

The Relationship Between Debt-for-Nature Swaps and Protected Area Tourism: A Plausible Strategy for Developing Countries

Brijesh Thapa

Abstract—There is a positive correlation between the debt crisis of the early 1980s and environmental degradation in developing countries. To combat the crisis, Lovejoy (1984) introduced the debt-for-nature swap process that involves a mechanism of exchange in which a certain amount of the debtor's foreign debt is cancelled or forgiven, in return for local currency from the debtor government to be invested in domestic environmental projects such as designation and management of protected areas. Currently, in excess of \$1.5 billion in transactions have occurred among 19+ countries. The demand for nature-based tourism is on the rise, and developing countries should subscribe to such swaps.

In the 1970s developing countries witnessed an era of economic growth, as well as debt accumulation, as they borrowed extensively from Western banks for development projects such as investment in new industries, upgrading old plants, improvements in the agricultural sector (production), building infrastructure, dams and roads, etc. However, due to economic stagnation in the West in the early 1980s, developing countries experienced a decline in foreign exchange earnings because of a lack of demand for their goods. In addition, the rise in interest rates in Western countries perpetuated debt accumulation, which further exacerbated the inability of developing countries to service their debts. The escalation of the debt dilemma peaked in 1982 when Mexico, one of the largest developing debtor nation, announced that they were unable to pay interests on their foreign debt (US\$ 80 billion). The total accumulated debt for developing countries in 1982 was US\$ 850 billion. It was at this stage that analysts officially labeled the "debt crisis." Other countries shortly followed suit, and 43 developing countries were in arrears with their foreign debt by 1983 (Greener 1991; Moran 1992; Vaggi 1993; Wagner 1990).

Various strategies to combat the debt crisis were implemented by the International Monetary Fund, The World Bank, creditor commercial banks and various western countries. However, austerity measures such as devaluation in local currencies, increase in exports of cash crops, decrease in government spending as well as imports and elimination of subsidies of basic necessities were mandated by the IMF/World Bank before new loans were financed. Also, an

International Secondary Market for "bad debt" came into existence to trade developing countries' debt at deeply discounted rates. Another tool used for debt reduction was debt-for-equity swaps. This concept involves trading foreign debt for local currency of the debtor country, which in turn is used as equity investments in the firms of the debtor countries (Thapa 1998). The US government also largely played a role to combat the debt crisis, especially in Latin America. Due to the globalization of the economy, much was at stake for the US as one-third of the total trade package was involved with developing countries. It was estimated that within one year in 1985, 800,000 jobs were lost as imports declined, and companies downsized to stay competitive (Moran 1992). The US implemented the Baker Plan, the Brady Plan, and the Enterprise for the Americas Initiative (EAI) in the late eighties to help stimulate economies of developing countries. The strategy was to negotiate some form of debt relief so that economic progress could be rejuvenated, and also for the encouragement and implementation of new lending practices. Some success was marginally experienced, however the EAI is still in operation and is gaining momentum (Thapa 1998).

There is a positive correlation between the debt crisis of the early 1980s and environmental degradation in developing countries (Greener 1991). This is largely attributed to the austerity programs mandated by the International Monetary Fund (IMF) and the World Bank which severely affected tropical forests as wood was exported to generate revenue and the lands were used to cultivate cash crops. However, deforestation of tropical forests is still an occurring phenomenon. The austerity measures contributed to increased poverty, as "monocropping" of export crops and elimination of subsidies of basic necessities resulted in more expensive food (Moran 1992). The potential consequences of deforestation has many irreversible effects. Some of the areas of concern are global warming, dramatic changes in local climate, rise in temperature and decrease in rainfall precipitation. Deforestation also threatens genetic diversity, as these forests are home to 50% of all plant and animal species (Hamlin 1989).

In Latin America, "environmental destruction has been the result of measures to meet the most basic human needs for shelter, food, and a rudimentary livelihood" (Wagner 1990). The environmental crisis catalyzed by the debt crisis in developing countries will continue because the natural resources these countries depend on continue to be stripped and depleted (Dogse and von Droste 1990; Greener 1991; Moran 1992). However, since the debt and environmental crisis are intertwined, elimination of the debt and investment capital does not guarantee environmental emancipation, as development in developing countries is inevitable (Dogse and von Droste 1990; Hrynik 1990).

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Brijesh Thapa is an Assistant Professor in the Department of Recreation, Parks, and Tourism. He is also associated with the Center for Tourism Research and Development, Box 118208, 300 Florida Gym, University of Florida, Gainesville, FL 32611-8208 U.S.A.

To combat the symbiotic relationship of the debt and environmental crisis, debt-for-nature swaps derived from debt-for-equity transactions were proposed in 1984 by Dr. Thomas E. Lovejoy (then the vice president for science with the World Wildlife Fund for Nature). Basically, this stepwise process involves a mechanism of exchange in which a certain amount of the debtor's foreign debt is canceled or forgiven, in return for local currency from the debtor government to invest in a domestic environmental protection project. Projects may include conservation, natural resource management, designation and management of protected areas, park personnel training and environmental education programs and activities.

In 1987, the first swap facilitated between Bolivia and Conservation International (USA-INGO-International Non-Governmental Organization), involved cancellation of \$650,000 Bolivian foreign debt in exchange for \$100,000 of local currency to be used towards protection of the Beni Biosphere (Occhiolini 1990; Sadler 1990). Since the first swap, in excess of \$1.5 billion in transactions has been involved in swaps among 19 or more countries, and the figures and participants are expected to steadily increase (Deacon & Murphy 1997). The countries involved have ranged from Costa Rica, to the Philippines, Madagascar to Poland. The swaps have generated more than \$100 million in funds for domestic environmental protection projects (von Moltke 1991). More recently, Mexico has been actively involved in swaps having converted \$3.7 million via 9 different transactions (Table 1) (Global Development Finance 1998).

Important components of every swap should be reduction of a country's debt and renewed commitment to provide increased resources for conservation purposes (Conservation International 1989; Hrynik 1990; Page 1990). Tropical countries with a diverse array of endangered species are more likely to undertake swap practices. Concomitantly, countries with high debt burdens are more likely than countries with low debt burdens to utilize the swap process (Deacon & Murphy 1997).

Debt-for-Nature Swaps: Functionality

The functional mechanism of debt-for-nature swaps entails certain steps, and may involve two governments (bilateral-official debt), or in most cases, governments are aided by an International Non-governmental Organization (INGO) (trilateral-official and private debt). Official debt is between two governments, while private debt refers to commercial (bank) debt. However, the INGO must have a local contact with a domestic Non-governmental Organization (NGO) in the debtor country to be responsible for the administration and operational facilitation of the swap project. Nonetheless, in some cases, a mutually established committee can also administer the coordinator's role (Thapa 1998). The INGOs have typically been based in the United States, although some European agencies have also been active. Three of the principal U.S. organizations involved are Conservation International, The World Wildlife Fund for Nature and Conservation and The Nature Conservancy (Deacon & Murphy 1997).

The initial initiative for the swap lies with the sponsoring INGO to establish dialogue with the debtor country's government and, eventually, the debtor country's central bank and a domestic NGO. Once approval is given, negotiations are undertaken and mutual agreements are reached about the mechanism of funding the 'potential project.' The sponsoring agency (INGO) normally locates a potential donor, which may include governments, banks, organizations and private foundations (Greener 1991; Sadler 1990). The International Secondary debt markets for second-hand debts are also investigated for discount levels. The secondary market for bad debt originated in 1982 as a resort for lending agencies to salvage or minimize their losses. Debt could be bought for deep discounts; for example, a US\$ 10 million debt could be bought for US\$ 5 million (Mahony 1992). However, when a match is met, the sponsoring agency will either buy the discounted debt, receive it as a donation from banks or governments or receive money from foundations to buy the discounted debt in exchange for investment of local currency by the debtor country in the stated environmental project. Local funding can also be issued by the debtor country in the form of issuing currency or bonds, in which the interest's from the bonds is used for daily operations. As indicated earlier, the coordination and daily operations of the project are normally undertaken by a domestic NGO and/or institutions mutually agreed to by both parties (Dogse and von Droste 1990; Greener 1991; Sadler 1990).

Swaps and Protected Area Tourism

Debt swaps have been seen as a beneficial tool for the conservation and protection of natural resources and debt reduction. Swaps have also been recommended as a sustainable development tool (Jaeger, 1990). Swaps will not alleviate the debt burden of developing countries (US\$ 2 trillion, current estimate) but they provide a small solution to a big problem that also aims to protect the environment. It has been noted that swaps, if rapidly implemented among developing countries might reduce the overall debt burden by US\$ 200 million per year (Wagner 1990). In addition, swaps help to increase funds for environmental organizations. For example, World Wildlife Fund's swap with Ecuador established a fund yield that is twice the size of the current parks and reserves budget, and it is expected to increase (Patterson 1990). In fact, in Ecuador, every dollar of acquired debt resulted in excess of eight dollars worth of local currency used for conservation (Fuller 1989). On a similar note, Costa Rica's Minister of Natural Resources, Energy and Mines remarked that although swaps represents a small dent in the overall debt burden, the interest alone from the swaps is several times greater than the annual budget allocated to the country's Park Service (Reilly 1990).

Costa Rica has been actively involved in swap practices to protect its natural environment. It is a leading country, in terms of conservation, and 12% of its total land-mass is designated as national parks or protected biological reserves. Costa Rica has been proactive and has been able to get U.S. and European INGOs and private foundations to aid in reforestation and/or park projects via swap practices.

Table 1—Debt-for-nature swap transactions (1987-1997) (In US \$ millions).

Year	Country	Purchaser	Face Value	Cost	Conservation Funds
1997	Mexico	CI	0.31	0.24	0.30
1997	Mexico	CI	0.27	0.19	0.24
1996	Mexico	CI	0.67	0.44	0.56
1996	Mexico	CI	0.50	0.33	0.44
1996	Mexico	CI	0.39	0.19	0.25
1995	Mexico	CI	0.49	0.25	0.34
1994	Mexico	CI	0.29	0.25	0.29
1994	Mexico	CI	0.48	0.40	0.48
1994	Mexico	CI	0.28	0.24	0.28
1994	Madagascar ^a	CI/WWF	2.00	0.05	2.00
1993	Madagascar	CI/WWF	5.00	3.20	5.00
1993	Philippines	WWF	19.00	13.00	17.70
1993	Mexico	CI	0.25	0.28	0.25
1992	Ecuador	Japan	n.a.	n.a.	1.00
1992	Brazil	TNC	2.20	0.75	2.20
1992	Chile	EAI	15.90	n.a	1.40
1992	Bolivia ^a	TNC/WWF	11.50	0.00	2.80
1992	Guatemala	CI/USAID	1.30	1.20	1.30
1992	Panama	TNC	30.00	7.50	30.00
1992	Ecuador	WWF	1.00	n.a	n.a
1992	Philippines ^b	WWF	9.90	5.00	8.80
1992	Mexico	CI/USAID	0.44	0.36	0.44
1992	Poland	Paris Club	3000.00	n.a	n.a
1991	Ghana ^c	DDC/CI/SI	1.00	0.25	1.00
1991	Jamaica	TNC/USAID	0.44	0.30	0.44
1991	Guatemala ^d	TNC	0.10	0.08	0.09
1991	Mexico ^e	CI	0.25	0.00	0.25
1991	Nigeria	NCF	0.15	0.07	0.09
1991	Philippines	USAID/WWF	n.a	n.a	8.00
1991	Mexico ^{e, f}	CI	0.25	0.18	0.25
1991	Costa Rica ^{d, g}	Rainforest Alliance	0.60	0.36	0.54
1991	Madagascar ^h	CI/UNDP	0.12	0.06	0.12
1991	Bolivia	EAI	38.40	n.a	1.80
1991	Jamaica	EAI	271.00	n.a	9.20
1990	Madagascar	WWF	0.92	0.45	0.92
1990	Philippines	WWF	0.90	0.44	0.90
1990	Madagascar	CI	5.00	n.a	5.00
1990	Costa Rica	WWF/TNC/Sweden	10.80	1.90	9.60
1990	Dominican Rep.	TNC/PRCT	0.58	0.12	0.58
1990	Poland	WWF	0.05	0.10	0.05
1989	Zambia	WWF	2.30	0.45	2.30
1989	Madagascar	WWF	2.10	0.95	2.10
1989	Ecuador	WWF/TNC/MBG	9.00	1.10	9.00
1989	Costa Rica	Sweden	24.50	3.50	17.10
1989	Costa Rica	TNC	5.60	0.78	1.70
1989	Philippines ⁱ	WWF	0.39	0.20	0.39
1988	Costa Rica ^j	Holland	33.00	5.00	9.90
1988	Costa Rica	NPF	5.40	0.92	5.40
1987	Ecuador	WWF	1.00	0.35	1.00
1987	Bolivia	CI	0.65	0.10	0.25

n.a Not applicable.

CI= Conservation International; DDC= Debt for Development Coalition; EAI= Enterprise for the American Initiative; MGB= Missouri Botanical Gardens; NPF= National Park Foundation of Costa Rica; PRCT= Conservation Trust of Puerto Rico; SI= Smithsonian Institute; TNC= The Nature Conservancy; UNDP= United Nations Development Programme; USAID= U.S. Agency for International Aid Development; WWF= World Wildlife Fund.

^aDebt donated by JP Morgan.

^bFace Value of debt includes \$200,000 debt donation by Bank of Tokyo.

^cInvolves buying blocked local currency funds from multinational organizations; includes Midwest universities, Consortium for International Activities, and U.S. Committee of the International Council on Monuments and Sites.

^dPurchase of Central American Bank for Economic Integration debt.

^eTotal amount of program is \$4 million.

^fDebt donated by Bank of America.

^gWWF contributed \$1.5 million on top of the swap.

^hTotal amount of program is \$5 million.

ⁱTotal amount of agreement is \$3 million.

^jIncludes \$250,000 donated by Fleet National Bank of Rhode Island.

Source: Deacon and Murphy (1997); Global Development Finance (1998); World Debt Tables (1996).

Between 1988 and 1990, US\$ 10 million was generated in donations to help retire the face value of US\$ 69 million of the country's foreign debt. Simultaneously, this has enabled Costa Rica to raise US\$ 33 million in local currency bonds, which support parks and protected areas, reforestation projects, etc. Although this represented a retirement of about 5% or more to the overall debt burden, it was still a positive experience in terms of both debt reduction and environmental protection (Page 1990).

Debt-for-nature swaps have been responsible for the creation and/or addition of protected areas in countries where swaps have been undertaken. A majority of the protected areas created through swaps have incorporated nature-based tourism/ecotourism and other forms of environmental and culturally based tourism. With more countries joining the swap movement, the future of protected area tourism looks bright. Nature based tourism has experienced a 10% to 30% increase per year, which is about two to five times faster than the growth rate for tourism in general (Wright 1996). Also, "environmental awareness" is becoming the collective consensus among the general populace in developed countries, so, protected areas in developing countries can anticipate an influx of nature-based tourists or ecotourists. For example, Costa Rica, is one of the world's most coveted ecotourism destination of the 1990s, experienced 781, 000 tourist arrivals in 1996, and approximately 66% of all visitors visited a natural protected area.

Along with the promotion of sustainable use of natural resources, swaps have the inherent possibility of creating jobs and income in remote regions via protected area tourism. Lindberg (1996) best summarizes the impacts of protected areas in general: "Protected areas, and nature conservation generally, provide many benefits to society, including preservation of biodiversity, maintenance of watersheds, and so on. Unfortunately, many of these benefits are intangible. However, the benefits associated with recreation and tourism in protected areas tend to be tangible. For example, divers at a marine park spend money on lodging, food, and other goods and services, thereby providing employment for local and non-local residents. These positive economic impacts can lead to increased support for the protected areas with which they are associated. This is one reason why ecotourism has been embraced as a means for enhancing conservation of natural resources."

Brown (1998) argues that swaps are likely to activate investment in international tourism via 'park restoration, sustainable wildlife preservation and forest protection.' Moreover, in the context of the African continent, he states that swaps that help create protected areas/parks would increase the influx of tourists, thereby simultaneously increasing foreign exchange earnings (Brown 1998).

There is a positive relationship between debt-for-nature swaps and protected area tourism, in which swaps are employed as a sustainable development tool facilitated by protected area tourism. Swaps objective are to reduce the debt burden, protect the environment, and aid in sustainable development programs to generate local jobs and income which in turn can be facilitated by protected area tourism (figure 1). Tourism and protected areas have a beneficial symbiosis, in which a protected area provides experiences for tourists, while the revenue generated (entrance fees...) aids in the daily operation and maintenance of

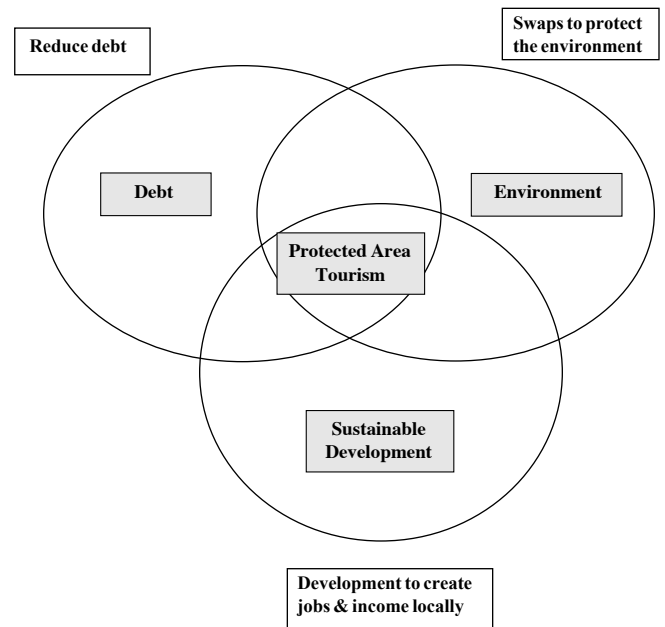


Figure 1—Relationship between Debt-for-Nature Swap and Protected Area Tourism.

the protected area. Locals are employed, and the local economy is rejuvenated in remote regions.

Conclusions

Realistically, the US \$2 trillion debt burden of developing countries will never decrease dramatically. Costa Rica, the largest player and also the most successful environmental protection country, has managed to eliminate only 5% of its overall debt, in spite of multiple swaps. Debt-for-nature swaps may not have a major impact on the debt burden or the environment of developing countries, but they can provide additional funding to ailing environmental organizations in developing countries, raise a sense of awareness about environmental protection. Some environments like Costa Rica is benefiting from such a process and is reaping foreign exchange, job creation and other associated benefits due to the immense success of protected area tourism.

There is a positive link between the debt crisis and environmental degradation. Solving the debt crisis will not unilaterally solve the environmental crisis. However, debt-for-nature swaps can help secure the natural environment for the present as well as future generations; in other words they provide a mechanism for sustainability, promoting sustainable use of natural resources, an essential component of economic development. This concept is a plausible strategy for developing countries that are proactive in environmental issues and can achieve some degree of success via protected area tourism. There are only a few countries namely Costa Rica, Ecuador, Mexico, the Philippines and Madagascar that are actively involved in such a process. Largely, Latin American countries have been targeted. However, progress has been documented in Europe. Recently, Switzerland decided to forgive SF 20 million in

exchange for the equivalent local currency to be spent on environmental protection and cleanup in Bulgaria (Environment Bulletin 1996). The largest debt swap occurred in 1992, when Poland (debtor country) and the Paris Club (17 wealthy creditor countries) decided to swap debt for environmental concessions at amounts estimated up to US\$ 3 billion (Deacon & Murphy 1997).

However, each swap should have site specific agreements, and should include locals living within or around the vicinity in the planning process, because local commitments and trust are mandatory to ensure any degree of success. For example, in the Ghana swap, Conservation International is looking at alternative income producing opportunities for village residents who reside within the vicinity of the park as a way to prevent poaching; local guides and camping lodges operated by locals are being considered (Brown 1998). Most importantly, site-specific standard monitoring and enforcement programs must be implemented, as the objectives of the swaps are highly dependent on the success of such programs.

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