

The Political Economy of Environmental Protection

A Conversation with Robert Dorfman

EEJ: I know that you have been working on the economics—or, better, the political economy—of environmental protection for a long time. What do you think is currently the most serious unresolved threat to the environment?

Robert Dorfman: My answer to that question is pretty conventional. It seems clear to me that the really ominous environmental dangers are no longer the local environmental impairments, such as urban smog or stream pollution, that gave the initial impetus to the environmental movements, but threats to the viability of the global environment that are so widespread that no single nation can control them. The leading examples right now are the acid precipitation and greenhouse effect that are normal byproducts of thermal generation of power, and the depletion of the protective ozone layer caused by releasing chlorofluorocarbons. These are not the only examples now recognized, and only a committed optimist would deny the possibility of other treacherous phenomena waiting to be discovered.

EEJ: Does there seem to be a common denominator among these problems?

Robert Dorfman: The aspect that these diverse problems have in common is that they are generated by activities in a large number of countries, and that each country gains more by permitting its citizens to engage in those activities than it loses by the impact those citizens have on the environment. Of course, each country suffers more harm from the worldwide abuse of the environment than it profits from its own citizens' share of that abuse, but no nation can control the aggregate.

EEJ: That sounds like a classic case of The Prisoners' Dilemma. Is there any hope of escaping from it?

Robert Dorfman: That's right, it *is* a Prisoners' Dilemma, on a scale of four billion prisoners. As to hope, I see the beginnings of some progress.

EEJ: How's that?

Robert Dorfman: Let me contrast two episodes. The first occurred in 1972, when the UN convened the UN Conference on the Human Environment in Stockholm, with great pomp and publicity. The second was a much more modest conference in Montreal, just last year.

The Stockholm conference was the first official international response to widespread concern over human abuse of the environment. Most of the nations of the world were there, and outside there was a kind of sideshow where many nongovernmental organizations and pressure groups held an unofficial convention of concerned citizens.

The industrial nations attended with an agenda of measures for abating environmentally destructive activities throughout the world. They pointed out that the world's atmosphere and its oceans were already showing signs of stress, and that concerted international action was going to be needed to avert irreversible ecological breakdowns. The third-world nations had a different agenda. They emphasized that economic development and environmental protection are inseparable. Much abuse of the environment is a direct consequence of desperate poverty, and, at any rate, no country can be

expected to divert its resources to protecting the environment while its population lacks food, medical facilities, and other requisites of bare existence. Besides, the third world countries were quick to point out, the current worldwide predicament was due mostly to the heedless exploitations of the formerly imperial countries of the first world, who were now proposing that the younger countries retard the development of their industries and resources largely in order to protect amenities of concern principally to the rich countries.

These divergent emphases set up tensions that all the tact, patience, and adroitness of the conference chairman, Maurice Strong, could barely contain. Even so, the conference's concrete accomplishments were limited to establishing the United Nations Environmental Programme which, for the ensuing dozen or so years, devoted more resources and energy to voicing the aspirations of the developing countries than to promoting environmental protection. That conference exemplifies the obstacles that efforts to attain international cooperation to protect the environment must overcome.

EEJ: Do you have a more positive assessment of the Montreal conference?

Robert Dorfman: Yes. That contrasting conference gives me hope. It met for the limited and specific purpose of initialing a protocol in which twenty-four nations and the Eastern Economic Community agreed to limit their production of chlorofluorocarbons in order to protect the ozone layer, and it accomplished its purpose.

It wasn't easy to achieve that agreement. As you perhaps know, the human contribution to depleting stratospheric ozone was recognized back in 1974, by Mario Molina and Sherwood Rowland of UC/Irvine, and the discoverers have been agitating for control of CFC releases ever since. It took them a few years before they convinced the scientific community and seven years before the United Nations Environmental Programme established an "Ad Hoc Working Group of Legal and Technical Experts to Elaborate a Global Framework Convention for the Protection of the Ozone Layer." The "Ad Hoc Working Group" labored at a succession of meetings over seven more years before agreeing on the compromise that they all could sign at the triumphal meeting in Montreal last September. The epochal aspect of that achievement was that for the first time, all the producers of an economically valuable product agreed to cut back their outputs gradually but significantly over the next five years.

EEJ: How do you account for the difference between the spirits and results of these two meetings?

Robert Dorfman: There were several things. The basic one, I believe, is that the pitfalls into which the Stockholm conference stumbled were evaded. The Ad Hoc Working Group never became an ideological or political forum. It confined itself to its bread and butter issue: the trade-off between the economic efficiency of producing and using the CFCs and the cancers and genetic damage from the increase in cosmic radiation. A second important factor was that the evidence that we are damaging the environment, and damaging it irreversibly, was strong and uncontested. A third favorable circumstance was that the use and release of chlorofluorocarbons is not vitally important to any nation. The uses of chlorofluorocarbons are not entirely frivolous—hair sprays and that sort of thing. There are significant industrial uses. For many purposes, freon is the best and most economical refrigerant known. There isn't any fully adequate substitute for CFCs as a solvent for cleaning microelectronic circuits or in high-powered electrical

transformers. But, still, neither are they indispensable to a prosperous and growing economy.

In short, the conditions were favorable for escaping from the Prisoners' Dilemma. Nevertheless, it took some doing: fourteen years of work and all the skill and patience of Mustafa Tolba, the director of the United Nations Environmental Program, who kept the whole process moving.

EEJ: Do you think that those favorable conditions can be achieved for other environmental threats?

Robert Dorfman: That's the life-and-death question in my opinion. If we can do it, the environment can be preserved; if not, ecological disruption will get us unless nuclear warfare gets us first. These are dangerous times.

My answer has to be hesitant. I think it is possible, but only because the need is so desperate. I see two critical requirements. First, the people of the world have to be convinced that the need is desperate, and second, the institutional arrangements for deciding on what is to be done (or, better, not done) and for administering the decisions have to be very carefully designed to avoid threatening the vital interests of any nation. Unless both of these requirements are met, we shall be in deep trouble. I'd like to elaborate on them.

EEJ: I'm listening.

Robert Dorfman: I'll discuss the institutional arrangements first. Any program for meeting a global threat to the environment will need widespread cooperation by members of the so-called first world, and the second world, and the third world. It must therefore not affront the principles of any of these "worlds." By the same token, it must not endorse the principles or political objectives of any group of nations. Indeed, it must be so far removed from the rivalries of nations and blocs that it does not become a forum where nations debate their competing aspirations, resentments, and views of the world.

This means that an institution designed to deal with global, or even continental, environmental problems must be sharply and narrowly focussed on those problems. It cannot be a world government or even a step toward a world government, for such a step would rouse nations to the defense of their sovereignties. The working group on the protection of the ozone layer illustrates the successful application of this principle.

At the same time that a conference or institution organized to cope with an environmental problem or problems must concentrate on that problem or risk the internal dissensions that flourished in Stockholm, it must recognize that the insistent and legitimate need for economic growth imposes limits on the measures that it can hope to propose or implement successfully. It must not be perceived as a vehicle for fostering economic growth, but neither can it deny the need for it. The less developed countries cannot be expected to acquiesce in policies that condemn them indefinitely to their current levels of poverty. Equally undeniably, the nations that are currently called "developed" have their pockets of poverty and their growth aspirations that will have to be accommodated to some extent if they are to cooperate.

In short, all the nations have aspirations, sometimes appearing to be imperious necessities, which, when added up, impose more stress on the environment than it can be expected to bear. Some must be disappointed, or, more plausibly, all must be partly disappointed. A program for global environmental protection must therefore persuade

its participants to accept painful reductions in their hopes and goals. For this, two things are necessary: first, the overall cutback must be seen to be unavoidable, and, second the allocation of the cutback among nations must be seen to be fair. The requirement of fairness is particularly hard to meet in a world where there are such disparities the sizes and wealths of nations, and such diversity in concepts of fairness as there are in our world.

EEJ: Let me see where we stand. You say that an effective response to a global environmental threat has to be not only technically effective but also widely acceptable to the nations of the world and must therefore be proposed by a politically neutral body, must be regarded as inevitable and as fair to all nations, and must allow for some economic growth. I don't see how you can hope that all that can be achieved.

Robert Dorfman: Remember that I am assuming that people are really scared; that they are fully convinced that something has to be done or part, at least, of the world will fall in. Otherwise the case is hopeless, as you say.

EEJ: Well, explain a bit how you could construct a policy that is inevitable and fair and allows for economic growth.

Robert Dorfman: I'm glad to be asked, because that question gets down to the nitty-gritty. First, fairness, and even the possibility of reaching international agreement, requires adherence to the ancient principle of law and social decision theory called "anonymity." The rules must apply equally to all nations or, at best, to all nations in each of a few broad classes. It would be hopeless to try to agree individually on how much of some noxious effluent Bangladesh, India, and Switzerland should be permitted to emit per capita. Second, this notion of fairness could be tied to the notion of growth: All nations could be expected to grow some, and the poorer nations could be expected to grow more, in per capita terms, than the wealthier ones.

I envision schemes for rationing intrusions on the environment in which each nation would receive a quota, and would be expected to adopt regulations that would induce its citizens to live within that quota. To be more explicit, a scheme might be predicated upon a population growth rate of one-half percent per annum in all nations and a per capita income growth rate of 1.5 percent per annum in the wealthiest nations, 2 percent in middle-income nations, and 2.5 percent in the low-income nations. Each country's quota for, say, the use of chlorinated pesticides, would be computed from input-output or other technological coefficients to be consistent with its growth allowance. Thus all that would have to be decided at the political level would be the permissible growth rates for each class of nations. The rest would be a fairly mechanical calculation.

EEJ: I have two questions. How would the rates of population growth be enforced? And, second, who would decide on the permitted growth rates, and how would he decide them?

Robert Dorfman: OK. The rates of population growth would not be enforced. Each country's rate of population growth and rate of per capita income growth would be a strictly internal matter. *But*, its usage or emission quotas would be calculated from the permitted rather than the actual growth rates. And those would be monitored and enforced.

The permitted growth rates would have to be based on an explicit and calculated trade-off. The higher the permitted growth rates, the greater the quotas, and the greater the amount of environmental damage. Experts would have to estimate the total and

marginal relations between population growth, per capita income growth, environmental damage, and consequent damage to human health and longevity and to other aspects of the environment.

With this information, representatives of the cooperating countries, in conference assembled, could debate and compromise the levels of the two basic growth rates. Each representative would be informed as fully as possible of the implications of each alternative for the growth and the environmental health of his country. In other words, he and his countrymen would know the costs to them of complying with each alternative and the benefits to them of worldwide compliance with it. If the costs of failure to agree are sufficiently high, I should expect some agreement to be reached, just as it was in Montreal.

EEJ: I'll have to think about that. One more thing: You said that the use and discharge quotas would be enforced. How would that be done?

Robert Dorfman: Fines. Big fines. Say, fines in amounts equal to twice the increase in GNP that the infraction permitted. That would be the appropriate order of magnitude. Enforcement of the fines would depend on the cooperation of the signatory nations. But I should expect them to cooperate if they felt that the environmental danger was serious, just as the United States voluntarily enforces the regulations of the International Whaling Convention.

EEJ: So in the end everything depends on persuading people that the danger to the environment is serious enough to require them to compromise important goals. You postponed discussing how that could be done.

Robert Dorfman: Yes, I did. That clearly requires that some source of information in which people repose a high degree of trust should report and authenticate the danger. I have to admit that there isn't any such source now. National governments are not regarded as that reliable or unbiased. Environmental organizations are considered to be special interest groups, high-minded but untrustworthy. The United Nations Environmental Programme itself, which might have played such a role, has engaged too freely in advocacy of third world interests, and not freely enough in disinterested research and reporting.

The basis for action in the instance of the ozone layer was a consensus of scientific opinion in fifty-odd countries, but such widespread agreement is hard to mobilize. The hope that I see is in the UNEP, which is now pursuing environmental problems more seriously and aggressively than before, and especially in its GEMS (Global Environmental Monitoring System) program. That program, now badly underfinanced and underpublicized could be the heart of a worldwide system for keeping tabs on the state of the environment and for providing early warning of adverse trends. GEMS is operating now on an increasing scale, and could, over time, build the necessary reputation for sound and unbiased scientific reporting.

If that is done, and if ominous reports from GEMS come to receive the same kind of attention as ominous reports on inflation or unemployment from the BLS, then I think there is hope. A working group following the principles I have outlined could be convened, and its report would command the worldwide public support needed to avert catastrophe if possible, or to avoid aggravating it.