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Jens Rosebrock* and Harald Sondhof**

Debt-for-Nature Swaps: A Review of the First Experiences

The relatively new concept of debt-for-nature swaps is intended to take account of the connection between the indebtedness of developing countries and the destruction of the environment taking place there, the consequences of which are increasingly also perceived as a threat in the industrial countries. The idea has now been put to the test in practice in a number of cases. Against that background, the authors of this article point out the areas of potential and the limitations of debt-for-nature swaps.

In recent years, it has become plainly apparent that there is a link between the international debt crisis and environmental destruction in Third World countries. Many developing countries have been forced by their vastly increased interest burden and stagnating domestic economies to step up the exploitation of their natural resources in order to earn the foreign exchange they need. The tropical rain forests are thus being felled at an increasingly rapid rate, and not only in South America, for example. In view of the significance of these forests for the world's climatic balance and for preserving the variety of living species, there are growing fears in the rich countries that irreparable damage may be done, which indeed may also affect those countries themselves.

Given this state of affairs, the idea of debt-for-nature swaps first proposed in 1984 by Thomas Lovejoy represents an innovative concept which properly recognizes that the debt crisis and the problem of the environment are interlinked. The then Vice President of the World Wildlife Fund (WWF)¹ wrote in the New York Times that the Third World should be relieved of some of its debts if, as a *quid pro quo*, it pledged to implement various environmental protection measures.²

The advantages of a transaction of this kind are immediately apparent: on the one hand, the hard-currency indebtedness of developing countries is reduced, while at the same time urgently necessary investment is made for the benefit of the environment.

This theoretically appealing idea was first tried out in practice three years later, when a debt-for-nature agreement was signed between the state of Bolivia and a

US environmental organization, Conservation International (CI). Up to the present day, 14 such transactions have been entered into altogether, to a total value of \$100 million. Five more swap programmes valued at approximately \$500 million are in preparation.

The aim of this article is

- ☐ to explain how the swaps are structured,
- ☐ to reveal the various interests involved,
- ☐ to describe the debt-for-nature swaps which have been initiated to date,
- ☐ to discuss the problems which have occurred, and
- ☐ to show the potential and the limitations of this concept of swaps.

Structure

Since the outbreak of the debt crisis in August 1982, it has become clear that it will hardly ever be possible for the Third World's debts to be repaid in their full nominal amount. Worldwide indebtedness in 1990 is approximately \$1,300 billion, of which about 40% is owed to commercial banks.³ As a result of this situation, a secondary market began to develop from the mid-1980s onward in which debt owed by countries whose long-term ability to repay was now in doubt could be traded at a considerable discount. Because the only debt which can be traded in this way is that which has been refinanced by

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¹ The organization's new name is the World Wide Fund for Nature.

² Reprinted in: International Herald Tribune, 14th October 1984, p. 6.

³ Cf. Gerrit Tammes: Debt-for-Nature Conversion: What Limits Their Further Growth?, in: International Environmental Affairs, No. 2, 1990, p. 154.

commercial banks, the potential market for these obligations has so far attained a total volume of \$ 300 billion.⁴ There is a wide variation in the discounts applied to Third World liabilities: Peruvian debt paper, for example, was being traded at just 5 % of its nominal value in 1990, whereas Chile's debt was changing hands at 60% of its face value.⁵

The level of discount on the secondary market forms the economic basis of what are known as swap transactions. The purchaser takes uncertain receivables out of the original creditor's hands, but pays only a fraction of the original value in return. The new title-holder is then able to convert the sum owed to him into the debtor's local currency, usually paying a levy of 10%-30% to the debtor country's central bank in order to do so.⁶ By making use of the leverage effect offered by the discount, the new title-holder will have obtained funds cheaply in the debtor country's currency. At the same time, the debtor country will have reduced its hard-currency liabilities at advantageous rates.

The soft-currency receivables can be used in a variety of ways. The most common so far has been the debt-for-equity swap in which the debt paper is exchanged for an equity stake in one or more domestic enterprises. Debt-for-equity transactions have now been concluded to a value of several billion dollars in Mexico and Chile.⁷ A similar pattern is followed by debt-for-exports, debt-for-tourism and debt-for-education swaps, to name just a few more examples of types of swaps which have been seen.⁸

In this sense, debt-for-nature swaps in which receivables are traded for environmental investment represent no more than a new use, in a new area, of an already existing concept, and are not really financial innovations as such.

The typical procedure of a debt-for-nature transaction can be divided into four stages:⁹

1. Negotiations are conducted between an environmental organization which acts as the purchaser of the debt papers (the "donor organization"), the government and the central bank of the debtor country, to establish the framework for a debt-for-nature swap. In most cases, another environmental organization from the country concerned (the "recipient organization") is also

involved which is familiar with local conditions and maintains the necessary contacts with government officials.

2. The donor organization then purchases debt papers to the agreed amount, and assigns it to the local environmental organization, subject to the various taxation and legal provisions which apply.

3. In accordance with the conditions negotiated with the government and/or the central bank, the debt can now be converted into local currency or other benefits in money's worth. It depends on the circumstances of the particular case whether preference is given to the acquisition of interest-bearing government bonds, the assurance of legal protective measures (perhaps for a national park), or the immediate, complete conversion into national currency.

4. The funds now available are put into the implementation of the projects intended to help protect the environment. The leading role in this is taken by the local recipient organization, though the donor organization frequently reserves the right to act in a consultative capacity.

The Various Interests Involved

Debt-for-nature transactions bring together institutions which have their own, differing interests. The conceptual strength of swap arrangements lies in their capacity, in principle, to achieve a balance between those interests.¹⁰

Private environmental organizations which put themselves forward as donor organizations are often the driving force behind debt-for-nature agreements. These organizations' main interest naturally lies in making the most effective possible use of available resources, and also in generating additional funds. Debt-for-nature swaps are an appealing means of achieving this, for the use of the discounts on the secondary market allows a substantial leverage effect to be applied to an organization's own funds.¹¹ In addition, the organization may try to find sponsors for a given debt-for-nature project. The prime candidates for such cooperation would be banks which are keen to reduce their commitment in the international debt market.

⁴ Ibid., p. 154.

⁵ Cf. Rodney Wagner: Doing More with Debt-for-Nature Swaps, in: International Environmental Affairs, No. 2, 1990, p. 163.

⁶ In this way, a share of the original discount is passed back to the debtor. Cf. Paul Lerbinger: Finanzinnovationen und Schuldenkrise, in: Die Bank, No. 11, 1987, p. 594.

⁷ Cf. ibid., p. 595.

⁸ Cf., e.g., Anon.: Fishmeal? That'll Do Nicely, in: Euromoney, No. 6, 1988, p. 149.

⁹ Cf. Konrad von Moltke: Debt-for-Nature: An Overview, World Wildlife Fund (no place and date), pp. 1 ff.

¹⁰ Cf. ibid., p. 2.

¹¹ According to estimates made by Morgan Guaranty, the average cost of raising \$200 million via debt-for-nature swaps is approximately \$50 million; cf. Rodney Wagner, op.cit., p. 163.

Commercial banks have an interest in the proper functioning of the secondary market, and therefore welcome the additional demand for Third World loans now being generated by environmental organizations. These tend to increase the marketability of debt paper and raise the rate the banks can recover. They also have the opportunity to act as advisors to the donor organizations in what are often complex negotiations, and to act on their behalf to purchase the papers on the secondary market.¹² However, unless they can make use of special tax incentives the banks have so far shown little interest in donating any of the debt which is directly outstanding to them for debt-for-nature projects. They would have nothing to gain from that apart from a boost to their image, the value of which is difficult to estimate.¹³

The *government of the debtor country* has the advantage that the swaps can be used to finance environmental tasks for which it frequently has no funds of its own available. Moreover, the swap means that part of its hard-currency debt is converted into national debt, which is undoubtedly preferable to most governments, especially if the arrangements follow the usual trend applicable to debt-equity swaps and the conversion is made at a certain discount rather than at the nominal value.

Finally, the *local environmental organizations* in their role as potential recipients are interested in debt-for-nature transactions if more funds are thus made available to them than they would have been able to obtain from conventional financial transfers. The publicity they gain from cooperating with international partners also enhances their political leverage when it comes to realizing their objectives at home.

Typical Forms of Past Arrangements

Since 1987, seven countries from South America, Asia and Africa have participated in debt-for-nature swaps (see Table 1). Argentina and the Dominican Republic also proposed swap programmes valued at a total of \$ 140 million in February 1990 for which sponsors are still being sought. In Brazil, negotiations between environmental organizations and the government are now close to a result on a swap programme with a proposed volume of \$250 million;¹⁴ potential arrangements are also under discussion for programmes in Paraguay (\$ 5 million) and Panama (\$ 100 million).¹⁵

¹² One specialist in debt-for-nature swaps is the Nederlandsche Middenstandsbank (NMB); cf. NMB Bank: Asset Trading and Debt Conversion, Amsterdam, June 1988, p. 9.

¹³ Cf. Jonathan Burton: Back to Nature – The Financial Way, in: The Banker, No. 12, 1988, p. 23.

The donors can basically be broken down into private and public donors. On the recipient side, there are three possible variants: 1. the transaction is agreed directly between the donor and the government of the recipient country; 2. the donor may work in collaboration with trustee organizations established by the government in the recipient country; 3. a private organization takes the place of a governmental one in the recipient role.

□ *Variant 1: Bolivia.*¹⁶ In this pioneering agreement reached in June 1987 between Conservation International and Bolivia, the American environmental protection organization declared its readiness to acquire debt paper with a nominal value of \$650,000 on the secondary market. In return, the Bolivian government agreed to enlarge an existing national park (the Beni Biosphere Reserve) to cover nine times its existing area, and to enact a new law protecting the park. The transaction did not prejudice the existing property rights of the Bolivian state. However, Conservation International did make it a condition that it should be entitled to supervise the observance of the law in the capacity of advisor to the government.

□ *Variant 2: Costa Rica.* In February 1987, the government of Costa Rica appointed various domestic agencies (including the Fundación de Parques Nacionales and the Ministry of the Environment) to act as trustees for a comprehensive debt-for-nature programme. The

¹⁴ Cf. Nancy Dunne: Brazilian nature groups form consortium, in: Financial Times, 22nd August 1990, p. 6.

¹⁵ Cf. Ed Paisley: Nature Swap Near in Panama, in: American Banker, No. 64, 1990, p. 12.

¹⁶ The following details were obtained from internal WWF information.

Table 1
Summary of Debt-for-Nature Swaps

Date	Country	Sponsors	Amount ¹ (\$ mill.)
June 1987	Bolivia	Conservation International	0.65
Aug. 1987	Costa Rica	WWF and others	5.40
Nov. 1987	Ecuador	WWF	1.00
June 1988	Philippines	WWF	2.00
June 1988	Costa Rica	Netherlands	33.00
July 1988	Costa Rica	Nature Conservancy	5.40
Nov. 1988	Costa Rica	Sweden	24.50
Jan. 1989	Costa Rica	Nature Conservancy	5.60
Apr. 1989	Ecuador	WWF and others	9.00
Aug. 1989	Zambia	WWF	3.00
Aug. 1989	Madagascar	WWF	3.00
Feb. 1990	Dominican Rep.	Conserv. Trust Puerto Rico	0.58
Mar. 1990	Costa Rica	WWF, Sweden and others	11.00
Aug. 1990	Madagascar	Conservation Internat., UNDP	5.00
Total			109.13

¹ The amount refers to the reduction in debt achieved by the swap.

programme encompassed a number of projects, and other environmental organizations apart from the WWF also acted as sponsors. The receivables nominally valued at \$5.4 million were acquired in the secondary market at an average discount of 85%, and then converted to 75% of their nominal value in local currency bonds in August 1987. The bonds are issued for a five-year period, but provide an annual cash-flow of 25%, the bulk of which is used to fund the maintenance and improvement of various national parks. All the swaps arranged with Costa Rica have been structured according to the same pattern.

□ *Variant 3: Ecuador.* Fundación Natura, the largest private environmental organization in Ecuador, was granted permission by the Ecuadorian government in October 1987 to convert a total of \$10-million-worth of foreign debt into government bonds at par. That November, the WWF began the implementation of the arrangement by purchasing debt paper valued nominally at \$1 million at a cost of \$354,000, and placed it at the disposal of Fundación Natura. In this case, too, the government issued long-term bonds which allow the environmental organization to use the interest payments to establish nature reserves and promote environmental awareness. The second tranche of the programme involving a swap valued at \$9 million was implemented in April 1989.

The swaps carried out in the past had the following characteristics:

□ Efforts were made in all cases to involve private, locally based environmental organizations, either as managers of the programme or as trustees working in collaboration with governmental agencies.

□ In each case, the funds made available were channelled into precisely defined projects, the majority of which involved extending or taking care of nature reserves.

□ Although the donors in a majority of the swaps were private organizations, the largest-scale transactions were nevertheless sponsored by national governments (the Netherlands and Sweden).

□ There was only one case—the first swap arranged with Bolivia—in which the terms of debt relief were negotiated directly with the country's government.

□ It was not until August 1990 that a UN body (the United Nations Development Programme – UNDP) participated in a swap arrangement.

□ Property rights, whether to land or to other items, have not been transferred to the donor organizations in any of the arrangements so far concluded.

Problems and Lessons Learned

Initial experience with the use of the debt-for-nature concept has shown up four main problem areas.

Political Acceptance: As far as can be ascertained from the available information, the debt-for-nature idea has largely had a positive reception from the general public in debtor countries.¹⁷ One important factor in this is presumably the fact that, in contrast to debt-for-equity swaps, debt-for-nature transactions do not involve any transfer of property away from the country itself in favour of the donor country. Even so, a number of the most highly indebted countries have adopted a sceptical stance on debt-for-nature swaps. One of the points they are unhappy about is that they implicitly represent a forced subsidy to the environmental groups to the extent that the donor organizations benefit from the leverage effect of the secondary market. If one works on the assumption that money would have been donated for environmental projects in any case, then as far as the debtor country's government is concerned the benefit accruing to the donor organization, which is the whole point behind setting up the swap, effectively subsidizes that organization.¹⁸

Inflation: Unless counteracted by savings in other areas, the conversion of hard-currency liabilities into local currency has the effect of raising the money supply in the debtor country concerned and therefore tends to create an inflationary effect. This effect can be alleviated if the funds made available are not all released at once but are invested in interest-bearing government bonds. However, another possible effect is that interest rates on the domestic capital market may be further increased if the volume of such bond issues is large. It is virtually impossible to make any precise estimates of the adverse effects on monetary stability and conditions on the capital market. However, a study commissioned by the government of Costa Rica concluded that an annual volume of \$50 million in bond issues would only have an inflationary effect of about 0.5%.¹⁹ Even so, such inflationary consequences are taken seriously in political discussions.

Legal Enforceability: Debt relief is often rejected in development policy discussions because, once a certain amount of debt has been written off, there is then hardly

¹⁷ Cf. Dieter Oberndörfer: Schutz der tropischen Regenwälder durch Entschuldung, Munich 1989, p. 24.

¹⁸ Cf. Alvaro Umaña Quesada: Banks, Debt, and Development, in: International Environmental Affairs, No. 2, 1990, p. 146.

¹⁹ Cf. *ibid.*, pp. 146 f.

any means available of persuading debtors to adhere to agreements which have been concluded.²⁰ The same kind of problem also applies to debt-for-nature swaps. Once a swap has been carried out, no legal means of enforcement are available to ensure that the funds really are deployed as agreed. The problem applies both to agreements negotiated directly with governments and to those made with local recipient organizations. In Bolivia, for example, the legislative changes parliament was intended to enact in order to protect a nature reserve have still not been passed.²¹

The Effectiveness of the Secondary Market: Although the secondary market is occasionally described as a rapidly maturing one, donor organizations frequently have difficulty in practice in purchasing the debt paper they require. There are only 20 countries whose debts are regularly traded, and only occasional deals are struck involving debt from elsewhere.²² Thus the market is very tight, and this manifests itself in the form of pronounced price fluctuations even at low trading volumes. The overall market volume of \$40-50 billion which is estimated to have been attained in 1988 includes quite a substantial amount of interbank dealing and double counting, and is said by one insider to be the maximum attainable. It is indeed a problem that, the more assessments around the world as to the value of Third World debt converge, the less scope is then available for arbitrage activities, causing the market to dry up.²³ It may well be, therefore, that debt-for-nature

swaps could lose one of the mechanisms on which they depend if the secondary market disappears over the course of time.

In the light of experience gained to date with these and other problems, the following basic rules can be formulated for a successful debt-for-nature transfer:

- ☐ It is absolutely essential that the debtor country's government should be willing to cooperate and that the interests of the local population should be properly considered.²⁴
- ☐ The existence of strong environmental organizations which are independent of the government in the recipient countries is of crucial importance. In a country where no such organization exists, the danger is that the funds released will not be able to be usefully deployed.²⁵
- ☐ Programmes which are already worked out as a combination of demarcateable, individual projects make it much easier to obtain funds from donor organizations and reduce the programme's transaction costs.²⁶
- ☐ Because it reduces the risks of inflation, the acquisition of government bonds in the recipient country is preferable to an exchange for cash,²⁷ even though that entails a loss of flexibility in spending the funds.
- ☐ The bonds issued should have flexible interest rates which are regularly adjusted to compensate for the

²⁰ Cf. Paul-Günther Schmidt: How to Pay for the Debt – Coping with the Third World's Crisis, in: INTERECONOMICS, No. 1, 1990, p. 7.

²¹ Cf. Laura Caldwell: USA: Debt-for-Nature Swaps a Superficial Answer to a Complex Problem, in: Christian Science Monitor, 11th September 1990, p. 19; and Tamara Hrynuk: Debt-for-Nature Swaps: Effective But Not Enforceable, in: Case Western Journal of International Law, Winter 1990, p. 161.

²² Cf. Gerrit Tammes, op. cit., p. 154.

²³ Cf. NMB Bank, op. cit., p. 4.

²⁴ Cf. Deborah K. Burand and Carol Barton: Les échanges dette/environnement: une contribution originale mais controversée à la réduction de l'endettement, in: Problèmes économiques, No. 2139, 6th June 1989, p. 21. This problem has already come to a head in the case of the native Indian population in Bolivia; cf. Kenneth Warn: Tribes march against debt swap, in: Financial Times, 2nd August 1990, p. 4.

²⁵ Cf. Konrad von Moltke, op. cit., p. 6.

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domestic inflation rate. From the donor organization's point of view, an indexation to the dollar exchange rate should be aimed for.²⁸

□ If a swap agreement is divided up into a number of smaller tranches, this improves the ability to acquire the debt paper on the secondary market, and allows donor organizations to retain a certain punitive influence, such as the threat to abandon subsequent tranches if agreed conditions are not complied with.²⁹

Potential and Limitations

Given the overall level of the Third World's indebtedness and an estimated requirement for \$20-50 billion annually in environmental investment,³⁰ the volume of debt-for-nature swaps so far agreed or projected takes on a modest appearance at approximately \$600 million. Even if, instead of comparing swap volumes with overall indebtedness, the figure of \$50 billion felt to be sufficient to stabilize debt service payments is used as a yardstick, the upshot is that debt-for-nature swaps have still brought little more than marginal relief to the debtor countries.

That does not rule out the possibility of substantial improvements being made to the situation of certain individual countries. Costa Rica, for example, has reduced its hard-currency indebtedness by more than 5% with the help of debt-for-nature swaps and, if it can find enough sponsors for its planned swap programme, the Dominican Republic ought to be able to reduce its external liabilities by 10%.³¹

However small the absolute level of funds made available by swaps may be, there are nevertheless many cases in which it exceeds the amount recipient countries have themselves budgeted for environmental measures. Even just the interest payments from Costa Rica's swap programme, for example, are several times the budget normally available to the department responsible for environmental protection.³² There is also another point which should not be forgotten, and that is that even small sums of money can have substantial effects in the Third World: "For the cost of a good meal in Zurich, it is possible to finance a couple of months' salary of a park warden."³³

In future, though, substantially more money will have to be put into conserving natural resources in the Third World. The sum of US\$20-50 billion mentioned above is a target figure which should be used as a standard for all financial efforts that are made. Spokespeople from the banking business have estimated that an annual reduction in debt of only about \$200 million can be achieved by means of debt-for-nature swaps involving commercial debt paper. That would account for just 1/2-1% of the target figure.

The only way of achieving larger volumes is for public institutions to become more intensely involved. There are a number of ways in which they might do this:

□ Governments could grant favourable tax treatment to donations towards debt-for-nature swaps. A measure of this kind would primarily be aimed at the banks, and changes in taxation law to this effect are currently under discussion in the USA.

□ Governments could also perform the role of donor organization themselves, by using intermediaries to purchase private-sector receivables on the secondary market. This route has already been taken by the Netherlands and Sweden.

□ Governments and multilateral organizations could allow the conversion of loans which are outstanding to themselves. The Paris Club of creditor nations first provided for this possibility at their meeting in September 1990. Similar proposals are also contained in President Bush's Enterprise for the Americas Initiative (EAI).

With the aid of measures such as these, it ought to be possible to multiply the present volume of debt-for-nature programmes several times over. Yet even then, it is doubtful whether debt swaps would be enough to raise the annual volume of funds needed to conserve the basis of natural life. It is hardly therefore appropriate to rely on the debt-for-nature concept as a cure-all which will simultaneously solve global debt and environmental problems. Nevertheless, it does fulfil a pioneering function for international ecological cooperation which should not be underestimated, for the significance of such cooperation is growing constantly.

²⁶ Cf. Gerrit Tammes, op. cit., p. 156.

²⁷ Cf. Konrad von Moltke, op. cit., p. 4.

²⁸ Cf. Anant Sundaram: Swapping Debt for Debt in Less-Developed Countries. A Case Study of a Debt-for-Nature Swap in Ecuador, in: International Environmental Affairs, No. 1, 1990, p. 74.

²⁹ Cf. Gerrit Tammes, op. cit., p. 157.

³⁰ Cf. World Resources Institute: Natural Endowments: Financing Resource Conservation for Development, International Conservation Financing Report, Washington, D.C. 1989, p. 2.

³¹ Cf. Alvaro Umaña Quesada, op. cit., p. 142 and James Kraus: Debt-for-Nature Swaps Gain Momentum, in: American Banker, No. 49, 1990, p. 15.

³² Cf. William Reilly: Debt-for-Nature Swaps: The Time Has Come, in: International Environmental Affairs, No. 2, 1990, p. 136.

³³ Henner Ehringhaus: Introduction to the European Conference on Debt and Conversion, in: International Environmental Affairs, No. 2, 1990, p. 132.