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Environmental Policy and Development

by Professor Ingo Walter, New York *

This study promotes the understanding of the link between development, environment and international economic relations. It suggests that the growth effects of environmental management may tend to serve as an equalizer, helping to redress the imbalance in real income levels between developed and developing economies.

Economists regard pollution as basically a problem of "externalities": costs imposed by the consumption or production activities of one decision-unit on others. If the environment were in fact treated as the common-property resource that it is, and if as a result pollution were prohibited, then these externalities would be "internalized" and the prices of goods and services would change — each according to what it costs to avoid the environmental damage that would otherwise arise. As relative prices change, so would patterns of consumption and production. The problem is that the environment has *not* been treated as a resource, the internalization process has not occurred, consumers and producers have received the "wrong" price signals and acted accordingly, and hence the current state of environmental quality. Yet the environmental limits encountered during the growth process have made it clear that internalization must at some point occur, and if the market mechanism fails in this respect, then other ways must be found to achieve this end.

At the same time, the rising levels of real income that are the basic cause of environmental dislocation have also made it possible to reorder social priorities in such a way that environmental quality plays an increasingly important role. If the *demand* for environment quality is responsive to income via the collective decision-making process, then this — in addition to autonomous shifts in social preferences that may arise — creates a basis for projecting what will happen in the future.

What does all this mean for the less developed countries (LDCs)? If pollution is a product of economic growth, and the problem of environment did not emerge in the industrial countries until the late 1960's and early 1970's, the LDCs would seem to have little to worry about for some decades. They have other problems: malnutrition, disease, poverty, housing, illiteracy, unemployment, etc.

Developing nations do have serious environmental problems of their own, and these problems involve major economic and social costs. But it is difficult to deny that the quality of the environment falls differently on the list of social priorities in developing than in developed countries, and perhaps properly so. Eventually all this will change, but not for the time being. The problem is that the industrial countries are dealing with this problem *now*, and the way they go about it will have far-reaching consequences for the LDCs, whether they like it or not.

Balance of Trade Effects

As the industrial countries go about the business of environmental management, domestic prices of tradeable goods can be expected to rise. No matter how environmental control is enforced, a general price-level increase is expected. As developed-country products become less competitive in domestic and international markets, we can expect an overall improvement in the balance of trade of the LDCs vis-à-vis the industrial nations: Both export products and domestic goods competing with imports will gain in price-competitiveness. How important this benefit will be depends on the impact of environmental controls on the prices of traded goods.

But the same factors that promise an improvement in the LDCs' *balance* of trade also underlie an expected deterioration in their *terms* of trade, as import prices rise with no change in export prices. This means that the LDCs have to produce a larger amount of export goods in order to obtain a given amount of import goods and this, all else equal, represents a real-income transfer from developing to developed countries. Fortunately all else is not equal, and the trade-balance improve-

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ment (possible *only* if the terms of trade are allowed to deteriorate) may generate sufficient benefits in terms of employment of resources and developmental linkages to more than offset this potential cost.

Perhaps more important are the possible effects of environmental measures in the advanced countries on the *structure* of trade. If done correctly, each good or service should bear the full cost of alleviating the environmental damage that its production would otherwise have caused. Some products whose manufacture is more damaging to the environment will thus rise in price relative to those whose manufacture is less environmentally costly. This will alter relative prices internationally, and may provide significant export opportunities for the LDCs. If indeed environmental assimilative capacity is higher in LDCs — and/or the demand for environmental quality lower — then there will be a shift in comparative advantage for pollution-intensive goods in their favor.

This same principle is of course also likely to be applied to *goods* that are environmentally damaging in consumption or as inputs, either in their everyday use (e.g., detergents, automobiles) or as residuals (e.g., packaging materials). Again, internalization of the environmental costs will require relative price changes, and less damaging goods will be substituted for more damaging goods. To the extent that LDCs are major exporters of the former, they should stand to benefit with respect both to the terms and volume of trade.

Overall, then, the trade effects of environmental management should be largely favorable to the LDCs. In the short run they should benefit from favorable shifts in the trade balance. In the long run, they will have a comparative advantage in the production of environment-intensive goods, and will benefit from shifts in both final demand and input demand away from more pollutive and toward less pollutive products.

Advanced countries may be tempted to neutralize trade advantages of LDCs, gained as a result of greater environmental assimilative capacity or more modest environmental preferences. While this is totally unjustified on economic grounds, if the environment is considered a productive resource affecting international comparative advantage in production and trade, several types of policy responses effects of environmental control are nevertheless possible.

Influence of Standards and Duties

It is clear that products which pollute in normal use or as consumption or production residuals will be subject to national standards. Imports which

do not meet these standards will be banned. Examples include automotive emission standards, pesticide residues in food products, sulfurous fuels, and so on. Argument may center on what standards are reasonable and proper, but there can be no argument about nations' sovereign right to impose whatever standards are deemed desirable — so long as they do not discriminate against imports. Suppliers of imports must therefore strive to meet whatever standards are set or withdraw from the market. The LDCs, which have frequently had serious problems with quality control and health-safety standards, may be especially hard-hit by environmental product standards.

Product standards may be used as pretexts for outright protection in the form of non-tariff distortions. Standards may indeed discriminate between domestic and foreign goods, or they may be enforced in a biased way. Domestic industries under pressure from imports may individually demand relief via "safeguard" mechanisms that either provide for compensatory import duties or quantitative limits on the volume or growth of imports permitted. In either case the administration of such arrangements is likely to be arbitrary and as much motivated by protectionism as by a desire to provide interim competitive relief from domestic environmental-control costs.

General policies of countervailing duties and export rebates may also be proposed with a view to imposing on imported goods sold in each country the same environment-control burdens as locally produced goods. Imports of products produced by an industry's foreign competitors would face a surcharge equal to domestic environmental-control costs and exports would receive an equivalent rebate. Again, such measures cannot be justified as a way of evening-out environmental advantages and disadvantages, quite apart from serious difficulties that would be involved in their equitable administration.

Aspects of Resource Recovery

Another dimension of the environment-trade-development link relates to resource recovery. Increasingly, the fact that the supply of the world's natural resources is finite is making an impression on developed-country planners. Rising prices of fuels and raw materials underline this fact, as does heated international competition for long-term, assured supplies of renewable and non-renewable natural resources. This phenomenon coincides with the issue of environment in two ways.

First, it is becoming increasingly costly in terms of environmental degradation to recover and transport raw materials and fuels. Increasing poli-

tical awareness of this problem, combined with generally rising standards of desired environmental quality, compounds its impact on the logistics of crude-material supplies. Second, advanced countries are increasingly faced with a solid-waste problem that cannot be solved by conventional means.

It makes a great deal of sense, therefore, to try to close the materials "loop" by recovering as many resources as possible from production and consumption wastes. While efficient and cost-effective collection and separation techniques are still under development, it is clear that the volume of potentially recoverable resources is enormous. Already these resources are entering the channels of international trade, and we know that the materials-recovery loop is heavily trans-national in character. Recovered materials will compete in world markets with virgin materials and, to the extent that these represent exports of LDCs, their export prices and foreign exchange earnings may be depressed somewhat as a result.

Aid and Foreign Investment

One of the unique characteristics of the environment is that it cannot be moved. A country that is short of labor can either import labor or it can import labor-intensive goods, and will probably end up doing both. The same is true for a country that is short of capital. But when a country runs out of the capacity of the environment to assimilate production-related pollutants, it has only one option, and that is to import pollution-intensive goods. Environment represents an *immobile* resource, and the only way to use it efficiently is to shift other productive factors in order to bring this about.

From the standpoint of the firm, environmental control represents an element of production cost, like any other, and the objective is to minimize this cost. Besides applying the most advanced pollution-control techniques at *existing* sites, it can move to another site, one where environmental assimilative capacity is higher and/or environmental standards are lower. If this makes sense, then the firm's actions in effect represent a flow of mobile resources — labor and capital — as well as technology and managerial know-how from an environment-scarce area to an environment-abundant area. So long as there are no international environmental spillovers — transboundary pollution — this kind of resource mobility is to be encouraged as an activity tending to raise the level of world welfare, defined so as to incorporate environmental quality.

Aside from the induced inflow of private investment, host countries can expect a "package" of resources favorable to economic growth, includ-

ing skilled manpower, managerial know-how, entrepreneurship, and technology transfer. Under the circumstances, moreover, it is likely that resultant direct foreign investment will be export-oriented and hence produce both positive income and balance-of-payments effects. It may also involve positive backward and forward linkages into the host economy and generate a variety of "intangible" development benefits such as labor force training, promotion of service industries, improved education and medical care, and so forth. But when such investment is clearly environment-related, it can be expected to come under attack in the source countries. In addition to charges of exploitative behavior on the part of the firm, the host countries may be accused of short-sighted behavior, repeating the environmental errors of the industrial nations, global pollution, and so on. Indeed, the developed countries may argue that production abroad should meet the same environmental standards as at home. If it does not, the goods entering international trade may be considered products of a "sweated environment", and thus the source of unfair competition for domestic output subject to much stricter standards. Again, if we consider environmental assimilative capacity to be a legitimate supply factor, and agree that social preferences can and will vary between sovereign national states, then any interference with international movements in productive factors cannot be justified on economic grounds.

Multinationals and Environmental Controls

Private capital flows to the LDCs motivated by greater availability of environmental resources will almost invariably involve predominantly multinational corporations (MNCs). It thus involves firms that are under pressure in the advanced countries for seeking to avoid high labor costs and profits taxes. Flight to avoid tough environmental standards, however rational this may appear to an economist, will call still further into question the social responsibility of the MNC and threaten restriction of its operations — which in turn may be detrimental to the interests of developing countries.

Yet the MNC seems to be the most efficient channel for the international transmission of environmental know-how. It typically operates in a large number of countries, some with strict environmental controls and some with lax standards. As the lagging countries begin to impose stricter norms, the MNC can simply transfer, *within the firm*, knowledge that it has already applied elsewhere. The transfer is rapid, efficient, and immediately usable. It is not certain, however, whether MNCs will, as a matter of course, apply common environmental

safeguards throughout their global operations. Chances are they will not; experience in other areas of social responsibility — such as drug safety — suggests that the MNC may do precisely what it is required to do, no more and no less. But whenever environmental standards are raised in LDCs the MNC will clearly have a competitive edge over local competitors. It has already met those standards elsewhere, and may be able to do so at lower cost than indigenous firms having to acquire the know-how *de novo* — and may benefit in terms of competitive position as a result.

Environment Effects of Official Development Aid

Official development aid also provides an effective vehicle for the advanced countries to impose their views concerning the environment on the developing countries. LDC-projects financed by external loans involve long-term burdens in meeting interest charges and amortization schedules. In order to support itself, a given project must generate sufficient real income to throw off the required transfers to meet debt obligations, and in addition generate sufficient foreign exchange through expanded exports or reduced imports to make the transfer possible. A given project — whether it is in the public or private sector — will be more costly if it incorporates appropriate environmental safeguards than if it does not. And yet the incremental investment will yield neither the real goods and services nor foreign exchange needed to justify itself in terms of future debt-service requirements.

Some LDCs are understandably reluctant to invest in pollution control to achieve benefits, at very high cost to themselves, which they may not regard as important. This view clashes directly with developed-country views that environmental standards should where possible be harmonized, that global environmental consequences may arise that in any case are subject to considerable uncertainty, and that the future cost of retrofitting existing plants is so high that the developing countries would be wise to build-in that capability from the outset. To the latter point, the LDCs frequently reply that this makes little sense when the social discount rate (relating the value of *present* to *future* real income) is as high as it is. Nonetheless, LDCs will increasingly have to prepare „environmental impact statements“ in support of projects for which external financing is sought. These statements constitute careful analyses and projections, to the extent that the state of the art permits, of the environmental consequences of a given project and their respective causes. They involve time and effort, but they greatly reduce environmental uncertainty and minimize unforeseen consequences.

Aid, whether in the form of grants or loans, has rather clear-cut fiscal implications and represents claims on the tax-generated revenues of donor countries. As such, aid for development is given a place in the rank-ordering of public-expenditure priorities in the advanced countries. Environmental control adds another spending priority that did not exist before, and as a result development aid may be pushed even further down the list — although environmental control does not necessarily mean increased government spending. Nor are government budgets necessarily closed-ended, while development assistance is generally being argued on its own merits and how it fits into a country's general foreign-policy objectives. The potential variance from this sources alone surely outweighs possible fiscal competition from environmental management.

Global Pollution and Growth Constraints

In the process of getting where they are, the industrial nations have seriously damaged their environment. Environment is the common property of all the world's citizens, and hence the unpolluted LDCs should be paid reparations by the developed countries in order to promote their own economic growth in a manner conducive to maintaining environmental quality. The basis of this argument is that LDCs have been tangibly damaged by developed-country industrialization. But to many in the advanced countries it is unacceptable — especially when some of the LDC-benefits in areas such as public health are considered which could not have been achieved without developed-country industrialization.

Equally diversionary are arguments that economic growth must be slowed or stopped. The lessons of the environment-growth tradeoff are clear. But what is equally clear is that this tradeoff changes — and can be made to change — over time. Environmental damage may well be a function of economic growth, but so is environmental management, although constraints may at times be needed to provide the *time* for the growth-environment tradeoff to shift. If the militant antigrowth line of reasoning is politically irrelevant in the advanced countries, it has faced an even worse reception in the developing world. Suggestions that growth should be throttled for the sake of environment do not help matters, and probably hinder the LDCs in thinking constructively about environmental management within the framework of what is possible.

To the extent that resources are increasingly devoted to environmental control, economic growth — as measured in the production of non-environmental goods and services — will slow automatically. This retarding-effect will be felt more severely in countries with low environmental

assimilative capacities and/or high levels of desired environmental quality, and less severely in countries where the opposite conditions prevail. It so happens that most developed countries fall into the first category, and most developing countries fall into the second. Hence the growth effects of environmental management may tend to serve as an equalizer, helping to redress the imbalance in real income levels between developed and developing economies.

A final dimension, one that will affect developing and developed nations alike, is transboundary pollution — the impact of pollutive activity undertaken in one nation on one or more others. Since there exists no supranational agency with appropriate enforcement powers, it is extremely difficult to attack transboundary pollution. Nonetheless, efforts are being made to achieve progress in this area, and the LDCs have a decided interest in the outcome. They represent "owners" of global common-property resources and "consumers" of environmental quality, and hence have a stake in what others do to despoil those resources. Second, they can expect a certain degree of international

pressure where they are alleged to originate transboundary pollution, particularly in altering the ecology of rivers and seas. Third, wildlife is considered a common-property resource, and all nations have an interest in saving endangered species — predominantly situated in developing countries — from extinction. It will indeed be difficult to apply sensible environmental criteria at the inter-governmental level, and to enforce them effectively.

Conclusion

To summarize, the problem of environment is here to stay, and the resources devoted to its rational management will be substantial. As a result, significant shifts in short-term and long-term patterns of commercial and financial flows will materialize, as well as possible policy reactions, that will inevitably affect the economic interests of developing countries. In some respects the environment-related repercussions will tend to benefit those interests. In other respects, it will tend to harm them. In either case, the link between development, environment, and international economic relations needs to be clearly understood.

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