Chapter VIII

FINANCING AND SUSTAINABILITY

The achievement of sustainable development hinges upon the net supply of available financing, the formulation of new financial instruments and the materialization of necessary changes in investment practices.

1. Introduction

Financing sustainable development is not easy. Problems arise in three different areas firstly, in that of the more traditional type of financing aimed at ensuring sufficient levels of investment to permit production capacity to expand at the desired pace; secondly, in the area of the financing required –in terms of amounts and suitable terms and conditions– to rectify past environmental errors; and thirdly, in respect to the appraisal, promotion and financing of new projects and technologies to reconcile the need for growth with the need for sustainability.

The difficulties existing in the first of these areas have already been discussed elsewhere.[1] It has been estimated that in order to raise investment to the equivalent of 22% of the region's gross domestic product (GDP), an additional US$70 billion of financing per year is needed. However, this figure has been calculated on the basis of historical investment/GDP ratios and therefore takes into account neither the need to correct past environmental mistakes nor the need to avoid such errors in the future. If these factors were to be incorporated into the calculations, then the figure would be even higher.

Indeed, according to the figures presented in this study (see chapter VI), it has already been necessary to invest around US$2 billion per annum in the region for goods and equipment designed to prevent or control environmental problems caused by production activities, primarily manufacturing and mining. If a reasonable estimate of other necessary environmental investments or expenditures, based on what occurs in other areas of the world, is added to this sum, then the figure rises steeply. If the need to redress past errors is taken into consideration as well, then it would not be surprising if the amount of financing needed to make the region's development sustainable bordered on US$10 billion per year.

Even this high figure may be a conservative estimate. The developed countries invest between 1% and 2% of their GDP to improve or maintain their quality of life (see chapter VI). The region's environmental needs and the approach it takes to environmental problems are very different, and the low figure of the annual investment range of over US$10 billion to US$20 billion yielded by the calculation of the same percentage of GDP for Latin America is no doubt the upper limit of any reasonable range of environmental investment and expenditure in the region.

2. Financial capital and natural resources

The above estimates provide some idea of how difficult it will be to finance sustainable development unless the countries of the region receive a net transfer of financial resources. If the region is to succeed in changing its production

patterns while promoting greater social equity and environmental sustainability, its rates of capital formation will have to be increased significantly and be reflected in progressively higher levels of investment. Hence, financial capital is unquestionably a key link in the chain of development.

However, the problem is not entirely one of quantity. The type of financing is also important. By virtue of the very nature of ecosystems, dealing with them calls for new formulas and instruments. Indeed, a worldwide consensus as to this fact has come into being and has recently been expressed in the creation of bilateral and multilateral investment funds.

Methods of evaluation, incentive systems and financing instruments all need to be carefully reviewed and modified in order to adapt them to the requirements of sustainable development. As we strive to solve certain critical problems in the region, such as the debt issue, we must seek ways of reconciling sustainability with growth.

The development of domestic capital markets and the availability of external financing on favourable terms are crucial elements in all these respects. In poorly developed financial markets, funds are available only for short terms and the investment horizon tends to grow shorter. Natural resources are reproduced over very long periods, however. There are trees, for example, which require over 50 to 100 years to mature An irrational utilization of such resources will therefore result in their irreversible depletion or destruction. A use rate in excess of the "critical zone" (i.e., the maximum sustainable yield) is enough to start the resource off on a downhill slide from depletion to extinction. The greater the degree of irreversibility, the narrower the margin available for development. Many natural resources are indivisible; if they are divided, they lose important characteristics which are an inherent part of their function. Finally, natural resources are not homogeneous; on the contrary, climatic, economic and social factors make them highly heterogeneous.

These differences do not diminish the high degree of complementarity existing between financial and natural capital. Given the levels of development of the region's economies, the implementation of environmentally sustainable policies is out of the question unless full advantage is taken of domestic and international capital markets. Since these markets serve an integrative purpose at all levels, they provide access to the use of certain types of resources, particularly in those cases in which gaining such access demands large sums of money.

There are, however, certain rigidities which need to be recognized. The presence of such rigidities becomes apparent, for example, when a financial instrument's repayment period is shorter than the timespan required for the natural resource to reproduce itself. In these cases, investments intended to improve the use of these resources are "unprofitable" from the standpoint of those responsible for managing the budget. This situation arises in the case of both national and international financial instruments. At the national level, it is difficult for this type of operation to compete successfully for financing against alternative investments. This is partly because it is the present generation which must make the financial commitment, whereas the resulting benefits can only be looked for over the long term. Another reason is that environmental projects generate a disproportionate demand for current financial resources owing to maintenance and operational requirements as well as those of sustainability.

In view of the above, financial markets need to be strengthened and developed in order to permit the region to attract a larger volume of resources whose payback periods, conditions and interest rates will be better suited to the purposes of natural resource development and preservation. Generally speaking, the purpose of such markets should be to promote and attract long-term savings, and institutional savings may be a good starting point for such an effort.

The search for appropriate means of financing the region's development effort has been going on for quite some time. In the agricultural sector, for example, there are a number of instances in which forms of payment –the kind of financial capital– are defined primarily on the basis of the market for the products in question rather than on the production cycle. In the light of the fact that special financing instruments have come into use

for such activities as scientific research and technology transfer, the question arises as to whether there is a justification for the creation of special funds for financing sustainable development.

3. Justification for special financing

As is also true of many other areas of the world, the region not only needs more resources; it also needs special funds that can provide financing on favourable terms. The scope of this statement is not confined to the issue of the external debt burden that is weighing down the countries of the region (see box VIII-1).

Since the relevant externalities stem either from production or from the conditions of financing, sustainable development requires production or financial subsidies within the context of a market-based resource allocation system. This means that distortions transmitted via the financial system have to be avoided and that the way in which financial capital is to be transferred to the sectors entrusted with the development of natural resources has to be clearly defined. Granting such subsidies *via the budget* is the most effective form of accomplishing this. To that end, it is necessary to *justify such subsidies* and to strengthen the State's role in order to obtain them.

At the international level, it is important to *distinguish between the "allocation" and the "incidence" of environmental measures*. Bearing this distinction in mind, a case can be made for a country to reallocate its resources so that other countries receive some benefit. In such instances, the country could be granted special financing which the State could then distribute in the form of subsidies in such a way as to achieve the desired allocation. It would of course be unacceptable for a country which was called upon to transform its activities but which did not receive any of the benefits deriving therefrom to have to bear the entire cost of the actions it took on behalf of other countries at their market value. The situation is much the same when a change occurs in incidence of costs, since those who are affected should receive compensation. It is therefore essential that the State be strengthened so that it can obtain special funds from the countries benefiting from its actions with which to finance subsidies for natural-resource development.

A similar line of reasoning should enable the State to impose taxes to finance investments that favour a more rational use of natural resources. If these investments benefit other agents, the tax burden should fall on those agents. By the same token, this reasoning might also justify taxing agents which allocate their resources in ways that augment other agents' costs.[2]

It is also important to *distinguish between the conditions for gaining access to financial capital markets and access to the exploitation of natural resources*. Given the conditions of poverty and marginality in which large segments of the rural population in Latin America live, it is common for them to have access to natural resources, but not to the formal capital market. The sectors which find themselves in this position operate on the basis of a large financial differential (market rates far above social discount rates) which leads to an irrational use of natural resources. This situation also justifies the levying of taxes and efforts to secure special international funds to subsidize integral programmes of investment in human capital, natural resources and production.

Other situations which generate externalities and which justify taxation or special funds for subsidies include the following: i) those in which the overall discount rates are too high to justify long-term programmes; ii) cases involving the protection of environmental diversity and the conservation and protection of flora and fauna; iii) in situations where the aim is the net protection of the cultural heritage of certain human settlements; iv) when it is a question of meeting institutional requirements, such as a need for more information, scientific research, or monitoring and evaluation; and v) in situations relating to global agreements (such as those relating to the ozone layer, the greenhouse effect, protection of the oceans and biodiversity).

The success of a fund of this type will depend on the *criteria for allocation and return* which are used. Such a fund should be used to provide financing only for programmes which are to be undertaken within the framework of global environmental agreements and national

Box VIII-1
GLOBAL ENVIRONMENT FUND

The Global Environment Fund is a pilot programme through which developing countries may receive donations or concessional loans to help them implement projects that may serve to protect the global environment. Projects in four different areas may be covered by this programme:

a) Protection of the ozone layer. The Fund will assist developing countries to begin developing or using substitutes for chlorofluorocarbons (CFCs).

b) Limitation of the greenhouse effect. With a view to reducing emissions of such gases as carbon dioxide, CFC and methane, the Fund will support the development of new energy sources and the efficient use of existing sources, as well as fostering the use of more appropriate technologies and fuels and reforestation or effective forestry resource management.

c) Protection of biodiversity. The Fund will aid developing countries to preserve specific areas in order to ensure the protection of their ecosystems and their biodiversity.

d) Protection of international water resources. The Fund will collaborate in projects designed to: strengthen planning capabilities to prevent oil spills; reduce the pollution of international water resources; prevent and clean up toxic wastes in rivers which, due to their volume of flow, have a major impact on international water resources; and conserve unique water sources or resources.

In keeping with its experimental nature, the Fund will provide resources, initially in modest amounts, for programmes and projects relating to the global environment whose aim is to seek out ways of strengthening analytical, regulatory and supervisory capabilities at the local level and to evaluate means of sharing existing or new technologies. Owing to the Fund's experimental character, its operating procedures will have to be selective.

The programme calls for broad-based, multilateral financing of the Fund which is to be administered under a tripartite agreement among the World Bank, the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). It is hoped that initial contributions to the Fund will total approximately US$1.5 billion. Cofinancing agreements may also play a part in the Fund provided that they are of a highly concessional nature.

The Fund will finance the implementation of investment projects which a) would not be justified at the national level if their total cost were to be covered entirely by the executing country, but whose cost could be reduced by means of concessional financing to the point where a reasonable threshold of net benefits would be achieved; or b) would be justified at the national level but would require that added costs be incurred in order to generate additional global benefits. In the latter case, the concessional financing to be provided by the Fund would be directed towards covering only those additional costs which would generate net benefits at the global level. The Fund will not normally finance environmental projects whose costs and benefits make their execution economically viable for an individual country.

In order to be eligible for financing, projects will have to be in keeping with international environmental conventions and with the environmental strategy or programme of the country in question, use available appropriate technologies, generate net benefits and have a high priority from a global standpoint. It is expected that most of the projects selected for such financing will be located in countries whose existing or proposed institutional and policy frameworks are conducive to the achievement of the projects' objectives. The Fund will support programmes whose objectives include the reinforcement of those frameworks. Consideration will be given to projects submitted by governments or by government-sanctioned NGOs, as well as projects under review by the World Bank or, possibly, by other multilateral finance agencies.

UNEP will provide scientific and technological co-operation in connection with the identification and selection of projects. UNDP will co-ordinate the financing of the necessary preinvestment activities, while the World Bank will in most cases serve as the executing agency for these activities, with assistance from UNEP and other specialized agencies.

The terms and conditions pertaining to the use of Fund resources will be established by the Fund's participants, which include both developed and developing countries. The World Bank will convene two meetings of the participants each year, during which the countries will evaluate the fulfilment of these terms and conditions and propose any necessary changes, discuss the general policy framework of the Fund, consider the programmes of work of the three executing agencies (World Bank, UNDP and UNEP), and review the progress made in executing these programmes.

environmental policies or which are concerned with promoting a sound use of natural resources, the transfer and use of appropriate low-cost technologies, or the establishment of monitoring and evaluation units. In its most rudimentary form, such a fund's financial capacity will depend upon the governments' estimation of the opportunity cost of the available funds, the accepted investment criteria, and institutional and political capabilities for reallocating the available financial resources.

4. Conditionality and additionality in external financing

Conditionality and additionality are two highly important aspects of the international debate concerning development finance. The former refers to the conditions attached to the financing of certain activities, while the latter refers to the need for a *net increase* in the funding made available for sustainable development by domestic and international sources of financing.

The countries of the region need to prepare themselves to strengthen the capacity of their financial markets to attract domestic and external savings for use in the development of natural resources. In the case of external savings, the topic of conditionality will certainly be the pivotal issue in the negotiations. The key questions to be addressed will be the following: What conditions are acceptable? Which of these will apply to the granting of the loan? What extent of cross-conditionality can be accepted? How are these conditions to be prevented from acting as a new form of protectionism on the part of developed countries?

In the case of domestic savings, the subject of additionality will surely be a crucial issue in terms of the macroeconomic impact of the measures to be taken. The chief questions will be: What effects will taxation have on net savings? How can the financial system be reformed in order to encourage long-term savings? What role does the development of insurance markets play in promoting long-term saving and investment? Is it possible to reform institutional savings systems in such a way as to channel funds to the preservation of natural resources and investment in such resources? How viable are these measures in macroeconomic terms?

There are no easy answers to these questions. As regards the attraction of external resources, the answers will depend on what benefits the parties to the negotiations hope to receive. It should be emphasized, however, that some apparent bilateral benefits may prove to be costs for the region as a whole. This is the case, for example, of the conditions relating to the protection of international trade and to the limits placed on the development, transfer and use of technologies. If negotiations on these points go badly, they may prove to be a hindrance to regional integration.

During a period marked by the structural adjustment of their economies, the countries have stood firm in their rejection of the idea of cross-conditionality, which tends to penalize recipient countries. The only viable way of avoiding this is to employ strong, effective mechanisms of co-ordination in the negotiation and administration of external loans. The weaker such mechanisms are, the greater the probability that the countries will find themselves subject to cross-conditionality.

This is a high-priority area for ECLAC. As work proceeds on national and regional sectoral studies that will provide more information and contribute to an increased understanding of environmental matters, the region as a whole, as well as the individual countries, will be in a better position to negotiate their loans. The final chapter of this document sets forth a series of proposals regarding actions, studies and programmes to strengthen the countries' bargaining power in this respect.

Additionality is fundamental to environmentally sustainable development. If the financing of this development entails a mere *redistribution* of existing financial resources, this will have a very adverse effect on the countries of the region, especially the poorest of them. These countries tend to be limited by two economic forces. One is the necessity of capital formation, which makes a progressive form of financing for development programmes and investments imperative; the other is the excessive pressure exerted by poverty on natural resources and the environment (see chapter V).

5. New instruments: debt-for-nature swaps

One of the financial instruments which has been used in the region is the "debt-for-nature swap". The large external debt accumulated by Latin America during the 1970s had, by 1982, reached a level of US$330 billion, three fourths of which was accounted for by loans from private banks. In the ensuing years this debt continued to grow, although more slowly, and by 1990 had reached US$420 billion, 55% of which is owed to private banks.[3] Most of the remainder represents obligations in respect of bilateral and multilateral agencies.

The debt crisis has prompted the international financial community to accept the fact that a portion of this debt is unpayable. Soon after the outbreak of the debt crisis, a small secondary market emerged on which creditor banks could trade their debt paper at discounts of up to 20%. As the payments problem worsened, the volume of transactions in this market increased, as did the discounts. The total value of secondary-market transactions was estimated to have reached US$65 billion by 1990, while the average discount on Latin American debt paper was around 70% in 1989-1990[4] (see table VIII-1).

The continuation of the debt crisis and the growth of the secondary market led to the creation of debt conversion programmes (commonly known as "swaps") whose object was to take advantage of these discounts to redeem the debt paper circulating on that market. These programmes, most of which involved the conversion of debt owed to overseas banks into productive investments, came into more general use in 1985-1986.

As time passed people realized that this mechanism could be used to finance environmental conservation programmes, and debt-for-nature swaps gained in importance as world concern about environmental protection grew.

Table VIII-1

LATIN AMERICA AND THE CARIBBEAN: VALUE OF EXTERNAL DEBT PAPER IN THE SECONDARY MARKET

(Percentage of face value)

	1986			1987			1988			1989			1990		
	Jan.	June	Dec.	Jan.	June	Dec.	Jan.	June	Dec.	Jan.	June	Dec.	Jan.	June	Nov.
Argentina	62	65	66	64	52	35	32	25	21	20	13	13	12	13	17
Bolivia	...	6	7	8	9	11	11	11	10	10	11	11	11	...	...
Brazil	75	74	74	72	62	46	46	51	41	37	31	22	25	24	26
Colombia	82	81	86	86	85	65	65	65	57	56	57	64	60	64	65
Costa Rica	...	48	35	35	36	15	15	11	12	13	14	17	18	...	...
Chile	65	67	67	68	70	61	61	60	56	60	61	59	62	65	73
Ecuador	68	64	65	65	50	37	35	27	13	13	12	14	14	16	20
Guatemala	...	52	60	61	67	77	57	...	...	...	...	...	...	...	...
Honduras	...	40	40	40	39	22	22	22	22	22	17	20	21	...	...
Jamaica	...	45	45	45	38	33	33	38	40	40	41	40	40	44	...
Mexico	69	59	56	57	57	51	50	51	43	40	40	36	37	45	43
Nicaragua	...	4	4	4	5	4	4	2	2	2	1	1	1	...	...
Panama	...	69	68	68	67	39	39	24	21	19	10	12	19	12	12
Peru	25	20	18	18	14	7	7	6	5	5	3	6	6	4	4
Dominican Republic	...	45	45	45	45	23	23	20	22	22	22	13	13	17	...
Uruguay	..	63	66	68	74	60	59	60	60	60	57	50	50	49	55
Venezuela	80	76	74	75	71	58	55	55	41	38	37	34	35	46	49
Average[a]	...	64 9	64.2	63.7	58 5	46.5	45.1	45.4	37.7	35.2	31.9	28.0	29.5	33.3	34.7

Source: United Nations, Department of International Economic and Social Affairs (DIESA), on the basis of bid prices compiled by Salomon Brothers, High Yield Department.

[a] Weighted by the amount of bank debt.

5.1 *Experiences in Latin America*

The concept of swaps is a simple one, but in practice they are quite difficult to organize. The main stages entailed in carrying out these transactions are as follows:

A non-governmental organization (NGO) involved in the field of nature conservation or the government of an industrialized country buys a promissory note representing a portion of the external debt of one of the countries in the region at a high discount in the secondary market;

The foreign buyer hands over the promissory note to the government of the debtor country in exchange for a financial instrument denominated in the local currency (cash or bonds). This exchange may or may not give the government in question the benefit of part of the discount obtained by the buyer on the secondary market;

The local-currency-denominated financial instrument is assigned to the financing of a conservation project previously selected by agreement between the debtor government and the NGO or foreign government. Such projects are usually managed by local conservation groups in co-operation with the country's governmental authorities.

By the end of 1990 a total of nine debt-for-nature swaps had been carried out in four countries of the region (see table VIII-2). The face value of the debt redeemed by these means amounted to US$90.5 million, but the corresponding debt paper had cost the foreign buyers US$14 million; in other words, they bought the debt on the secondary market at an average discount of 85%. For their part, the governments of the region had paid the equivalent of US$53 million in local currency in this buy-back operation, which means they received an average discount of 41%, or slightly less than one-half the discount obtained by the foreign buyers [5] (see boxes VIII-2, VIII-3 and VIII-4).

In addition, another six swaps of this type were conducted in five developing countries outside of Latin America and the Caribbean. In these cases the buyers received an average discount of 62% on the debt they purchased, but the governments concerned apparently failed to obtain any of the secondary-market discount when the debt paper was converted into local currency.[6]

Generally speaking, the environmental protection projects in the region which have been financed by these swaps have had quite similar characteristics. They tend to deal with the protection of areas that are well known for their great wealth of biological diversity, including endangered species; with regions inhabited by indigenous communities; or with the establishment and reinforcement of educational, training and research programmes in the field of ecological conservation. The zones protected by these agreements remain under the country's jurisdiction and are areas in which there is little or no development.

A large portion of the studies done on this subject have concluded that debt-for-nature swaps benefit all parties concerned. They contend that the commercial banks may succeed in divesting themselves of a problematic component of their loan portfolios by selling the debt in the secondary market; conservation groups may be able to multiply the impact of their expenditure because the dollar equivalent of the local-currency instruments they receive in exchange for the debt paper is greater than the amount they initially invested to repurchase the debt in the secondary market; and for debtor countries, the swap serves the dual purpose of reducing their external debt –principal and annual interest payments– and buttressing their policies for the protection of the nation's environmental heritage.

The first debt-equity swaps were justified in the same way. However, as time has passed the experts have begun to evaluate them more critically and to point out their potential disadvantages for debtor countries. Since debt-for-nature swaps are essentially a variation on the same theme, the evaluation of this technique can be expected to arrive at similar conclusions in time.

5.2 *Swaps: alternative opportunity costs*

It is important to analyse the costs involved in debt-for-nature swaps. First of all, various economic studies have shown that partial,

Table VIII-2

LATIN AMERICA AND OTHER DEVELOPING REGIONS: DEBT-FOR-NATURE SWAPS

(Thousands of dollars)

	Year	Buyer	External debt redeemed by foreign buyer			Conversion of note into local currency	
			Face value	Cost F/C [a]	Discount [b]	Cost L/C [c]	Discount [d]
			Latin America				
Bolivia	1987	CI	650	100	85%	100[e]	85%
Ecuador	1987	WWF	1 000	354	65%	1 000	-
Costa Rica	1988	NPF	5 400	918	83%	4 050	25%
Costa Rica	1988	Holland	33 000	5 000	85%	9 900	70%
Costa Rica	1989	TNC	5 600	784	86%	1 680	70%
Costa Rica	1989	Sweden	24 500	3 500	86%	17 100	30%
Ecuador	1989	WWF/TNC/MBG	9 000	1 108 8	88%	9 000	-
Dominican Republic	1990	PRCT/TNC	582	116.4	80%	582	-
Costa Rica	1990	S/WWF/TNC	10 753.6	1 953.5	82%	9 602.9	11%
Total			**90 485.6**	**13 834.7**	**85%**	**53 014.9**	**41%**
			Other developing countries				
Philippines	1989	WWF	390	200	49%	390	-
Madagascar	1989	WWF	2 111.1	950	55%	2 111.1	-
Zambia	1989	WWF	2 270	454	80%	2 270	-
Poland	1990	WWF	50	11.5	77%	50	-
Philippines	1990	WWF	900	438.8	51%	900	-
Madagascar	1990	WWF	919.4	445.9	51%	919.4	-
Total			**6 640.5**	**2 500.2**	**62%**	**6 640.5**	**-**

Source: Calculated on the basis of *LDC Debt Report*, 15 October 1990.

TNC : The Nature Conservancy
WWF : World Wildlife Fund
PRCT : Puerto Rico Conservation Trust, Puerto Rico
MBG : Missouri Botanical Garden, United States
NPF : National Parks Foundation, Costa Rica
CI : Conservation International, United States
S : Sweden
F/C : Foreign currency
L/C : Local currency

[a] Outlay required to purchase debt at face value in secondary market.
[b] (Cost F/C face value - 1).
[c] Dollar equivalent of local currency amount exchanged for external debt note. Local currency is transferred in the form of bonds or cash.
[d] (Cost L/C face value - 1).
[e] An additional US$150 000 were mobilized for the USAID project.

Box VIII-2
DEBT-FOR-NATURE SWAPS: THE CASE OF BOLIVIA

On 13 July 1987 Bolivia signed the first agreement providing for external debt reduction in exchange for a government commitment to protect the natural resources located in one zone of the country. The agreement was drawn up between the Government of Bolivia and Conservation International, a private environmental organization in the United States, and included the following commitments:

a) Conservation International was to purchase US$650 000 of Bolivia's external debt and turn the corresponding debt paper over to the Government, as well as furnishing technical and administrative co-operation for the implementation of an environmental management programme in the designated area of the region of Beni, in the Amazon basin.

b) In exchange, the Government of Bolivia was to ensure the maximum possible degree of legal protection for the 135 000-hectare Beni Biological Station and create three protected zones in adjacent areas: the Yacuma regional park, covering 130 000 hectares; a protected area administered by the Beni Development Corporation (CORDOBENI); and a sustainable area of 670 000 hectares in the Chimanes jungle (forest).

c) The Government of Bolivia was to create a US$250 000 fund to finance the management of the Beni Biological Station, of which US$150 000 in local currency would be provided by the United States Agency for International Development (USAID). The fund was to be administered by the Ministry of Agriculture and Peasant Affairs of Bolivia and a local representative of Conservation International.

Conservation International purchased debt paper having a face value of US$650 000 on the secondary market at an 85% discount, which means that it paid about 15 cents on the dollar for the debt. In addition, it set up an administrative structure for the implementation of conservation plans, conducted studies on the population of the protected area and initiated steps to arrange for special financing from the International Tropical Timber Organization for the purpose of organizing a sustainable forest use programme.

However, a variety of budgetary problems delayed the disbursement of the Government's contribution of US$100 000 for 21 months, occasioning a loss, according to Conservation International estimates, of around US$60 000 in interest. In addition, more than two years after the agreement was signed the legislation concerning the protection of the Beni reserve was still pending, a delay which was due initially to a heated controversy and protracted debate concerning the nature of the agreement, and later to the intricate negotiations held with various indigenous groups in the zone and to the pressure brought to bear by a number of interest groups, including those representing members of the logging industry which have leases in the protected area.

Source: D. Page, "Debt-for-nature swaps. Experience gained, lessons learned", *International Environmental Affairs*, vol. 1, No. 4, 1989.

fragmented debt redemption operations are not necessarily a good deal for a sovereign government. The argument is as follows: when the price of a debt on the secondary market is a reasonably accurate reflection of the chances that the debt will be serviced, then the country participating in the swap ends up paying more than what the debt paper is worth. This is because the bid price is determined by the market, and the market reflects the average value of the total stock of debt (including both its payable and unpayable portions). Thus, the debt paper which is redeemed would have a lower value at the margin than the price paid for it in a buy-back operation on the secondary market. Considered from another angle, the operation is equivalent to granting a subsidy to the banks benefiting from the repurchase transaction. There is also another subsidy, which arises out of the fact that the conditions under which a swap is conducted are usually such that the amount of local currency paid out by the debtor country is a multiple of the price paid for the debt on the secondary market. The reader will recall that, as noted earlier, the countries of the region have exchanged the equivalent of US$53 million in local currency for

Box VIII-3
DEBT-FOR-NATURE SWAPS: THE CASE OF COSTA RICA

In 1987 and 1988 Costa Rica purchased US$69 million of its external debt, representing slightly less than 5% of its total commercial bank debt, for the equivalent of US$33 million in local currency. This sum, supplemented by national counterpart funds, was used to finance the protection and environmental management of national parks, the strengthening of public institutions and non-governmental organizations concerned with environmental matters, and the implementation of reforestation projects and environmental education and research activities.

In August 1987 the Central Bank of Costa Rica approved a plan for swapping US$5.4 million of debt, at a 75% discount, for non-negotiable, local-currency stabilization bonds having a maturity of five years and an average interest rate of 25%. The Banco Cooperativo Costarricense was designated as the trustee, and the use of the resources was to be supervised by a council formed by representatives of the National Park Service (now a non-governmental organization (NGO) but originally created by the Government), the Ministry of Natural Resources, Energy and Mines, and the Fundación Neotrópica (an NGO). The debt paper, whose value fell from 55 to 16 cents on the dollar during 1987, was purchased with about US$900 000 in donations from private organizations in the United States and Europe.

These resources have been used to finance activities and projects selected by the donor agencies from a menu of options presented by the supervisory council. Some of the funds have been used to strengthen the institutional structure of local foundations, as well as for environmental management and education programmes, while a large part of the financing has been employed to purchase land within the areas designated as national parks; the bonds have been used as collateral for loans when cash funds are required for this purpose.

The Governments of Sweden and the Netherlands contributed US$3.5 million and US$5 million, respectively, for the purchase of commercial bank debt. In the former case, debt paper previously bought at a discount through a financial agent in New York was converted by the Central Bank of Costa Rica into local currency at 70% of its value. In the latter case, which was subsequent to the above operation, the Central Bank converted the debt paper at 30% of its value. In the transaction made possible by Sweden's contribution, it was agreed that the bonds, which had a maturity of four years and a 15% rate of interest, would be used to finance a management programme for the Guanacaste National Park and environmental education and research activities. The agreement concerning the resources derived from the operation financed by the Netherlands, which were converted into the same type of bonds as in the first transaction, called for the implementation of a programme providing for the development of tree nurseries as well as loans and technical co-operation for small-scale producers engaging in reforestation activities.

In addition, in November 1988 the Legislative Assembly decided to exempt debt-for-nature swaps from the 8% tax levied by the Central Bank. The resources made available by this measure are to be used to cover extrabudgetary expenses (e.g., firefighting) incurred by the Ministry of Natural Resources, Energy and Mines. The available pool of resources has also been augmented by the frequent contribution of additional counterpart funds, and further inputs of external resources. It was also agreed that an additional US$45 million in debt swaps would be authorized over a three-year period for the purpose of financing natural resource, educational and microenterprise projects.

external debt paper worth US$14 million on the secondary market. This represents a subsidy equivalent to US$39 million, or 44% of the face value of the redeemed debt.[7]

Secondly, debt swaps lead to an expansion of the money supply which may have inflationary effects. There are, however, ways of minimizing the impact of swaps on domestic price levels. For example, many countries have chosen to exchange medium-term bonds for such debts. These bonds spread out the money issue over time as well as indirectly reducing the subsidy received by the conservation groups taking part in such swaps.

Finally, the conversion of external obligations into local currency increases the effective amount of fiscal expenditure during a time of structural adjustment and severe fiscal constraints, which may well be to a country's disadvantage. Cases of such situations have occurred in countries that are not servicing their external debt punctually.

Box VIII-4
DEBT-FOR-NATURE SWAPS: THE CASE OF ECUADOR

On 8 October 1987 the Government of Ecuador reached an agreement with Fundación Natura, a private Ecuadorian conservation organization, to convert a total of up to US$10 million of Ecuador's debt at its full face value into bonds having an eight-year maturity and market interest rates adjustable at 180-day intervals. Because the uncontrolled exchange rate was considerably higher than the official rate, its conversion at the official exchange rate represented a discount of around 30%. The agreement provided that the interest on the bonds would be used to finance conservation projects while the principal would be consigned to Fundación Natura as an endowment.

In March 1988 the World Wildlife Fund (a private, United States environmental organization) conducted the first operation under this agreement, purchasing US$1 million of Ecuador's debt for US$354 000. The corresponding debt paper, upon its conversion into bonds, generated 82.8 million sucres in interest, a figure equivalent to Ecuador's entire national park budget. In April 1989 the World Wildlife Fund and Nature Conservancy bought the remaining US$9 million of debt for 11.88 cents on the dollar.

The resources generated by these operations are to be used to: a) develop environmental management plans for the national parks located in the Amazon region, the Andean *altiplano* and along the Pacific coast; b) formulate and implement a management plan for the coastal areas of the Galapagos Islands; c) purchase land for smaller reserves; and d) carry out environmental research, education and training activities.

5.3 *Conversion of bilateral debt*

Thus far, debt-for-nature swaps have involved private bank claims. Nevertheless, it is likely that the conversion of official debt may also serve as a vehicle for financing environmental conservation projects.

One sign of a move in this direction is the proposal concerning external debt contained in the Enterprise for the Americas Initiative which was announced in June 1990 by the Government of the United States. This proposal calls for a reduction of the debt owed by countries of the region to official United States bodies. Under the terms of the bill submitted to Congress by the Administrator, the United States would be willing to: i) reduce the concessional debt, and ii) allow the corresponding interest to be paid in local currency and deposited in trust funds. These funds would then be used to finance national environmental protection projects.

It should be noted that some of the costs associated with the conversion of bank claims do not arise in the conversion of claims held by official bodies. For example, if in order to avail itself of this option, a country must be up to date on its debt service payments to the government in question, then the conversion of such claims would reduce the country's fiscal expenditure. Furthermore, so long as there is no formula for reducing the value of these obligations other than participation in these environmental programmes, their opportunity cost may be relatively low. Indeed, the fact of the matter is that the only other alternative is to bear the full cost of servicing the debt.

The conversion of debt into environmental protection programmes has both benefits and costs for the treasury of the debtor country, but the costs will be magnified if the country is in the midst of a structural adjustment and suffers from a shortage of fiscal resources. Hence, each transaction should be carefully evaluated in terms of its impact on the population and in the light of possible alternative uses of these scarce resources.

Some of the problems associated with debt-for-nature swaps can be solved if the international agenda in this area is modified. When international conservation groups invest in environmental protection, they naturally prefer those projects which will afford them the highest possible return on their investment. It is therefore not surprising that such groups tend to choose

projects having a very high international profile, since these are the ones most closely identified with the groups' interests and are therefore likely to produce the returns and benefits they seek. Developing countries would do well to urge international conservation groups to provide an opportunity for undertaking environmental projects whose benefits will be felt more clearly and immediately by the population of the debtor country. Examples of these types of projects include initiatives to clean up the air, the cities, rivers and the seas. Such an approach is all the more important when the project calls for the use of fiscal resources. In addition, the scope of such projects should not be confined to conservation, but should instead also encompass the restoration or expansion of other forms of natural capital, including reforestation.

6. Nature and styles of future investment

Thus far the discussion has focused on the relationships between financing and environmental sustainability, but the subject of investment practices also needs to be addressed. The region's experiences have demonstrated that *changes in forms of financing engender corresponding changes in investment practices.*

As was noted in chapter III, there is a close relationship between economic policy and the environment, and the secondary and external effects of these policies are so significant that they require special attention. Hence, although the technical design of some investment projects may be sound, the environmental sustainability of these investments may be seriously jeopardized if policies are mutually contradictory Because of these considerations, a broader definition of such projects is called for.

Consequently, *the traditional style associated with specific-focus projects should be supplemented by sectoral or regional investment programmes.* Such programmes would involve the same aspects as structural adjustment programmes, including such elements as: sectoral or regional policy, management policies and approaches, the development of human capital, institutional management and changes, sectoral or regional investments, services at the sectoral or national level, macroeconomic aspects, the institutional structure of production, roles of economic agents and the State, legislation and formulas for the provision of financing.

There are various examples of these types of programmes in the region. Forestry programmes are one of them. In addition to including elements of specific-focus projects such as those concerned with tree planting, these programmes also involve undertakings at the sectoral or regional level, such as the definition of policies, research, changes in forestry agencies, the training of foresters, national public awareness campaigns, trade and investment policies, or economic incentives for reforestation. These programmes are a more effective means of laying the institutional foundations for the joint participation of the State, the private sector and the community.

7. Financial policy: implementation of a strategy

There are four areas of work involved in the design of financial policies which can contribute to the sustainability of development. The first is *economic policy*, which has an impact on financial resources that can be invested. Within this sphere, financial policies should be such as to promote subsidies for investment in projects directly related to the development and preservation of the environment. If this is done, the interest rate will not be an obstacle to the evaluation of a project on the basis of the social discount rate, as is the case of reforestation projects in Chile. In addition, financing must be provided for the process of internalizing the direct and indirect costs of ecological damage, as well as those associated with the preservation and enhancement of the environment.

The second relates to the promotion of *public and private investment programmes* aimed at preserving the environment. In this case, a

distinction must be drawn between the need to reduce the risk deriving from uncertainty as to the profitability of the project (which is not a problem of financing) and the need to cover the risk associated with its financing. Because of the long-term nature of these projects, the latter type is a built-in risk for financial institutions, and its coverage requires the development of means for guaranteeing loans as well as of insurance and risk-sharing mechanisms. These incentives for the financial system should be designed within the framework of a policy directed towards financing sustainable development.

The third area is the creation of *institutions to regulate the ownership of natural resources* in two types of situations. The first is that in which access to a resource is not subject to clear limits (e.g., access to marine resources) and the rate at which individual firms exploit the resource may exceed the optimum social rate of use. The second type of situation is that in which clearly-defined limits have been placed on access to natural resources, but access to the financial resources required for their exploitation is lacking (segmentation of the financial market), and the natural resource is therefore assigned to other, socially inefficient uses. In both cases financial policy should be supplemented by the creation of institutions which delimit the ownership of and access to the various forms of capital in such a way as to reflect the value of the effective scarcity rents of each mineral resource or other stock of natural capital so that the market price of the corresponding flows will be an accurate indication of their opportunity cost. Otherwise there will be a poor intertemporal allocation of resources.

The fourth area is that of the *regulations* governing the incorporation of the costs of ecological damage into the production structures of the economy. Financial policy-makers should look upon the interest rate as a price which influences the selection of technologies for tapping natural resources. Financial institutions should also be subject to regular supervision based on clearly-defined rules and standards for assessing the environmental impacts of their investment projects and lending programmes for commercial and production activities.

8. An increase in investment capacity

A final consideration is that demands for increased financing for sustainable development cannot be made unless there is an internal capability to design, assess and execute investment programmes. In terms of environmental sustainability, the region's capabilities in this respect are quite limited. The region's civil services have been seriously weakened, and it therefore lacks the elements needed in order to absorb the amount of financing which may eventually become available.

If the effectiveness of the region's institutions in these areas does not improve, the efforts made during this decade to design and implement environmental programmes may end in a resounding failure whose social and political consequences may extend beyond the boundaries of the region and whose global environmental impacts could be serious indeed. Great opportunities for gaining access to financing for environmental initiatives appear to be in the offing during the present decade; there is a great deal of interest in environmental programmes, but it is also true that the region runs the risk of failing to put these resources to good use. The pressure to accept this flow of financing may result in a setback in net terms if the countries accept such financing within a context of severe institutional weakness.

Development finance agencies should therefore consider the possibility of designing special preinvestment programmes in fields relating to sustainable development, as well as special programmes for providing advanced training and facilitating the countries' access to the technologies needed to change the region's production patterns while prompting social equity and environmental sustainability. Such programmes should be an integral part of the countries' short- and long-term strategies. A relative abundance of funding for environmental projects is only *one* of the elements required to solve the region's environmental problems.

Notes

[1] See ECLAC, *Changing Production Patterns with Social Equity*, *op. cit.*, chapter 1.

[2] In the international field, a proposal has been made for the establishment of a levy of US$1 per barrel of oil sold, to be earmarked for an internationally managed fund that would be used to finance conservation and environmental clean-up projects.

[3] ECLAC, *Preliminary overview of the economy of Latin America and the Caribbean, 1990* (LC/G.1646), Santiago, Chile, 19 December 1990.

[4] World Bank, *Financial flows to developing countries*, Quarterly Review, Washington, D.C., June 1990.

[5] Calculated on the basis of data provided in LDC Debt Report, Washington, D.C., October 1990.

[6] *Ibid.*

[7] LDC Debt Report, *op. cit.*