goods, the LDCs will

¹ The principles mentioned in this article are cited on page 266.

spend increased aid on goods for many decades to come.

There may be some valid arguments for the developed countries to finance specific environmental improvements in the LDCs. For instance, the Conference could have proclaimed certain environmental qualities to be international merit wants, for example minimum nutritional standards and educational levels for children and low-cost housing for child-rearing families. The international community would thereby reject the concept of national sovereignty in these respects if the minimum standards are not fulfilled and accept the responsibility of financing the necessary expenditures to maintain these standards regardless of a government's other expenditures. Just as a civilised government does not accept that children perish due to the improvidence of parents, a civilised international community would maintain minimum standards for the world's children including those subject to impoverished or improvident governments. This might well be one of the most efficient long-range measures to improve the environmental quality and the development prospects of the LDCs.

Principles of Pollution Policy

But the Conference did not proclaim certain environmental qualities as international merit wants and the developed countries rejected the financial burden that such a programme would have imposed. With the support of the LDCs, India and Libya proposed the establishment of an international fund to provide loans or grants to improve the housing and residential standards of the LDCs. The fifteen richer countries at the Conference voted against this proposal. The LDCs exploited their bargaining power and the

richer countries' environmental interest to increase international development aid in kind, and thus we obtained yet another second-best solution.

Given international differences in tastes, incomes and factor prices, accepting the concept of the sovereignty of the nation state, and failing to proclaim international merit wants, it devolved upon the delegates at the Conference to establish rules to protect the common property of the globe and to establish a principle of compensation when activity in one country harms the environment of another. This the Conference accomplished in a highly commendable manner. The Conference adopted two principles which if implemented will extend the machinery of international cooperation to new areas and lay to rest the Ricardian spectre of scarce natural resources throttling economic growth.

After defining certain principles of ecological preservation (principles 2, 3, 5, 6, 7) the participating countries define in principles 21 and 22 the obligations of national governments toward their own environment and towards the environment of their neighbours and of the globe. Principle 21 established the right of each country to choose its own level of environmental quality and its obligation to abstain from harming the environment of other countries or of international areas. Principle 22 established that national governments are responsible for any such damages and that they should compensate the victim.

The Conference was unable to arrive at any meaningful stand on the methods to be used to ensure the application of these principles. A number of paragraphs which have the familiar ring of conferential incantations reverently extoll the merits of "rational planning", of

"cooperative spirits" and of "coordinated, efficient and dynamic roles" (see mainly principles, 14, 24, 25). The ornamental value of these principles testifies to the skill of the drafting lawyers. But how an economist's fingers must itch to devise a system for putting teeth into paragraphs 21 and 22 that give them a bite equal to their bark!

Workable International Control

An economist would no doubt recommend the price mechanism as an efficient method to limit the aggregate use of the globe's common property and as an impartial means to coordinate the claims of different countries and to reconcile the conflict between national sovereignty and international control.

Current research, primarily by Allan Kneese and others at the Resources for the Future, Inc., Washington, D.C., indicates that it is now technically possible to design a monitoring system that can identify the major sources and destinations of water and air pollutants. Use of the oceans and the biosphere as recipients of industrial and household residuals is currently free because the countries of the globe have not yet voluntarily subjected their use of these resources to control by an international authority. Now, however, with increasing awareness of the ecology's limited capacity to assimilate residuals generated by the affluent society, the first steps to protect this scarce natural resource have been taken. The Conference approved an action programme which recommended setting up a system to monitor changes in the biosphere and in the oceans. It now only remains for the technicians and the economists to work out in detail how an International Monitoring Board will estimate the various streams of residuals into the

oceans and the air in order to bill the emitting countries. At a sufficiently high price the aggregate emissions can be prevented from exceeding the oceans' and the biosphere's assimilative capacity. We do not possess sufficient knowledge about ecological and human consequences of various levels of residual discharge but we should use available knowledge to prevent avoidable damages.

Once the participating countries agree to implement the principle of compensation for environmental damages to foreign regions, national governments will have an incentive to regulate or tax domestic polluters to reduce the costs of foreign pollution.

Effects of Taxing Pollution

Environmental pollution will be reduced in several ways. The price of pollution-intensive goods will tend to increase relative to "clean" goods causing a general shift in the composition of world output in favour of clean goods and services. There will also be strong incentives for polluting firms to install cleaning devices that reduce the amount of pollution caused by a given level of production. In addition, remaining pollution will be in the "right" places and in the "right" form so that a given discharge of residuals will cause less damage to the environment. This will happen as pollution-intensive activities are induced to move from areas with limited absorptive capacity to areas where the ecology can still absorb and treat residuals. This will stimulate geographic dispersion of industrial activity. If firms must pay the social costs of emitting wastes in liquid, gaseous, or solid form into air or water or on land, that alternative which is most profitable for the firm will also be most efficient for society.

Introduction of a price mechanism for natural resources previously treated as free public goods will improve allocative efficiency in the world economy by forcing firms to take into consideration social as well as private costs of their productive activity. But it will also have distributional effects. If inequality in the distribution of world income increases, compensating measures to redistribute income would be a desirable complement of such a programme. However, it can be presumed that the distributional effects will be in favour of the less developed countries. Two general tendencies can be distinguished. First, the world's industrial production is mainly located in the rich countries. Taxation of environmental damage will tend to disperse the location of industrial activity and shift it from the richer to the poorer countries, where the absorptive capacity of the ecology is greater and "pollution taxes" are lower. This tendency will be reinforced if the poor countries have a strong preference for material goods and are consequently willing to accept a lower level of environmental quality than the rich countries. The second factor in favour of the LDCs is that the synthetic substitutes for the raw materials produced by many LDCs are pollution-intensive goods whose costs of production will be increased. This will cause a shift in demand from synthetic materials to raw materials giving the primary producing countries a new lease on life. This will benefit the LDCs more than principle 10 in the UN Conference's declaration ever will.

Finally, a pricing system for these scarce natural resources will lay to rest the Ricardian spectre of the stationary state which stalked the floors of the

conference halls in Stockholm and pursued many a speaker up to the podium. The general question of exhaustible natural resources and environmental destruction is not one of growth versus no-growth. It is essentially a problem of ensuring that the prices for goods, including those prices which are zero, correctly reflect social costs. Growth will then be steered so that the composition of output at such prices corresponds to the preferences of consumers as reflected in the market place, and however imperfectly, in the actions of representative governments.

UN Conference — a Step Forward

An evaluation of the Conference must await the implementation of its many recommendations and principles. "Better is the end of a thing than the beginning thereof". The proposed Environmental Council and the Secretariat must acquire *de facto* sovereignty over international territories. The monitor system must not only register pollution but also regulate it. The recommendations to protect the resources of the oceans must be implemented. All this will test the operative efficiency of the Secretariat and the sincerity and cooperative spirits of the participating governments. It remains to be seen if national governments can live up to the spirit of the abstract principles which they formulated in Stockholm as the special interests of individual industries are challenged. While the issues discussed in Stockholm were ill defined and in respects poorly chosen, the Conference may achieve concrete results. Thus, even though the UN Conference on the Human Environment started off on the wrong foot, it may yet take several steps forward.

Some Principles of the Stockholm-Declaration

(2) The natural resources of the earth including the air, water, land, flora and fauna and especially representative samples of natural ecosystems must be safeguarded for the benefit of present and future generations through careful planning or management as appropriate.

(3) The capacity of the earth to produce vital renewable resources must be maintained and wherever practicable restored or improved.

(5) The nonrenewable resources of the earth must be employed in such a way as to guard against the danger of their future exhaustion and to insure that benefits from such employment are shared by all mankind.

(6) The discharge of toxic substances or of other substances and the release of heat, in such quantities of concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to insure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of all countries against pollution should be supported.

(7) States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to inter-

fere with other legitimate uses of the sea.

(10) For the developing countries, stability of prices and adequate earnings for primary commodities and raw material are essential to environment management since economic factors as well as ecological processes must be taken into account.

(12) Resources should be made available to preserve and improve the environment, taking into account the circumstances and particular requirements of developing countries and any costs which may emanate from their incorporating environmental safeguards into their development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose.

(14) Rational planning constitutes an essential tool for reconciling any conflict between the needs of development and the need to protect and improve the environment.

(21) States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to insure that activities within their jurisdiction or control do not cause damage to the environment of other

states or of areas beyond the limits of national jurisdiction.

(22) States shall cooperate to develop further the international law regarding liability and compensation for the victim of pollution and other environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction.

(24) International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big or small, on an equal footing. Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to prevent, eliminate or reduce and effectively control adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all states.

(25) States shall insure that international organizations play a coordinated, efficient and dynamic role for the protection and improvement of the environment.

(26) Man and his environment must be spared the effects of nuclear weapons and all other means of mass destruction. States must strive to reach prompt agreement, in the relevant international organs, on the elimination and complete destruction of such weapons.