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TO: All Members of the World Commission on Environment  
and Development.

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DATE: 20th November 1986

RE: SEVENTH MEETING OF THE COMMISSION

The present draft of Chapter 3 "The Role of the International Economy" is an edited and revised version of the corresponding chapter discussed at Harare. The suggestions made at Harare have been incorporated.

The present draft incorporates some editorial changes, new titles for the Chapter and the subsections and a tentative selection of quotations from the public hearings with an indication of roughly where they would appear in the final text.

**ACTION REQUIRED: For Discussion and Approval**

## CHAPTER 3

### THE ROLE OF THE INTERNATIONAL ECONOMY

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## CHAPTER 3

### THE ROLE OF THE INTERNATIONAL ECONOMY

Quinquireme of Niniveh from distant Ophir  
Rowing home to haven in sunny Pal  
With a cargo of ivory,  
And apes and peacocks,  
Sandalwood, cedarwood, and sweet white wine.  
John Masefield, Cargoes

1. Over the ages people have traditionally reached beyond their own borders in quest of essential, valued, or simply exotic materials. Today, with surer communications, easier travel, and larger trade and capital movements, the entire process has grown in scale and quickened in pace - a development that has far-reaching ecological implications.

#### I. THE INTERNATIONAL ECONOMY, THE ENVIRONMENT, AND DEVELOPMENT

2. For the process of international economic integration to be generally beneficial, two particular conditions must be satisfied. One is the long-term sustainability of the various ecosystems on which the global economy depends. Another is the agreement of the economic partners that the basis of exchange is equitable. For many developing countries, neither condition is met. Relationships that are thus essentially unequal and sustained by dominance of one kind or another are not truly interdependent. When speaking of

We know that the world lives through an international finance crisis, which increases the misery and the poverty in the Third World and we sacrifice even more our environment, though we know that this situation can be reversed, if we can use correctly new technology and knowledge. But for this we have to find a new ethic that will include the relationship between man and nature above all.

Serge Dalietaç  
Association for the  
Defence of Nature  
WCED Public Hearing  
Sao Paulo, 28-29 Oct 1985

"interdependence", it is important to remember this qualification.

3. Today's economic and ecological interdependence has grown in a context of large inequalities in levels of development and economic strength of nations. A general and widespread improvement in living standards has taken place only in the developed and a few developing countries; most people live in countries where poverty, rural deprivation, and urban squalor are widespread. This imbalance is compounded by an asymmetry in international economic relations, with developing nations being influenced by, but not being able to influence, the international economic environment.

4. International economic relationships pose a particular problem for environmental management in poor countries since exports of natural resources remain a large factor in their economies, especially for the least developed. Agriculture, forestry, energy production, and mining generate at least half the gross national product in many developing countries and account for even larger share of livelihoods and employment. Most

of these countries face economic pressures, both international and domestic, of such intensity that the natural resource base is frequently not managed for sustained production. At present, the pressure on many of them to maintain onerous debt service by exporting ever higher volumes when commodity prices are depressed is accelerating environmental deterioration and resource depletion, relentlessly reducing their potential for long-term development.

5. An example is provided by the trade in tropical timber, which is one, though by no means the only factor underlying tropical deforestation. The pressure to earn foreign exchange is leading many developing countries to unsustainable rates of forest exploitation. Such deforestation results not just in the depletion of the resource that underpins world trade in timber, but also in the loss of forest-based livelihoods, in soil erosion and downstream flooding, and in the disappearance of species and genetic materials. Deforestation can also contribute to regional and global climate change, resulting in significant shifts of principal agricultural zones. Indeed, its effects ripple through an economy, touching sector after sector and adversely affecting the lives of millions of people.

6. International trade patterns also help explain the unsustainable development policies and practices that have steadily eroded the crop and rangeland base in arid and semi-arid regions of Asia and Africa. Moderate to severe desertification affects 60 per cent of the productive lands in these regions, and the phenomenon is accelerating.<sup>1/</sup> In many countries erosion has reduced agricultural potential by 50 per cent or more.<sup>2/</sup> Where international economic pressures lead to the cultivation of land in order to earn scarce foreign exchange, the problem is aggravated.

7. These examples drawn from trade in raw materials represent an obvious and direct way in which the working of the international economy has an impact on the environment. Others are less obvious but no less real. Poverty lies behind the destructive encroachment of peasant farmers and nomadic livestock herders on marginal land and adds to the squalid congestion of urban slums. And although the relief of poverty requires primarily the mobilization of domestic resources for development, an ability to mobilize savings from rich countries is also crucial: in the form of concessional aid to low-income developing countries, and in commercial flows (loans and foreign investment) to other developing countries.

8. Several trends in this movement of capital are worrying. Resource flows to developing countries have fallen in real terms; for some, the net flow has become negative - that is, there is actually an outflow.<sup>3/</sup> The expected increase of international capital flows to developing countries over the rest of the decade is only half that thought necessary to restore growth to levels where a reduction in poverty can occur.<sup>4/</sup> If flows of capital do not materialize, the prospect for any growth in living standards is poor. An inevitable consequence will be intensified pressures from poor people to ensure their own survival in the short run through means that destroy the environment. Long-term development thus becomes much harder, and in some cases impossible. Moreover the whole biosphere could eventually be undermined, adding adverse climatic change to existing development problems.

9. This is not to say that a mere increase in flows of capital to developing countries will inevitably contribute to development. Increased funding must occur in ways that are sensitive to the environmental impact. The essential lesson is that the reduction of poverty itself is a

pre-condition for environmentally sound development, and resource flows from rich to poor countries that are substantially improved - both qualitatively and quantitatively - are necessary for that to be achieved.

## II. DECLINE IN THE 1980s

10. In developing countries, the pressures of poverty and rising populations create, even in the best of circumstances, enormous difficulties for those trying to pursue environmentally sound policies. When international economic conditions are bad, the problem can become unmanageable. During the 1980s, for example, economic growth rates declined sharply or turned negative in many developing countries, particularly in Africa and Latin America. Over the five years 1981 to 1985 the economies of a majority of developing countries grew more slowly than their populations.<sup>5/</sup>

11. Deteriorating terms of trade, rising debt-service obligation, stagnating flows of concessional finance, and growing protectionism in the developed market economies led to severe external payment problems. Many developing countries also experienced a crisis of indebtedness resulting from the increased cost of external borrowing at a time when exports were depressed. Austerity programmes added to an already serious crisis, often arising from conditions laid down by the International Monetary Fund (IMF) as a prerequisite for extending credit to meet short-term balance-of-payments needs. In the process, many social objectives fell by the wayside, including those having to do with employment, health, education, environment, and human settlements.

12. The situation is thus radically different from that produced by the events of the 1960s and 1970s. Then it was rapid economic growth that was seen as an ecological threat; now it is the opposite: recession, austerity, and falling living standards. This crisis of the 1980s has aggravated pressures on the environment in several specific ways:

- \* Austerity measures and general recessionary conditions have also led to sharp declines in per capita incomes and increases in unemployment. This puts more pressures on the natural resource base as more people rely directly on it.
- \* Austerity programmes inevitably include government cutbacks in both staff and expenditure that fall disproportionately on fledgling, weak environmental and conservation agencies and programmes, undermining even the minimal efforts being made to bring ecological considerations into development planning and projects.
- \* Conservation always takes a back seat in times of economic stress. As economic conditions have worsened in developing countries, and as debt pressures have mounted, the tendency has been to ignore environmental planning and conservation in both industrial and rural development projects.

13. Beyond these general points, the critical situations in sub-Saharan Africa and the debt-strapped countries of Latin America demonstrate, in an extreme way, the negative influences that unreformed international economic arrangements are having on both development and the

environment. They highlight the problems that must now be overcome.

1. Sub-Saharan Africa

14. Africa south of the Sahara has been caught up in a series of downward spirals:

- \* poverty and hunger leading to environmental degradation, deteriorating agriculture, and hence more poverty and hunger;
- \* falling savings and a neglect of new investment in the wake of growing poverty;
- \* high infant mortality, poverty, and lack of education, which sustain people's reluctance to have smaller families and hence continue excessive population growth rates; and
- \* a flight from rural hunger to the cities, leading to greater attention to urban needs and less to those of the countryside, compounding the problems of inadequate food supplies.

15. The situation is not everywhere so bleak: Some success stories can be cited, and some far-reaching and courageous policy reforms in the last few years have begun to bear fruit. And there is much encouragement to be derived from South Asia, where a comparable state of crisis 20 years ago has given way to an upward spiral of rising food production, diminishing (but still vast) poverty, slowing population growth, rising savings and investment, and greater attention to the long-term questions of environmental management and appropriate technology.

16. Although the African crisis has several causes, a large role must be attributed to the workings of the international economy. To a much greater extent than for

low-income Asia, sub-Saharan Africa's economic well-being hinges on developments in the world economy. Within the last decade, many sub-Saharan countries have been hit by a combination of seriously adverse trends in commodity terms of trade and external shocks represented by higher oil prices and higher interest rates. In 1985, the terms of trade of sub-Saharan countries (excluding Nigeria) were 10 per cent below 1970 levels; in countries eligible for funds from the International Development Association (IDA), the average fall was well over 20 per cent, with even greater drops in some, including Ethiopia, Liberia, Sierra Leone, Zaire, and Zambia.<sup>6/</sup> Over the last decade the prices of major commodities such as copper, iron ore, sugar, ground-nuts, rubber, timber, and cotton have fallen significantly (in absolute terms) at a time when the prices of manufactured goods and, until 1986, oil were rising.<sup>7/</sup>

17. The problem has been compounded by the growing difficulty of attracting capital, especially concessional flows, from the developed world. The decline in commercial bank loans to the region - especially important in the case of Ivory Coast and Nigeria - and in officially guaranteed export credits, together with rising loan repayments and interest charges, has led to a situation where net financial transfers from loans and grants fell from an estimated \$8 billion a year in 1980-82 to a projected \$1 billion during 1985-87.<sup>8/</sup> The consequence has been a severe contraction in import capacity. In IDA-eligible countries the import volume per head in 1984 was only 62 per cent of that in 1970.<sup>9/</sup> Among the cutbacks have been imports of basic agricultural inputs - machinery, fertilizers, and pesticides - and of essential supplies to meet basic needs.

The seriousness of the African crisis cannot be overemphasized and in its entirety, it should really engage the whole world. This is the message that comes from the regional office of UNEP. The lives of 400 million people living in Africa today are imperilled. And many more people yet to be born will face a very bleak future unless effective solutions are found and found quickly.

It requires of course very little imagination to appreciate the fact that it is not only Africa that is in danger. In the long term the entire world economy could be threatened not only because of the indivisibility of human welfare but because of Africa's crucial position in the global economy as a source of a large number of vital raw materials.

Maxime Ferrari  
Director, UNEP Regional  
Office for Africa  
WCED Public Hearing  
Harare, 18 Sept 1986

18. Some countries have tried to resist import contraction through external borrowing on commercial terms, where such finance has been available. The result is that debt repayment is now a major element of the economic crisis in sub-Saharan Africa. For Africa as a whole, debt service rose from 13 per cent of export earnings in 1980 to 32 per cent in 1985.<sup>10/</sup> The burden is such that during the last five years, only 15 out of 44 African countries have been able to service their debt without incurring heavy arrears or rescheduling.<sup>11/</sup> The combination of adverse international and internal factors cut per capita gross domestic product (GDP) by 16 per cent in sub-Saharan Africa between 1980 and 1985.<sup>12/</sup>

19. The economic difficulties of sub-Saharan countries have had a devastating impact on social conditions. Declining per capita food production has contributed to growing undernourishment. The recent drought placed an estimated 35 million lives at risk in 1984/85 and, though the drought is now receding, some 19 million people still suffer the effects of famine, and millions more are struggling to re-establish livelihoods.<sup>13/</sup> Malnutrition

and hunger have weakened much of the population (especially the young and elderly), making them more susceptible to debilitating diseases and premature death and reducing their productivity. The crisis has led to reversals of progress in addressing such environmental problems as the lack of safe drinking water and sanitation.

20. The environmental problems that have arisen from poverty and vulnerability can only be tackled by attending to the causes rather than the symptoms. The vast misery brought on by the drought in Africa is now widely known, and the world community responded with a substantial emergency programme. But emergency food aid is only a short-term reaction, and special programmes to control the spread of the desert are, at best, a partial answer. The roots of the problem lie in national and international policies that have so far prevented African economies from realizing their full potential for economic expansion and, thus, for easing poverty and environmental pressures that poverty generates.

21. The resolution of the problem lies in large part with African decision makers, but as noted earlier the international community also has a heavy responsibility to improve concessional flows and trade arrangements and to stop reverse financial transfers. The World Bank estimates that even if the external economic position is favourable over the next five years, and even if African governments apply themselves fully to policy reforms, a gap of \$2.5 billion a year will remain between the finance or debt relief available on current donor policies and the pledges needed to prevent low-income Africa slipping further back in terms of living standards.<sup>14/</sup> And this sum does not begin to address major outlays required to restore the damaged environment.

22. Thus the international community needs to recognize that the African crisis - the most serious economic and ecological crisis on the planet - cannot even begin to be addressed satisfactorily without concessional resources on a far greater scale than currently envisioned. In addition, greatly increased external financing for development has to be accompanied by policy changes recognizing the necessity to avoid environmental degradation.

## 2. Latin American Debt

23. Although debt has been an important ingredient in the crisis of poverty and hunger in sub-Saharan Africa, it is in some of the middle-income countries - in Latin America especially - that the debt problem has been greatest in absolute terms and has had the greatest impact on the global economy and on the process of development, both in its economic and ecological aspects. Of the total world debt of around \$950 billion in 1985, roughly 30 per cent is accounted for by four Latin American countries - Argentina, Brazil, Mexico, and Venezuela - and these constitute roughly two-thirds of the gross exposure of banks to developing countries.<sup>15/</sup>

24. In the 1970s, economic growth in Latin America was facilitated by external borrowing, which doubled, in relation to exports, over the decade from 1973/74 to 1983/84.<sup>16/</sup> Commercial banks were happy to lend to countries rich in natural resources and with a record of growth. Then a drastic change in international conditions made the debt unsustainable. A global recession restricted export markets and tight monetary policy forced up global interest rates to levels far exceeding any in living memory. Bankers, alarmed by deteriorating

creditworthiness, closed their lending windows. A flight of indigenous capital compounded the problem.

25. The ensuing crisis forced governments into austerity policies to cut back imports. Indeed, such austerity was a condition for IMF emergency credit. As a result, Latin American imports fell by 40 per cent in real terms over three years.<sup>17/</sup> The consequent economic contraction reduced per capita GDP by an average of 8 per cent in the eight main Latin American countries (between the peak in the early 1980s and 1986) and by 13 per cent in Mexico and 17 per cent in Argentina.<sup>18/</sup> Much of the burden was carried by the poor in reduced real wages and rising unemployment. In every major Latin American country, as a consequence, growing poverty and deteriorating environmental conditions are clearly visible.

26. But this was not enough. The lack of new credit and the continuing burden of debt service forced countries in the region to service their debts by running trade surpluses; the net transfers from seven major Latin American countries to creditors rose to almost \$39 billion in 1984, and in that year 35 per cent of export earnings went to service interest on overseas debt.<sup>19/</sup> Economic growth is being restored in some Latin American countries through rapid export growth, the proceeds of which go abroad to service debt. A substantial part of the exports are raw materials, food, and resource-based manufactures.

27. In effect, Latin American natural resources are being used not for development or to raise living standards, but to meet the financial requirements of developed country creditors. The sustainability of this approach to the debt problem must be questioned from a variety of standpoints: economic, political, and environmental. To require relatively poor countries to simultaneously curb their living standards, accept growing

The impact of the present crisis on Latin America has been compared, in its depth and extension, with the Great Depression of 1929-32. The crisis has made it clear that, although the need to protect the environment against the traditional problems of deterioration and depletion continues to be a valid objective, policymakers responsible for environmental management ought to avoid negative attitudes in the face of the need for economic reactivation and growth.

The expansion, conservation, maintenance, and protection of the environment can make an essential contribution to the improvement of the standard of living, to employment, and to productivity.

Oswaldo Sunkel  
Coordinator, Joint  
ECLA/UNEP Development  
and Environment Unit  
WCED Public Hearing  
Sao Paulo, 28-29 Oct 1985

poverty, and export growing amounts of scarce resources for the purpose of maintaining external creditworthiness reflects a set of priorities few democratically elected governments are likely to long tolerate.

28. A continuation of the present situation is contrary to the interests of all, including the lenders. A variety of measures are under discussion, including additional new lending, forgiveness of part of the debt, and conversion to softer terms, but a necessary sense of urgency is lacking. Such measures would need to incorporate the legitimate interests of creditors and debtors and to represent a fairer sharing than at present of the burden of resolving the debt crisis. Many creditor banks and official agencies are realizing that debt service will simply not be sustainable for many debtors unless greater efforts are made to ease the burden. Various debt relief measures need to be promptly devised and implemented, bearing in mind the dangers facing countries with a precarious environmental and resource situation.

### III. ENABLING SUSTAINABLE DEVELOPMENT

29. For many years developing countries have sought fundamental changes in international economic arrangements, particularly in the areas of financial flows, trade, transnational investment, and technology transfer. Many of their arguments have enduring validity but they need to be recast to reflect the importance of the ecological dimension, frequently overlooked in the past.

30. It follows from the arguments advanced earlier in this chapter that the central objective of these changes is to achieve a new era of growth in developing countries. In the short run, for most developing countries except the largest this hinges on more effective and coordinated economic management in major industrial countries - management designed to remove imbalances between them, to reduce real interest rates, to halt the slide to protectionism, and to raise growth all round. In the longer term, structural shifts are also required to permit consumption and production patterns in both developed and developing countries to be more consistent with sustainability requirements.

31. International cooperation to achieve the former is embryonic and for the latter, so far negligible. In practice, and in the absence of global management of the economy or the environment, attention must be focused on how policies can be improved in more specific areas where the scope for cooperation is already defined: aid, trade, transnational corporations, and technology transfer.

1. Enhancing the Flow of Resources  
to Developing Countries

32. Two interrelated concerns lie at the heart of the recommendations here on aid: one concerns the quantity, the other the "quality" of resource flows to developing countries. The question of larger quantities of resources cannot be evaded. The idea that developing countries would do better to live within their limited means is a cruel illusion. Global poverty cannot be reduced by the governments of mostly poor countries alone. At the same time, however, a larger quantity of financial flows, while necessary, is not sufficient. Projects and programmes must be designed in the light of long-term sustainability considerations, including those related to the physical environment. The quantity and quality are related in that the larger the flows, the greater the incentive for recipient countries to make what can be politically difficult domestic policy changes.

33. As regards the quantity of resources, as indicated earlier the stringency of external finance has contributed to an unacceptable decline in living standards in two important groups of developing countries. The major debtors need large sums - an extra \$20-25 billion a year by 1990, mainly on commercial terms - to permit higher growth and reverse negative net transfers, in conjunction with far-reaching economic reforms. This would require substantial bank lending supported by the multilateral development banks.

34. For low-income Africa, as mentioned earlier, the World Bank estimates an annual gap of \$2.5 billion in concessional finance over the next five years.<sup>20/</sup> This finance could come through a combination of a greatly expanded IDA, bilateral official development assistance

The industrialized world's demands for raw materials, higher productivity, and material goods have imposed serious environmental impacts and high economic costs not only in our own countries, but also on the developing world. The existing international patterns of financial, economic trade and investment policies further add to the problems.

We must all be willing to examine our relations in international trade, investments, development assistance, industry, and agriculture in light of the consequences these may have for underdevelopment and environmental destruction in the Third World. We must even be willing to go further and implement the means necessary to alleviate these symptoms.

Rakel Surlien  
Former Minister of  
Environment, Government  
of Norway  
WCED Opening Ceremony  
Oslo, 24 June 1985

(ODA), and wider debt relief. Such a programme, it must be stressed, is absolutely minimal - it merely restores imports to 1980-82 levels - and is based on optimistic assumptions about the world economy. There are growing fears that in the absence of such flows, current faltering steps to policy reform will atrophy.

35. While the attention of donors is naturally concentrated on the countries in greatest distress, this must not be at the expense of other low-income countries that have made impressive progress in recent years but face immense problems, not least in countering the environmental degradation brought about by continuing massive poverty. Low-income Asia needs continuing large concessional flows, and, in general, the main recipients in this region have a good record of aid management. In the absence of such assistance it will be much more difficult to sustain the growth that, together with poverty-focused programmes, could alleviate the position of hundreds of millions of the "absolute poor".

36. To meet such needs requires a re-examination of existing policy by the main donors and lending institutions. ODA levels have stagnated in absolute terms and the majority of donor countries fall well short of internationally agreed targets. By contrast, the above programme implies a need for 3 per cent real growth in official lending, mainly concessional and channelled through multilateral institutions, in particular IDA. It is vitally important for development that there should be a substantial increase in resources available to the World Bank and IDA, and a parallel recognition by these institutions that they are not merely concerned with the narrowly economic aspects of projects and programmes but their wider development - including environmental - effects. Increased commercial bank lending is also necessary for major debtors.

#### 1.1 Linking Adjustment Policies

37. To date, "adjustment" has been a euphemism for cutbacks in living standards in the interest of financial stabilization. Implicit in the so-called Baker Plan is the growing recognition that future adjustment should be growth-oriented. Yet it also needs to be environmentally sensitive. Specifically, "conditionality" imposed by the multilateral development banks, other lenders, and the IMF should seek positively to enhance those institutions and programmes concerned with the management of the resource and environmental base. At the very least, these programmes should be exempt from the budget axe.

38. World Bank structural adjustment lending and other policy-oriented, non-project lending could be linked to policy changes that counter degradation of natural resources. Among the policy changes that could move developing countries towards more sustainable use of

natural resources and more sustainable fiscal balance are the elimination of price distortions and subsidies that encourage wasteful exploitation of forest, water, and energy resources.

### 1.2 Targeting Aid

39. A larger portion of total development assistance could go to meet investment needs related to enhancement of the environment and the productivity of the resource sectors, such as reforestation and fuelwood development, watershed protection, soil conservation, agroforestry, bioenergy, rehabilitation of existing irrigation projects, small-scale agriculture, and low-cost sanitation measures. Experience has shown that the most effective efforts of this type are small-scale projects with maximum grass-roots participation.<sup>21/</sup>

40. A major new plan to counter the negative forces of deforestation has recently been developed by the World Bank, the UN Development Programme, and the World Resources Institute.<sup>22/</sup> Such projects, provided on a concessional basis, are justifiable on grounds of ecological interdependence as well as humanitarianism: If ODA helps promote the conservation and better management of tropical forests, environmentally sound agricultural growth, resource-efficient energy development, and similar policies in developing countries, it will reap global benefits.

41. A reorientation towards projects of this kind would, however, require donors to re-examine the content of their aid programmes, particularly with regard to commodity assistance, which has often served to reduce rather than enhance the possibilities for sustainable development. The programmes most directly related to the objectives of sustainable development may well involve a high local-cost

content, a different ratio of recurrent to capital costs, and a greater use of local technology and expertise.

### 1.3 Environmental Assessment

42. All new investment must be designed to enhance the positive feedbacks and reduce the negative ones from the ecosystems on whose sustainability development depends. Environmental assessment methodologies used at present in the developed countries are not sufficient for this purpose. They need to be broadened to embrace "sustainability assessment". The intent would be to determine whether and how an investment can be made both economically and ecologically sustainable, taking into account the positive and negative relationships between the two. Such assessments need to be extended to all ODA-supported investments that have a major impact on neighbouring countries and on the global commons.

43. These assessments have to be undertaken at the earliest possible stage to avoid long and costly delays, which usually end up frustrating unnecessarily the purpose of the assessment. They therefore should be required of the economic agencies initiating the investment, not of some environment agency or group after the investment has been made.

44. To meet this requirement, the multilateral development banks, development assistance groups, and export credit agencies should introduce or sharply improve their capacity to assess their policies and projects in cooperation with recipient countries. At the same time, they should start new programmes aimed at significantly upgrading the capacity of recipient countries to manage their environment and resources.

There clearly is a need for a major revision of economic theory, at least as it applies to sustainable development. Evidence of ecological and economic collapse in Africa and elsewhere underscores the urgency and the need to re-evaluate the development model that multilateral development banks promote. This model will be flawed until the natural resource base and services of the ecosystem are included in the calculations of costs and benefits--to produce an "environmental rate of return."

Michael Sweatman  
International Wilderness  
Leadership Foundation  
WCED Public Hearing  
Ottawa, 26-27 May 1986

#### 1.4 Automaticity and Conditional Financial Flows

45. Decision makers in developing countries might argue that new forms of conditionality, for adjustment and more careful environmental assessment, create yet more external leverage over resource flows on top of the already considerable amount of political, commercial, and policy constraints on funds. Parallel changes in another direction are therefore essential. Official development assistance necessarily rests on voluntary contributions made by donors. Even when donor governments are strongly committed to providing more assistance, the exigencies of domestic budget management and other pressures can lead to substantial shortfalls relative to targets and, more important, to genuine requirements of recipient countries. In this situation a measure of automatic financing of international action on environmental and developmental matters would help greatly. (See Chapter 12.)

## 2. Linking Trade, Environment, and Development

46. The role of foreign trade in relation to national income has increased for most countries in the post-war period (see Table 3-1). Certain major changes in the pattern of world trade have also taken place. First, the trade in manufactured goods grew at a faster rate than that in primary products (other than fuel) and several developing countries emerged as major exporters of manufactures.<sup>23/</sup> Second, the developed market economies were increasingly dependent on fuel imports from developing countries, which accounted for 43 per cent of consumption in 1980-81 compared with only 16 per cent in 1959-60 and even lower in pre-war years.<sup>24/</sup>

TABLE 3-1  
(will be updated)

### The Growing Importance of Trade, 1950-82

<u>Economic Group</u>	<u>1950</u>	<u>1982</u>
	(exports as a percent of GDP or NMP)	
Developed Market Economies	7.7	15.3
Developing Market Economies	15.5	23.8
Socialist Countries of Eastern Europe	3.4*	16.6*
Socialist Countries of Asia	2.9*	9.7*

\*percentages to net material product (NMP).

Source: Based on UNCTAD, Handbook of International Trade and Development Statistics, 1985 Supplement (New York: United Nations, 1985).

47. The dependence of the developed market economies on other mineral imports from the developing countries also grew, and the share of these imports in consumption increased from 19 per cent in 1959-60 to 30 per cent in 1980-81.<sup>25/</sup> Non-renewable resources like fuels and minerals are now far more important than tropical products and other agricultural materials in the flow of primary products from developing to developed countries. In fact, the flow of food grains is in the opposite direction.

48. The link between trade and environmentally sustainable development is most obvious in the case of primary commodities. Here the major issues relate to the question of how developing countries can best use commodities as a source of foreign exchange earnings so as to reconcile economic with ecological concerns. But there are other important, if less obvious, links; for example, if protectionism acts as a barrier to manufactured exports, the scope for diversifying from traditional commodities is reduced. Or, to take another example, as developing countries trade in toxic and potentially polluting materials, they increasingly face environmental costs.

## 2.1 International Commodity Trade

49. Although a growing number of developing countries have diversified into manufactured exports, primary commodities other than petroleum continue to account for more than one-third of the export earnings of the group as a whole. The dependence on such exports is particularly high in Latin America (52 per cent) and Africa (62 per cent).<sup>26/</sup> The countries recognized as least developed for the UN Special Programme depend on primary commodities for 73 per cent of their export earnings and, what is as important, this dependence has not decreased.<sup>27/</sup>

Despite the best intentions, foreign aid, and favourable trade arrangements, the industrialized world has done an appalling job of assisting developing countries and nations to solve their fundamental problems. It is not good enough for us to lecture or to moralize.

Hon. Tom MacMillan  
Minister of Environment,  
Government of Canada  
WCED Opening Ceremony  
Ottawa, 26 May 1986

50. Commodity prices fell during the early 1980s, not only in real but also in nominal terms. By early 1985, the UNCTAD commodity price index was 30 per cent below the 1980 average. According to this agency's estimates, the loss in export earnings of developing countries from the fall in non-oil primary commodities amounted to as much as \$50 billion in 1985. The loss was particularly heavy for African countries, where it amounted to nearly three-quarters of the value of the continent's commodity exports in 1980.<sup>28/</sup>

51. What is particularly significant about the recent weakness of commodity prices is that it may be structural rather than cyclical; commodity prices have not recovered from the depth of the world recession despite increased economic growth in consuming countries. This structural factor may be partly technological (an acceleration in raw material substitution); partly monetary, caused by the high cost of holding stocks; and partly due to the big increase in supply by countries desperate to earn foreign exchange.

52. These countries are turning the terms of trade against themselves, earning less for greater quantities exported. Promotion of increased volumes of commodity exports has led in some cases to unsustainable pressures

on the natural resource base. In a number of instances, if current practices continue, by the turn of the century - or sooner - the development potential of natural resources in many areas will be greatly reduced.

53. Unstable revenue from commodity exports and an underlying tendency towards a worsening in the terms of trade have both contributed to this situation. Moreover, the prices of commodity exports have not reflected the environmental costs of sustainable uses of these resources. In a sense, developing countries subsidize importers of their products, incurring important short-term and especially long-term costs to themselves and their environment.

54. In recent years, developing countries have sought to increase their gains from commodity exports by undertaking the first-stage processing of raw materials domestically. This first stage often involves subsidized energy inputs, other concessions, and substantial pollution costs. But developing countries often find that they do not gain much from this capital- and energy-intensive first-stage processing, as the price spread shifts in favour of downstream products that continue to be manufactured mainly in developed countries. The tariff policies of the developed market economies often reinforce this tendency.

55. The principal international response to commodity problems has been in the negotiation and implementation of international commodity agreements, which aim to stabilize and maximize developing countries' earnings from primary product exports. In practice, progress has been very limited. Moreover, environmental sustainability considerations have not played any part in commodity agreements, with the notable exception of the recently concluded International Tropical Timber Agreement.

56. To be sure, commodity agreements have not been easy to negotiate, and regulation of commodity trade has been a notoriously controversial and difficult issue in international trade. Current arrangements could be improved in two crucial respects:

- \* Larger sums for compensatory financing would be an incentive to producers to take a long-term view, and not to over-produce commodities where production is close to the limit of environmental sustainability during periods of market glut.
- \* Where producers need to diversify from traditional, single-crop production patterns, more assistance could be given from diversification programmes. And the second window of the Common Fund could be used for promoting resource regeneration and conservation.<sup>29/</sup>

57. Individual governments can improve the developmental use of renewable resources like forests and fisheries to ensure that the rate of exploitation stays within the limits of sustainable yields and that finances are available for resource regeneration and for dealing with all linked environmental effects. Regarding non-renewable resources, governments should ensure that the leaseholder undertakes an adequate degree of exploration aimed at adding to proven reserves at least the amount extracted, that the production-to-proven-reserve ratio is kept below a pre-specified limit, that the funds generated by royalties are used in a way that compensates for the declining income when the resource deposit is exhausted, and that the leaseholder is responsible for land restoration and other environmental control measures in the area affected by mining activity.

58. To facilitate this, relevant international organizations such as various UN agencies, the World Bank, and the Commonwealth Secretariat should develop model contracts and guidelines incorporating these principles. Stricter control over resource development would frequently need to be integrated with assistance programmes for diversification.

## 2.2 International Trade in Manufactured Goods

59. For developing countries, an issue of growing importance is the increase in protectionism in industrial countries, which stifles export growth and prevents a diversification from traditional exports of raw materials. The success of some Far Eastern developing countries in achieving rapid growth of labour-intensive manufactured exports has demonstrated the potential of such trade for development. However, other countries - especially low-income Asian and Latin American nations - seeking to follow the same route have found themselves severely handicapped by growing trade barriers, especially in textiles and clothing.

60. Although most developing countries are likely to find their comparative advantage in trade increasingly in the form of labour-intensive manufacturing processes - to the extent that protectionism does not prevent them - some are developing industries based on natural-resource processing involving raw material extraction or processing with high environmental costs. Examples include pulp and paper, petrochemicals, and alumina. At present, developed and developing countries differ in their ability to internalize the damage costs of environmental pollution and to reflect in product prices the cost of the related control measures. In the case of export products, these

costs are paid by consumers in importing nations, including those in the Third World.

61. Developing countries have by and large not been able to internalize the costs of environmental damage. These costs, therefore, continue to be borne entirely within their borders largely in the form of damage costs to human health, property, and ecosystems. The price at which their output is supplied to the major importing nations is currently significantly below that which would prevail if they were able to internalize all the costs associated with its production.

62. According to a study conducted for the Commission, in 1980 the industries of developing countries exporting to OECD countries would have incurred direct pollution control costs of \$5.5 billion if they had been required to meet the environmental standards then prevailing in the United States.<sup>30/</sup> These costs would have been incurred hypothetically by the industry producing the final product. If the pollution-control expenditures associated with the inputs that went into the final product were also included, the costs would have mounted to \$14.2 billion. The evidence also suggests that OECD imports from developing countries involve products that, on average, entail higher environmental and resource damage costs than do overall OECD imports.<sup>31/</sup>

63. These hypothetical pollution-control costs probably understate significantly the real economic costs of environmental and resource damage in the exporting countries. Contrary to popular view, the available evidence suggests that the assimilative capacity for most pollutants in the major industrial centres of developing countries has been greatly exceeded. In many such cities, in fact, environmental conditions are much worse than those that prevailed in the cities of the industrialized

Environmentally sustainable development requires a type of investment, an ability to hold back, to not push ecosystems beyond the limits of their resilience. When these limits are surpassed, either out of desperation or greed, so begins the relentless cycle of economic decline and environmental degradation.

It is not a phenomenon restricted to developing countries. For example, except in scale and degree of human suffering, there are remarkable parallels in the roles of low commodity prices, "tied aid", high "interest rates", and centralized agribusiness in destroying the economic viability and productive land base of family farm operations from Alberta to Africa, from Prince Edward Island to the Caribbean. There are similar parallels in ranching, logging, and fishing.

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world in the 1960s and 1970s. In Mexico City, for example, the public health costs of air and water pollution alone are staggering, not to mention damage to public and private property through corrosion. Furthermore, the hypothetical costs relate only to environmental pollution and not to the economic damage costs associated with resource extraction and depletion. The transfers hidden there have not been estimated but could be substantial, since OECD imports from the Third World are biased towards resource-intensive commodities.

64. One implication of such distortions is that developing countries are able to attract more investment to export these polluting goods than they would under a more rigorous system of global environmental control. This point has been argued in a positive sense - that developing countries have a comparative advantage in "pollution-intensive" goods and should exploit it. This is both short-sighted and self-defeating; it is in

developing countries' own interests that more of the environmental and resource costs associated with production be internalized. The initiation of such changes must come from the developing countries themselves, through national action and effective coordination of their policies at the regional and global level.

65. In this context, developing countries should consider working through appropriate organizations - particularly at a regional level - to review the various means for internalizing more of the environmental and resource damage costs of production and for reflecting them in prices. Internalization of such costs could also reduce the competitive position of a developing country in some markets, and some will thus regard any pressure in this direction as a form of disguised protectionism from established producers. Hence initiatives in this direction must come from developing countries themselves.

### 2.3 The Mandates of Multilateral Trade Forums

66. Although a number of UNCTAD research projects over the years have considered the links between trade and environment, these issues have not been taken up systematically at the intergovernmental level. Clearly the mandates of these organizations should include sustainable development. The environmental implications of trading patterns and the need for more effective instruments to integrate environment and development concerns into international trading arrangements should form a major part of their ongoing activities.

67. The reorientation of international organizations dealing with trade will be easier to secure if each nation designates a lead agency with a broad mandate to assess the effects of international trade on sustaining the

environmental and resource base of economic growth. This agency could be responsible for raising environment and resource sustainability issues in the work of UNCTAD, GATT, OECD, the Council for Mutual Economic Assistance, and other relevant international and regional organizations.

### 3. Ensuring Responsibility in Transnational Investment

68. The post-war period has seen a growing internationalization of investment activity in the market economies (see Box 3-1). According to data compiled by the UN Centre for Transnational Corporations, foreign affiliates accounted for 40 per cent of sales, 33 per cent of net assets, and 56 per cent of net earnings for 380 of the largest industrial corporations in the market economies.<sup>32/</sup> A substantial proportion of transnational investment is within developed market economies and reflects the growing integration of their economies.

69. Yet the role of transnational corporations (TNCs) in developing countries has also been increasing, albeit less rapidly than other forms of commercial finance. Between 1965 and 1983, developing countries received \$106 billion of direct foreign investment, more than half of this being in Latin America.<sup>33/</sup> Transnationals play an important role as owners, as partners in joint ventures, and as suppliers of technology in the mining and manufacturing sectors in many developing countries, especially in certain environmentally sensitive areas like petroleum, chemicals, metals, paper, and automobiles. They also dominate world trade in a large number of primary commodities.

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BOX 3-1

The Role of Transnational Corporations

- \* In 1983 chemicals accounted for roughly one-fourth of the stock of foreign direct investment in manufacturing in developing countries by companies from four leading countries - Japan (23 per cent), the United States (23 per cent), the United Kingdom (27 per cent), and West Germany (14 per cent).
- \* Agriculture, mining, and other extractive industries accounted for 38 per cent of the stock of U.S. investment in developing countries in 1983, 29 per cent of the stock of Japanese investment in 1983, 21 per cent of the total West German investment in 1981-83, and 9 per cent of the stock of U.K. investment in 1978.
- \* Eighty to ninety per cent of the trade in tea, coffee, cocoa, cotton, forest products, tobacco, jute, copper, iron ore, and bauxite is controlled by the three to six largest transnationals.

Source:

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70. The limited evidence available suggests that the dominant considerations influencing the international deployment of TNCs are markets, staff, and resources. However, the global structures and strategies of transnationals place them in a favourable position to benefit from jurisdictional ambiguities and from the diversity of environmental policies, responses, and institutions among countries, especially between developed and developing ones.

71. In recent years many developing countries have moved towards more positive perceptions of the role direct TNC investment can play in the development process. This has been somewhat conditioned by the critical external financing position that many countries are in and their awareness of the role that foreign investment might play in easing it. For their part, many corporations have recognized the need to share managerial skills and

technological know-how with host-country nationals and to pursue profit-seeking objectives within a framework of long-term sustainable development.

72. Nonetheless, mutual suspicions still exist, usually because of an asymmetry in bargaining power between large corporations and small, poor, developing countries. Often negotiations are rendered one-sided by a developing country's lack of information, technical unpreparedness, and political and institutional weakness. Suspicions and disagreements remain, particularly concerning the introduction of new technologies, the development of natural resources, and the use of the environment. If multinationals are to play a larger role in development, these conflicts and suspicions need to be reduced.

73. Strengthening the bargaining posture and response of developing countries vis à vis transnational corporations is therefore critical. Where these nations lack indigenous capacity to deal with large TNCs, regional and other international institutions should assist. They could help by elaborating model agreements with transnationals for different situations, such as lease agreements for the exploitation of a mineral resource. They could also field technical assistance and advisory teams when a country negotiates with a transnational.

74. The home countries of TNCs have made few effective responses to these issues. In view of the impact that the activities of transnationals can have on the environment and resources of other countries and on the global commons, the countries where these corporations are based need to assume an important degree of responsibility in this sphere, and policies in this regard need to be greatly strengthened. Hence, information on policies and standards applied to and followed by corporations when investing in their own home country, especially concerning hazardous technologies, should be provided to host

I think it is also of importance for the Commission to note the problem of negotiation of contracts on resource development. We have been trying for 10 years to include provisions on environment. We have been successful only to get from the investors a very broad description of what should be done in environmental protection. If you go into details you get problems with the lawyers and so on. That hampers then the investment.

For us, of course, it is a choice of whether to loosen the grip a little bit or if you maintain that, then of course, there will be no investment in the country. If an appeal could be made to the multinationals, mainly to understand that what has been done in timber should also be applied to other agreements like coffee, tin, and others, I think this would be a great help.

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countries. Moreover, the limited policies now in effect in some industrialized countries, under which major investments are subject to prior environmental assessment, need to be extended to investments made elsewhere and broadened to include sustainability criteria. The information and recommendations thus arrived at should be shared with the host countries, which of course would retain the final responsibility.

75. International measures regarding transnationals have been generally lacking and extremely difficult to negotiate. Yet they are of critical importance in piecing together a viable global strategy and regime on transnational corporations, the environment, and development. The codes of conduct for transnational corporations formulated by the OECD and under discussion in the UN should deal explicitly with environmental matters and the objective of sustainable development.<sup>34/</sup> In parallel, more detailed and specific instruments are needed for other problems. In particular, when introducing a new technology, plant, product, or

process, or when setting up a joint venture in a developing country, the parties involved must also recognize and accept certain special responsibilities. (See Chapter 8.)

#### 4. Broadening the Technological Base

76. The institutional and policy changes required to promote resource productivity are, to a large extent, in the realm of domestic economic policy. But the international economy impinges on the possibilities for productivity improvement in several ways. The critical area of interaction is in the transfer of technology from one country to another. The environmental aspect of technology transfer as it operates through the activities of transnational corporations and development assistance agencies has been dealt with earlier. Beyond that, several aspects of technology transfer are important, though less directly linked to the flows of finance.

##### 4.1 The Diffusion of Environmentally Sound Technologies

77. As discussed in Chapter 2, the promotion of sustainable development will require an organized effort to develop and diffuse new technologies, such as for agricultural production, renewable energy systems, and pollution control. Much of this will be based on the international exchange of technology, which takes place through trade in improved types of equipment, technology-transfer agreements, provision of experts, research collaboration, and so on. Hence the procedures and policies that influence these exchanges must stimulate innovation and ensure ready and widespread access to environmentally sound technologies.

78. The real challenge is to ensure that the new technologies reach all those who need to use them. The crucial difficulties here are the lack of information and, in certain cases, the inability to pay for commercially developed technologies. The measures required at the national level to deal with these problems are discussed in other chapters. However, both these problems also arise in the international diffusion of technology. Hence international arrangements are necessary for the exchange of information on the availability of environmentally sound technologies. As for the problem of access to commercially developed technologies, the principal policy issue is the impact of patents and proprietary rights.

79. In 1980, the developed market economies accounted for 65 per cent of the world total of patents granted, the socialist countries of Eastern Europe held 29 per cent, and the developing countries only 6 per cent. Moreover, the bulk of the patents granted in developing countries were to non-residents. Proprietary rights are a key element in the commercial development of technology. But their application in certain areas may hamper the diffusion of environmentally sound technologies and lead to a measure of inequity.

80. In the past, publicly funded institutions have played a major role in the development and diffusion of the technologies required by small producers, particularly in the field of agriculture. In many cases, the applicability of patents and proprietary rights has been limited. The situation is not very different now and the R&D effort required to develop and disseminate new technologies for small farmers and small producers will require extensive public funding, combined, where possible, with commercial efforts. In effect, some of the new technologies should be treated as public goods with

Transfer of technology should be also looked upon as being a social process. Actually, ideally, it is the people themselves who have to make the selection, not us. So, to sum it up I think, talking about technology it is very important to, perhaps, understand that we are dealing here with a process of change. Technologies cannot be directly transferred except by relating this to a social process. So, actually technology is not an independent variable in this case, but it is very much dependant of social change.

Mr. Hassan  
Speaker from the floor  
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more or less free access. This should be recognized in the international transfer of technology. In critical areas such as seed varieties, international cooperation is vital; the approach should be to negotiate comprehensive agreements specifying the division of responsibilities and the sharing of gains.

#### 4.2 Building Up Technological Capabilities in Developing Countries

81. In terms of the cost of technology imports, developing countries paid about \$2 billion by way of royalties and fees, and developed countries showed a corresponding surplus of their technology trade account.<sup>35/</sup> The gap in scientific and technological capabilities is particularly pronounced in a number of areas of direct relevance to the objectives of sustainable development: Bio-technology and genetic engineering are outstanding examples, as are new energy sources, new materials and substitutes, and low-waste and non-polluting technologies.

82. Developing countries are making an effort to build up their technological capabilities, and in many areas the gap is narrowing. These efforts are supported by international assistance through the UN system and through the activities of other multilateral and bilateral agencies. But international assistance provided by these agencies for scientific and technical education, scientific research, and technical extension must be stepped up significantly in environmentally critical sectors such as agriculture, forestry and animal husbandry, water resource development, development of renewable energy sources, and pollution control.

#### 4.3 Cooperative Ventures for Technology Development

83. At present the greater part of the global R&D effort is devoted towards military purposes or the commercial objectives of large corporations. Activities in developed countries are largely oriented towards their own needs. Hence a major effort needs to be mounted by developing countries, individually and jointly, to come up with various technological solutions appropriate to their needs and related to the potential and constraints of their own environment, as well as to filter and adapt technologies transferred from developed countries.

84. One possibility for economizing on effort is the establishment of cooperative, mission-oriented research projects by groups of countries. There are precedents for such efforts. For instance, the activities of the International Agricultural Research Centres have some of the characteristics of such an approach.<sup>36/</sup>

Mission-oriented cooperative research ventures could be developed in critical areas such as dryland agriculture, tropical forestry, pollution control in small enterprises, and low-cost housing. Specific responsibilities would be

assigned to institutions and corporations in the participating countries, and the agreement could provide for the equitable sharing and widespread diffusion of the technologies developed in such ventures. The funding could come from the participating countries with support from the UN system and multilateral and bilateral development assistant agencies.

#### IV. A SUSTAINABLE WORLD ECONOMY

85. If large parts of the developing world are to avert catastrophic economic, social, and environmental conditions, it is essential that growth is restored, as described in Chapter 2. In practical terms, this means more rapid growth, freer market access for the products of developing countries, lower interest rates, greater technology transfer, and significantly larger capital flows, both concessional and commercial.

86. But many people fear that a world economy that is growing more rapidly will entail environmental pressures that, although different in character from those presented by growing poverty, are no more sustainable. In particular, the pressure of increased demand for energy and other non-renewable raw materials could significantly raise their prices relative to other goods. And while this might improve the terms of trade of some developing-country exporters, it could hurt others; alternatively, demand could be met but at the cost of an ecologically unacceptable depletion of scarce resources.

87. Our overall assessment is that if the international economy can be reformed in a way that permits the speeding up of world growth - as indeed it must for the sake of development - the environmental constraints can be

We in Asia, I feel, want to have an equilibrium between the spiritual and material life. I noticed that you have tried to separate religion from the technological side of life. Is that not exactly the mistake in the West in developing technology, without ethics, without religion? If that is the case, and we have the chance to develop a new direction, should we not advise the group on technology to pursue a different kind of technology which has as its base not only the rationality. but also the spiritual aspect? Is this a dream or is this something we cannot avoid?

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handled. Moreover, some favourable trends have been noted in the pattern of consumption and production in developed countries, which collectively still represent by far the major source of demand for the world's non-renewable resources. These developments have led to a measurable "dematerialization" of the economy in the sense that the energy, resource, and environmental content of growth has fallen in many industrialized countries.

88. If these trends can be sustained, it will be easier for developing countries to grow through diversification of their own economies. Some have already experienced a rapid development of certain basic and traditional industries. With the expansion of global linkages in the supply of parts and materials, some countries have also registered substantial growth in high technology industries. As this diversification proceeds, requirements for materials and energy will go up. With the availability of more resource-efficient technologies, however, and higher levels of management skills, the increases could be significantly moderated. A continuation of such economic growth and diversification, along with the development of the technological and managerial skills required to minimize environmental damage, will help developing countries mitigate the

strains on the rural environment, raise productivity and consumption standards, and reduce dependence on one or two primary products for their export earnings.

89. Future patterns of agricultural and forestry development, energy use, industrialization, and human settlements can be made far less material-intensive (see Chapters 5, 7, 8, and 9), and hence both more economically and environmentally efficient. Under these conditions, a new era of growth in the world economy can widen the options available to developing countries, making it easier for them to shift to sustainable development paths.

90. The agenda for international reform sketched out here tries to deal simultaneously with economic and ecological aspects in a way that provides developing countries with a growth stimulus from the world economy while giving greater weight to environmental concerns. Of course, such an agenda requires a high level of commitment by all countries to the satisfactory working of multilateral institutions, such as the multilateral development banks; to the making and observance of international rules in fields such as trade and investment; and to constructive dialogue on the many issues where national interests do not immediately coincide but require negotiation to be reconciled.

91. The Commission regrets, therefore, but cannot ignore the recent decline in multilateral cooperation in general and a negative attitude to dialogue on development in particular. At first sight, the introduction of an environmental dimension adds further difficulties and complications to the intricate workings of the international economic system. But it also injects an additional element of mutual self-interest, since a failure to address the interaction between resource

depletion and rising poverty will spill over and become a global ecological problem.

92. A return to multilateralism is essential to human progress. The Commission feels confident that the mutual interests involved in environment and development issues can help generate the momentum for that return and can secure the necessary international economic changes it will make possible.