



Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH

Dirk Kloss

Guide to Sustainable Financing of Biodiversity and Protected Areas

A compilation and coarse analysis of financing mechanisms
at different levels for project-managers, their counterparts and
national/international decision makers

Sector Programme
Protected Area Management and Bufferzone Development
ABS/LISTRA
GTZ Postfach 51 80
D - 65726 Eschborn
Germany
<http://www.gtz.de>

Rolf-Peter Mack (Head)
Dirk Kloss (Consultant)



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Abbreviations & Acronyms

ABS/LISTRA	GTZ Sector Project 'Protected Area Management and Bufferzone Development' (Absicherung von Schutzgebieten und Randzonenentwicklung)
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BMZ	German Federal Ministry for Economic Co-operation and Development
CIM	Centre for International Migration (Germany)
BTF	Bhutan Trust Fund
CA	Conservation Area
CBD	Convention on Biological Diversity
CBO	Community based organisation
CDM	Clean development Mechanism
CGIAR	Consultative Group on International Agricultural Research
CIFOR	Centre for International Forestry Research (Helsinki)
CO ₂	carbon dioxide
CoP	Conference of the Parties
DC	Development Co-operation (->ODA)
FC	Financial Co-operation
FSC	Forest Stewardship Council
GEEMF	Global Environment Emerging Markets Fund
GEF	Global Environment Facility
GEFI	Global Environment Fund Inc.
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Society for Technical Co-operation Ltd.)
HIPC	Highly Indebted Poor Country
IDB	Inter-American Development Bank
IFC	International Finance Corporation
ITTA	International Tropical Timber Agreement
ITTO	International Tropical Timber Organisation



IUCN	International Union for Conservation of Nature
IFM	Improved forest management
JI	Joint Implementation
KfW	Kreditanstalt für Wiederaufbau (German Bank for Reconstruction)
LDC	less-developed country
MBIs	Market based instruments
MDB	multilateral development bank
MIGA	Multilateral Investment Guarantee Agency
MIF	Multilateral Investment Fund (IDB)
NFP	National Forestry Programme
NGO	Non-governmental organisation
NTFP	Non-timber forest product
ODA	Official Development Assistance
OPIC	Overseas Private Investment Corporation (USA)
PCM	Project Cycle Management
PROFOR	Programme on Forests (UNDP)
RDBs	Regional Development Banks (ADB, AfDB, IDB)
SHO	Self-help Organisation
SME	Small and medium scale enterprises
SV	Stumpage value
TC	Technical Co-operation
TDR	Tradable development rights
TFT	Tropical Forest Trust
TNC	The Nature Conservancy
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme



UNESCO	United Nations Educational, Scientific, and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organisation
WB	World Bank
WTO	World Trade Organisation - in tourism context: World Tourism Organisation
WFP	World Food Programme
WHO	World Health Organisation
WRI	World Resources Institute
WTP	Willingness to pay
WWF	World Wide Fund for Nature

Currencies:

If not otherwise indicated, monetary amounts are in United States of America Dollars (US\$) at the time chosen by the respective quoted source.

mioUS\$ - million US\$ = 1,000,000

bioUS\$ - billion US\$ = 1,000,000,000
(in most European countries milliard)



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For contact by Mail or Fax:

Sector Programme
Protected Area Management and Bufferzone Development ABS/LISTRA
GTZ Postfach 51 80
D - 65726 Eschborn
Germany

Rolf-Peter Mack (Head)
Fon: +49 - 6196-79-1437
Fax: +49 - 6196-79-6103
Email: Rolf.Mack@gtz.de
WEB: <http://www.gtz.de/listra/index.html>

Dirk Kloss (Consultant)
Fon: +49 - 162 - 8 24 11 24
Fax: +49 - 89 - 2443 65832
Email: Dirk@dirk-kloss.net
WEB : <http://www.dirk-kloss.net>

Layout and digital Concept:
Michael Becker (Consultant)
Fon: +49 - 6085 - 989 337
Fax: +49 - 6085 - 989 337
Email: Michael@cyBecker.de

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1 Introduction

Sustainable financing is a key concern for most practitioners and managers involved in the conservation of biodiversity and protected areas. While the increasing number of protected areas and tighter public budgets even in developed countries force conservation areas and agencies to look for new sources, the problem is obviously more urgent in developing countries. The majority of the world's biodiversity-rich areas are in nations with a fundamental urge to focus all available resources on social and economic development. Most attempt some degree of conservation. However, the sustainable management of biodiversity as a foundation particularly for the life and future development of poor populations is rarely perceived as an indispensable or fast-enough strategy. Mobilising national and international capacity and awareness thus remains a prominent task of development assistance agencies such as GTZ.



1.1 Rationale for this guide

The genesis of this guide is based on the experience that many biodiversity conservation areas and projects can find initial support for the set-up of the scheme or for individual innovative components. However, most fear or experience different degrees of under-financing for the long-term. This has motivated many experiments with a change from a single, traditionally governmental source of revenue to multiple mechanisms, which can already provide lessons for others. Naturally, they come from a fairly broad spectrum of organisational, political and natural conditions.

Experiments include improved conventional instruments such as entry fees, tourism and public and private donations, but increasingly also innovative ones such as charges from water/electricity users, carbon sequestration, eco-taxes and bio-prospecting. While even protected area managers in developed countries find it difficult just to *know* about the instruments and potentials, it obviously poses a substantial challenge for areas under difficult financial and technical conditions. Not to mention that the latter are even more suddenly expected to apply these sources.

Our guide is part of a suite of instruments designed to offer assistance for developing a systematic approach to secure a sustainable financial basis. As this has of recently become a very active sector, a wide range of good introduction papers and specific cases studies has been prepared by public and non-governmental (NGO) institutions. However, identifying the appropriate source and obtaining the necessary information appears to be a problem fed back to us from almost all projects.

Rather than reproducing the body of often excellent work, a structured attempt is made to briefly analyse the strengths and weaknesses of the different approaches and help the user to find more information, experience gained by others, and access to new sources. The structure attempts to elaborate on an overview provided in the "Financing Protected Areas" guideline issued by the World Commission on Protected Areas of the International Union for Conservation of Nature (IUCN-WCPA 2000). Another general overview of innovative finance mechanisms can be gained from a study commissioned by the Inter-American Development Bank (Bayon *et al.* 2000). Many useful analyses of financing mechanisms emerge from the sustainable forestry management studies (the best recently were for the EU by Richards 1999 and for UNDP-Profor by Moura Costa *et al.* 1999), though their focus on the economically already more established forestry sector requires substantial adaptive work to be of help for biodiversity financing.



This guide calls on the users to understand sustainable financing as an – important, indispensable, certainly difficult, but in every aspect – integrated part of a comprehensive conservation approach. This requires to:

- work out a viable management concept (including time-frame and planned development),
- determine the associated financial needs, and
- to develop a suitable financing strategy.

It is no coincidence that this sounds like excerpts from a business planning textbook. In fact, most recent publications on protected area finance explicitly stress the advantages of deliberately using professional economic tools for the management of a conservation area or system – after all, they ‘have to make money’, they obviously need to get it from any possible source, and they pin particular hopes on new private sources. Experience shows that managers are more successful in generating and using finances, if proper economic incentives and tools are applied.

All this does not mean to reduce efforts to establish national and international systems of protected area management and finance. On the contrary: it must be emphasised that conservation of biodiversity resources and protected areas *is a fundamental responsibility of the state* which should not lightly be shifted to private and non-governmental entities. Rather, we argue that the state, independent of whether he or non-governmental entities manage an area, establishes the above mentioned national and – together with the appropriate external institutions – international conditions helping him to fulfil his responsibility.

On all levels – local, national, and international – this includes

- transfer approaches for not financially quantifiable environmental services (i.e. public goods),
- market approaches to internalise the economic value of the use of these public goods, and
- mobilisation of private investment flows.

All three are based on the growing appreciation that environmental conservation provides direct and indirect services, and that people and organisations are increasingly willing to pay for such services.

Transfer approaches are based on the realisation that governments have to regulate transfers to ‘pay’ nature (e.g. conservation areas) for providing public good services, e.g. clean air, which are not captured by



markets (governmental role to balance market imperfections). This contains such instruments as environmentally substantiated taxes and other fiscal fund-raising measures, tax reform stimulating ecological investment or donations; international development assistance, debt swaps etc.

Market approaches include mechanisms which (partly) reflect the economic value of services provided by biodiversity areas, e.g. user charges for entrance (recreation service), timber extraction or water supply (resource use), or CO₂ sequestration.

Private investment approaches describes mechanisms paying directly for biodiversity use, such as bioprospecting, and other, more indirect ones, such as biodiversity venture funds, which usually do not finance conservation directly. Both bring capital into the sector of the economy working with biodiversity products, thus creating a market value and providing direct or indirect income to biodiversity areas or their peoples.



1.2 Structure and navigation in this guide

This guide has two parts. The first, i.e. chapters 1 and 2, calls on the user to develop a financing strategy as part of its overall management plan.

Based on an analysis of the needs and existing services (environmental, economic, socio-cultural) provided by a biodiversity area system, the potential users/markets are identified. A strategy (*following IUCN's 'business approach to conservation finance'*) is proposed how to select reliable funding sources based on existing services and under which conditions to develop/modify services suited to the 'market' of funding mechanisms.

Once the basic strategy is outlined, the user can learn more about the available financing.

The second part, chapters 3 to 5, can be understood as a **source book** to assist in the selection of suitable financing mechanisms. Starting from the local self-financing level, the national and finally international mechanisms and sources are analysed from the perspective of suitability for different biodiversity protection financing needs. Their strengths and weaknesses are outlined and sources and examples for further study and help to access funding are provided.

Note that mechanisms, which are relevant on several levels, are mainly dealt with at local scale.

As a source book, it is not designed for coherent reading cover to cover, but to use the orientations in chapter 2 to directly go to the mechanisms of interest. A key function is to provide the user further information about case studies, useful sources of further reading, funding organisations and contacts. Cognisant of the difficulty to access libraries, international journals etc. from often isolated project locations, the utmost care was taken to select information available via the internet and to provide direct links for document download and homepages.

To help the user **navigate** in this guide, the electronic version (i.e. the document in Microsoft Word [* .doc] or Adobe Acrobat Reader [* .pdf] formats) offers hyperlinks throughout.

1 Table of contents and chapter cross-references in the text:

click on the chapter of interest to jump there (your mouse will take the look of a white hand if you come near such a cross-reference).



2 **Overview tables** of suitable mechanisms are the key to understand the mechanisms – in [chapter 2.4](#) : click on the mechanism of interest to jump to the relevant chapter

3 **Autors' names**: click on those marked in [blue](#) to jump to the bibliography

4 **Key reading** and **further sources** in each chapter:

- click on the regular black-typed literature source to jump to the bibliography (although they are mostly fully spelled out to have all information for one issue on one page)
- click on the hyperlinks provided with case studies and further sources to jump to internet locations or authors in the bibliography

5 **Bibliography**:

- click on fully spelled-out [http hyperlinks](#) to download or go to the *location in the internet* from where they were taken. These hyperlinks were valid at the time of writing (8/2001). The volatility of internet references naturally limits their longevity. Mostly, however, homepages of the respective organisations can be found by copying the reference into your browser and slash by slash deleting the last segments.
- (It is planned that most of the hyperlink-marked documents and additional specific information can later also be requested together with this guide on a forthcoming CD from GTZ, see [page 5: How to order this guide](#). Navigation on the CD is explained on the CD's root directory in the text file 1st_READ_ME.txt).
- In all cases, you can **return to your original location** by clicking on the 'back' button on your navigation menu bar.



2 Strategy for sustainable financing

Financial sustainability involves more than simply finding additional sources of income. We will not treat other important management aspects such as capacity development, reliable accounting, etc. The rationale for an inclusion of professional business tools in conservation was explained earlier in line with IUCN's 'business approach to conservation finance' (IUCN-WCPA 2000). However, looking from a more integrated perspective, it should at least be mentioned here that every conservation agency or area, among others, has to:

- work out a viable management concept (including time-frame and planned development),
- determine the associated financial needs,
- develop a suitable financing strategy, including
 - increase cost recovery (fees, new sources)
 - reduce costs by effective management, prioritising activities
 - share costs with partners (businesses, other users, NGOs, donors)
- analyse potential 'markets' for biodiversity service,
- select suitable funding mechanisms,
- develop biodiversity services, marketing & access to funding mechanisms.

Box 1: Examples: Problems in estimating and covering conservation costs

Effective conservation in African protected areas is estimated to cost between \$200 and \$230 per km², yet James (1998) reports the following agency budgets in \$ per km² for selected east and southern African countries:

• Angola	< 1	• Namibia	70	• Uganda	47
• Botswana	51	• South Africa	2,129	• Zambia	23
• Kenya	409	• Tanzania	30	• Zimbabwe	436

Though some countries are funded above the effective conservation level, many are not—and budgets for other sub-Saharan countries are generally lower still. It is estimated that on average across developing countries, protected area budgets represent only 30% of the financial requirements for effective conservation. Average per km² funding in developed countries (\$2,058) is much greater than in developing countries (\$157), but the former also face budgetary constraints (James et al in Lindberg 2001: 3). Lindberg (2001: 3) shows an array of examples from developed countries with funding difficulties to the extent that 1) domestic beneficiaries of public natural areas can not be galvanised into pressuring politicians to allocate greater funding for such areas and/or 2) international beneficiaries do not pay for the benefits they receive, public area management agencies are forced to "sell" area benefits in order to expand their budget. In other words, they have an incentive to create a market in the biodiversity they manage because non-market funding mechanisms have been inadequate relative to conservation needs and the benefits that such areas bestow on society.



2.1 Determining the needs and developing a financing strategy

Financial planning that suits their foreseeable needs and challenges requires protected area managers to first identify their current situation and possible future trends. A range of guidelines (e.g. [EC 1998](#), [McNally 2000](#), or [Inamdar/Merode 1999](#)) are available. The best practical guide for Long-term Financial Planning for Protected Areas currently is the manual by [TNC \(2001\)](#), providing on 40 easily readable pages step-by-step guidelines, case studies, accounting sheets and templates in Excel spreadsheets, available in print and on CD.

[Inamdar/Merode \(1999: 18-28\)](#) describe **four basic steps** towards a sustainable financial management and strategy:

1. Monitor all transactions of the area or organisation

- to understand the financial status of the protected area (incl. bookkeeping)

2. Create an income model

- to identify current sources of income and quantify how income will change in the future

3. Build an activity cost model

- to assess the real cost of providing protected area services at the desired level

4. Forecast cash flow

- to reduce costs and begin to identify opportunities for increasing revenue

At this point, particularly an example for the income model shall be stressed: Once a reliable annual recurrent budget (see [Table 1](#), which in practice can be broken down into much more detailed items under each activity heading, e.g. [TNC 2001: 27](#)) is established, a detailed analysis with prediction of trends for at least 5 years and action to be taken should follow (see [Table 2](#)). Programmes with a wider significance and budget (or protected area systems) should consider a comprehensive study (see [Box 2](#)).



Table 1 Example: Annual Recurrent Budget (GTZ-sup. Murchison Falls CA, Uganda, simplified)

Code	Activity Description	Revenue	Expenses	Balance
31000	Internally Generated	X		
32000	GoU Subvention and Donors	X		
	GoU Subvention	X		
	GTZ / DED	x		
	ICB / PAMSU	x		
41000	Personal Costs		Y	
42000	Operating Costs other than Personal		Y	
42100	Photocopying / Stationary / Computer		y	
42200	Uniforms and other Supplies		y	
42300	Advertisement and Exhibitions		y	
42400	Utilities		y	
42500	Audit and Consultancies		y	
42600	Repair and Maintenance		y	
42800	Other Expenses		y	
Total		Σ X	Σ Y	Σ X - ΣY

Table 2 Example of an income model showing trends in income (Inamdar/Merode 1999: 23)

Income	Current position	Prediction of trends	Action needed
Government grant	40% of income annually reviewed	Will decline to 0% within two years	Identify actual loss to core activities. Seek alternative sources of income?
International funding from donor agencies	20% of income from 2 research project 'contracts'.	Unsure. Do they cost more than we think?	Analyse costs and review pricing policy.
User fees - tourism	20% of income	Will probably stay at this level with little effort	Do we need to explore opportunities to increase fees?
User fees - resource con-tracts with private sector timber concessions	10% of income	Will remain at this level	Can we increase fees without losing clients?
Public donations	10%	Likely to remain at this level with little effort	Do we need a fund raising strategy?



Box 2: Example of a financial assessment

(GTZ-supported 'Murchinson Falls CA', Uganda, 5/2001)

1. Selection and Access to Financing Sources
 - 1.1 Existing Finance Sources
 - 1.2 Analysis of Financing Sources Currently Utilized in East Africa
 - 1.1.1 Uganda
 - 1.1.2 Regional East Africa (Tanzania, Kenya, Ethiopia, Madagascar)
2. Analysis of Required Finance – MFCA (5 years)
 - 3.1 Recurrent Expenditure
 - 3.2 Development Expenditure
 - 3.3 Internally Generated Income
 - Existing
 - Assumptions
 - New Projections
3. Identification of Funding Source Options - MFCA
 - 3.1 Need for Recurrent versus Development Budgets
 - 3.2 Total Budget Requirements
 - 3.3 Funding Alternatives

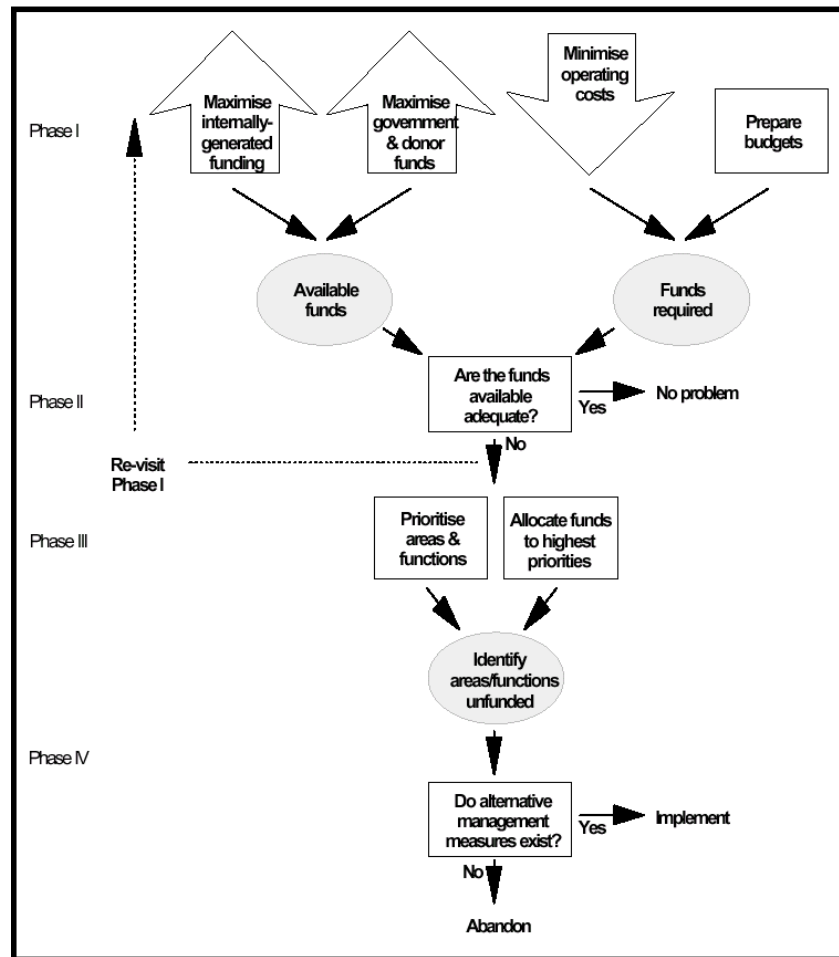


Fig. 1 Steps for developing sustainable protected area financing

Another suggestion for steps to arrive at a sustainable protected area financing strategy suggested by Harpe (1997, see Figure) can help managers to prioritise and streamline work flows .

Step 4 (forecasting cash flow) of the above list by Inamdar/Merode or Phase III in Harpe’s figure on phases in preparing for sustainable financing stress one management aspect that is important also to all donors: cost effectiveness of management. It has many implications, most obviously in financial discipline and effectiveness of day-to-day operations in conservation implementation. However, long-term cost effectiveness must already be considered in the design of facilities and services in the protected area. For example, it will make a big difference



in the long run, what kind of infrastructure the park established, initially often with the help of substantial external financial assistance. An extensive network of roads (paved - unpaved, wider than necessary ...), lodges, fences, camping installations etc. may be useful to attract and accommodate tourists, but the resulting costs have to be recovered for many years, causing a heavy load on park budgets and compromising available staff and budget for the original conservation activities. Inamdar/Merode make a convincing case of always staying above the brake-even point by reducing fixed costs to a minimum. The most obvious way is to contract all activities to private entrepreneurs, who then carry all the investment risk, have to manage with off-season slack and are usually much higher personal motivation and ways to turn an enterprise to profitability.

Box 3 The Task Force on Management Effectiveness

was established by the Steering Committee of IUCN's **World Commission on Protected Areas** in April 1998. The primary mission is to improve the selection and management of protected areas by providing managers, planners and other decision makers with methods for assessing the effectiveness of protected area management. The Task Force addresses mainly

two aspects of management effectiveness:

- 1 the management of existing protected areas (are the existing protected areas effectively managed?); and
- 2 the location and design of new protected areas (will the protected area network represent and effectively retain regional and national biodiversity?). For more information about the task force and its activities visit:

<http://www.wcpa.iucn.org/taskforce/effect/mgteffect.html>

The website is also located at:

<http://www.nrsm.uq.edu.au/wcpa/metf/>



According to a controversial study by IUCN for World Bank/WWF (1999), most national parks, wildlife refuges and other protected areas in developing countries are poorly managed, leaving only 1 percent permanently secure in the countries surveyed. IUCN and others have issued a range of surveys and guidelines for improving Park Efficiency (Hockings *et al.* 2000, Cifuentes/ Izurieta 1999, Bruner/Rice 2000). Evidence suggests that most of the protected areas of the world are managed on very small budgets. Box 1 shows that protected areas in Africa (similarly in Latin America) are managed on less than \$150 per square kilometre on average, well below the benchmark level of \$250 per square kilometre required for adequate conservation. Government funding of protected area agencies in the developing countries amounts to only one third of the funding required to achieve their stated conservation objectives (James *et al.*, 1998). Further, examples of “paper parks”, or government gazetted protected areas that have no administration or budget, are common in many parts of the world (Dudley/Stolton 1999).



Key reading and information

- Inamdar, Amar; Emmanuel de Merode (1999): Towards Financial Sustainability For Protected Areas - Learning From Business Approaches. The Environment and Development Group, Oxford/ WWF-UK Sustainable Development series. DMartin@wwf.org.uk, or <http://www.wwf-uk.org/>
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- WWF - Forest protected areas management conference 2000. homepage contains many relevant documents http://www.panda.org/forests4life/spotlights/trees/bt_abstract.htm



2.2 Analysis of existing biodiversity / protected area services

Based on the above analysis of financial needs of conservation areas, the next logical step to cover these costs is to analyse the existing and potential services (environmental, economic, socio-cultural) provided by a biodiversity area system to users.

Most studies at this stage provide a detailed list of the benefits and biodiversity/environmental values provided by conservation areas. As this is already done sufficiently in IUCN-WCPA 1998 and Plan 1999 on valuation), we go directly to examine the income they can provide.

While Inamdar/Merode (1999: 29) only see a few real sources of potential revenue for protected areas (1. tourism, 2. resource utilisation incl. bioprospecting, 3. ecological services like carbon sequestration, and 4. existence values (charging media rights and receiving international donations) it is exactly in these values where lies the biggest potential to mobilise finance. The most direct are the so-called 'user-pays' mechanisms: be it improvements of conventional mechanisms or identification of services, for which the users still need to be convinced to pay. According to the structure chosen in this guide, the examples in Table 3 collection mechanisms are characterised in market mechanisms and transfers (public and private).

Table 3 Examples of fees and charges to recover PA costs (Inamdar/Merode 1999: 33, modified)

Collection Mechanism	Local	National	International
User fees and royalties Market based mechanism	Gate entrance fees NTFPs, e.g. resins, game	Sustainable timber concessions'New' NTFPs, e.g. medi-cines, materials, nuts, etc.	Premium entry charges, film location fees. Timber (incl. lesser known spe- cies), NTFPs, e.g. rubber
Taxes and levies Transfers (mainly public)	Water charges	Unsustainable & destructive extraction, e.g. mining	Carbon permit sales to energy utility/oil compa- nies.
Willingness to pay Transfer approaches (mainly private)	Landscape beauty/amenity value, Biodiversity & habitat protection/conservation <i>Obtain subscriptions to protected area Club or Association from local, national and international NGOs and large private sector organisations. Foundations at national or international levels</i>		



Table 4 Cost-benefit analysis of the Korup Project, Cameroon 1989

Direct costs of conservation		-11.913
Opportunity costs	Lost stumpage value	-706
	Lost Forest Use	-2.620
		-3.326
Direct benefits	Sustained forest use replaced subsistence production	977
	Tourism	1.360
	Genetic value	481
	Watershed protection of fisheries	3.776
	Control of flood risk	1578
	Soil fertility maintenance	532
		11.995
Induced benefits	Agricultural productivity gain	905
	Induced forestry	207
	Induced cash crops	3.216
		4.328
Net Benefit – Project		1.084
Adjustments	External trade credit	7.246
	Uncaptured genetic value	-433
	Uncaptured watershed benefits	-351
Net Benefit Cameroon		7.545

In the path-breaking cost-benefit analysis of the Korup Project in Cameroon, Ruitenbeek (1989) demonstrated that the costs of conservation (can be covered by the direct and induced benefits the area provides (without here analysing how costs and benefits were arrived at; see Table 4).

Some studies of direct use values seem to indicate that using tropical forests for their non-timber values is more economic than logging. For example, Peters *et al.* (1989) estimated that sustainable harvesting per hectare in the Peruvian Amazon would yield a sustainable benefit of \$1987 per hectare, while clear-felling would bring in a one-time net revenue of only \$1000. Sustainable harvesting of medicinal plants in Belize would yield a net present value of \$3327 per ha, while plantation forestry with rotation felling yields only \$3184. Travel cost evaluation of tourist trips to Costa Rica's protected areas for foreign visitors amounted to US\$12.5 million per year, giving the protected areas a value per ha which was over 12 times the market price of local non-protected area



land. Nevertheless, a general case that non-timber values are more economic than logging has not been made. While many of these direct values are substantial, indirect uses often yield even greater values. Schneider (1992) estimated a carbon storage value of tropical forests as \$1300-5700 per ha per year, while the total carbon storage value of the Brazilian Amazon has been calculated as \$46 billion; and Western (1984) determined that each lion in Kenya's Amboseli National Park is worth US\$27,000 per year in visitor attraction (the same lion would have a direct value of about \$1,000 as a skin). Whether such estimates, however, have any relation to what the consumers are willing to pay is another matter. (all sources quoted in [McNeely/Vorhies 1999](#): 10-11)

More and more practitioners hesitate to apply traditional cost-benefit analysis to determine a forest's worth. Such exercises typically come up with low values for many of the same reasons that market prices do not fully reflect forests' true contribution. Rather than favour conservation, the results could justify the massive elimination of natural vegetation. Opinion polls consistently show that the public does not want that. It is revealing that even one of the most experienced cost-benefit proponents, [Aylward \(2000\)](#), found big errors, both in the developed and developing country literature on the value of the hydrological services forests provide. That literature focuses on the role of forest cover in avoiding the sedimentation of reservoirs, rivers, coastal areas, harbours, and irrigation systems. Less sediment often means more useful space for water in the reservoirs, easier navigation, lower dredging, turbine maintenance, and water treatment costs, and less damage to aquatic ecosystems. The size of the benefits varies widely. Exaggerated and poorly documented claims abound. For the United States, research on practically every off-site impact of eroding soils provides a nationwide estimate of the annual monetary damage of \$6.1 billion (in 1985, [Aylward \(2000\)](#): 13). Aylward points out that few people have studied the economics of how forests affect annual water yields, flooding, dry season water flows, and ground water levels. Several found that the absence of tree cover can actually provide major benefits since it increases the total amount of water flowing into reservoirs and lakes. Most studies that show forest cover significantly reduces flooding damage and the cost of dry season water shortages use weak data, unproved assumptions, and questionable methodologies. Our existing knowledge does not allow us to say much about the economics of how deforestation or reforestation affects flooding or dry season water shortages. Future research in this area should address these issues and not just focus on sedimentation ([ibid.](#) 26).



More practical are the examples in IUCN-WCPA's (1998) 'Guidelines for Protected Area Managers - Economic Values of Protected Areas'. It gives a useful overview of how the economic values of protected areas can be assessed and provides 16 examples or case studies of the process of valuation. While each valuation exercise is unique, learning from practical experiences is probably the most useful way to understand how valuation can be used for a protected area and what a valuation study may entail in terms of resources, data and time. [Nuding \(1999\)](#) emphasises the development potential of wildlife management in rural areas as a means of alleviating poverty while simultaneously promoting the sustainable use of natural resources. Wildlife management can supplement income from agriculture and provide incentives for a sustainable management of natural resources, as it can be a source of food as well as a source of income through tourism.

As the most difficult hurdle may again be political, GTZ's ([Plän 1999](#)) assessment of application-relevant methods and mechanisms for the economic valuation of biological diversity provides **ten recommendations for decision makers** specifically in development cooperation:

- establishment of project-oriented cost-benefit analyses applying the available valuation methodology for the development cooperation projects themselves,
- training and capacity-building to inventory and monitor biodiversity in the partner countries,
- the creation and enforcement of institutional frameworks for the development and implementation of national biodiversity strategies,
- training and capacity-building within the partner countries to carry out cost-benefit analyses and valuation techniques,
- the support of research capacities in developing countries at the frontier between ecology and economics,
- the identification of failed interventions and consultation concerning their dismantling,
- consultation on the establishment of economic incentives, especially market-based ones,
- the development of strategies for the participation of local communities in biodiversity yields,
- assistance in the creation of vested titles/property rights and
- co-operation in creating global environmental markets on the basis of bilateral and multilateral agreements.



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2.3 Analysis of potential ‘markets’ for biodiversity services

In a conventional approach to conservation finance, sources of funding are usually viewed in a fairly one-directional manner: by looking at institutions and organisations who’s task or mission at least partly is to protect the environment.

Table 5 Sources of finance (modified adapted from Landell-Mills 1999)

	Private (commercial)	NGO & non-commercial private	Public
Domestic	<ul style="list-style-type: none"> personal (family and friends) formal lending institutions (e.g. banks, leasing companies) informal credit entities direct investors, e.g. upstream forest companies, large-scale landowners venture capital funds 	<ul style="list-style-type: none"> environmental and social NGOs community based organisations and communities benefactors charitable trust funds, foundations, endowments, etc. 	<ul style="list-style-type: none"> government departments/agencies /enterprises responsible for forestry, e.g. Forestry Department, Forest Authority Development (state-owned) Banks Government Forestry / Environmental Funds
Foreign	<ul style="list-style-type: none"> formal lending institutions (e.g. banks) direct investors (international forestry company) international venture capital funds portfolio investors (forestry, ethical, green funds) 	<ul style="list-style-type: none"> international NGOs international benefactors international charitable trust funds, foundations, endowments, etc. environmental, not for profit, venture capital companies (e.g. EEAF) 	<ul style="list-style-type: none"> bilateral donors (e.g. USAID, DFID, FINNIDA) multilateral donors (e.g. GEF, IDB, FAO, UNDP, World Bank, IFC, ITTO) foreign export agencies (e.g. OPIC) public research institutions specific donor Funds, e.g. small grants fund (UNDP), sector investment funds (IFC/ GEF), charitable trust funds

The need for innovative ways of approaching and tapping on these sources notwithstanding, this approach may be missing out on another segment of funding sources.

In the process of defining sources of funding, new and existing ones, the next step is to identify who (might) want to pay for which kind of benefit gained from active or passive use of the natural environment. Table 6 classifies the existing potential users (‘customers’) along four examples of environmental services. An analysis of their respective willingness and ability to pay for or commercialise the environmental benefits is an important decision-making tool. Significant differences can be expected between countries.



Table 6 Commercialising environmental goods and services
(Landell-Mills 1999: 27, modified)

Environmental service	Related commodity	Sources of demand (customers)
Watershed protection	Reduced flooding, reduced soil erosion and siltation	<i>Domestic</i> – hydroelectricity companies; water supply companies; farmers and other water dependent industries/individuals
Protection of landscape beauty	Eco-tourism concessions; protected areas; access permits; tradable development rights * (TDRs), conservation easements	<i>Domestic/International</i> - Tourist agencies; tourists; photographers; media; conservation groups; foreign governments
Protection of Biodiversity	Bio-prospecting rights; research permits; protected areas, TDRs, conservation easements *	<i>Domestic/International</i> – pharmaceutical, cosmetic, biotechnology companies, agri-business, etc.; environmental groups; foreign governments; GEF
Carbon sequestration	Carbon credits/offsets	Major carbon emitters (e.g. electricity, vehicle and chemical companies); research and environmental groups; foreign governments

* *TDRs and conservation easements are property rights to develop an area of forest (e.g. for agriculture, logging or other extractive uses) which may be purchased by a third party interested in restricting use. To date TDRs have been introduced mainly in North America (Richards 1999)*



2.4 Selection of suitable funding target mechanisms

In this chapter are the two key orientation tables for sustainable financing mechanisms. They are

- arranged according to local/national and international level, and
 - characterised (starting from the self-financing (user fees, resource charges) intomarket approaches, private investment, and finally transfers, based on willingness to pay for otherwise not financially marketable services by private and public mechanisms. Our recommendations for protected area managers and decision makers is, based on the above rationale of financial sustainability: Starting as much as possible with mechanisms based on local level, then move to the national and international levels; in the table, this is the direction from left to right. The second direction of preference indicated in the table is roughly from top to bottom, i.e. from mechanisms with a maximum of local autonomy and control (e.g. user fees, entry fees) to more indirect means of governmental allocation and private donations, and eventually international funding institutions and foundations:
1. Self-financing as far as possible
 2. Cross-financing through protected area system on national level
 3. International assistance

In [Table 7 Overview of sustainable financing mechanisms](#), an attempt is made to display all instruments, both conventional and innovative, together. The mechanisms on the upper left corner are the closest to direct, local protected area self-financing (user fees etc.). This is indicated by an underlying green colour. Towards the lower right, the transition to more government-assisted or willingness to pay-based instruments is indicated by a gradual transition of the underlying colour from green to an earthy-brown tone.

Obviously, this is a simplification, but it is an attempt to help the user identify mechanisms he can influence from the local perspective of a conservation area or system, for which type of mechanism partnerships with private companies are a prerequisite, and for which transfer mechanisms co-operation with local, national and finally international NGOs, or donors is required.



In Table 8 it is attempted to further assist the user to choose the most viable mechanisms for their special local conditions, by introducing five key selection criteria.

The first two criteria columns show aspects which could slow down an implementation of mechanisms: The degree of difficulty might be higher for very innovative mechanisms with limited available experience, and the need for governmental facilitation might slow down implementation of schemes in countries with ineffective administrations.

The third column tries to assess the potential funding volume.

The fourth and fifth criteria columns indicate the mechanisms' potential benefit to be expected

a) for the economic income (i.e. motivation) of participating companies or individuals, and

b) for the environmental protection, the overall goal of the exercise.

Obviously, there are a lot more factors to consider, and all factors can vary greatly depending on the specific conditions from country to country.

All these selection guides aspire is to provide the managers and decision makers with a simple structure which may motivate them to analyse and employ more suitable financing mechanisms, focusing their limited staff and time capacities.



Table 7 Overview of sustainable financing mechanisms

		Local	National	International
Market Approaches (private commercial use of public good benefits)		<ul style="list-style-type: none"> • User fees <ul style="list-style-type: none"> ▪ entry fees ▪ tourism ▪ resource use (logging, fishing, hunting, etc. depending on the management system and protection status of the park) • Cause related marketing 	<ul style="list-style-type: none"> • Resource use charges <ul style="list-style-type: none"> ▪ water ▪ Soil-erosion protection (e.g. for hydro-power reservoirs) • Certification and trade of biodiversity products (timber, non-timber forest products, dolphin friendly tuna, crocodile farms etc.) 	<ul style="list-style-type: none"> • Resource use charges (e.g. water) • Tradable development rights • CO₂ sequestration offsets • Portfolio capital <ul style="list-style-type: none"> ▪ equity markets ▪ ethically sound company investment funds ▪ biodiversity venture capital funds • Marketable biodiv/forest protection and management obligations
	Private Investment flows (possibly with public support)	<ul style="list-style-type: none"> • Direct investment schemes <ul style="list-style-type: none"> ▪ Tourism ▪ Bio-prospecting 	<ul style="list-style-type: none"> • Direct investment schemes <ul style="list-style-type: none"> ▪ tourism ▪ bioprospecting • Small and medium scale enterprise credit lines • Micro-credit • Small targeted grants 	<ul style="list-style-type: none"> • Direct investment schemes <ul style="list-style-type: none"> ▪ tourism ▪ bioprospecting • Biodiversity venture capital funds • Compensation investments mitigating impact e.g. of oil companies
Transfer payment approaches	Private (NGO and non-commercial)	<ul style="list-style-type: none"> • Adoption programmes • Friends-of-the-park schemes • Donations <ul style="list-style-type: none"> ▪ Corporate ▪ Individual donations ▪ Advertisement related donations/Internet site referrals or memberships 	<ul style="list-style-type: none"> • Grants from private foundations • Lotteries 	<ul style="list-style-type: none"> • Project / programme / budget line funding <ul style="list-style-type: none"> ▪ International NGOs ▪ Foundations / charitable trust funds • Debt swaps • International Lead Agency
	Public		<ul style="list-style-type: none"> • Fiscal instruments <ul style="list-style-type: none"> ▪ Taxes ▪ Levies, Surcharges, Fines ▪ Tax incentives ▪ Tax deduction schemes • Government budget, agencies for protected areas / forests • National environmental funds, debt swaps 	<ul style="list-style-type: none"> • Fiscal instruments • Tax agreements • Trade agreements • Debt-swaps • Project / programme / budget line funding <ul style="list-style-type: none"> ▪ Multilateral banks / institutions ▪ Bilateral development co-operation agencies/banks ▪ Global environment Facility (GEF) • International Lead Agency

Click on topics to go to the respective chapter. Issues relevant on several levels (local, national, national) are dealt with in the same chapters. Black entries are not covered, only for information.



Table 8 Selection criteria and suitability-evaluation of funding mechanisms

Financing mechanism	Innovative / Difficulty Degree	Need for Government Facilitation	Potential funding volume	Benefit categories	
				Commercial Income	Conservation
Market Approaches (direct commercial use of public good benefits) 0, 4.2, 5.2					
User fees - entry fees, tourism, resource use (logging, fishing, hunting), etc.	△	△	■	■	■■
Cause-related marketing	▲▲	○	□■	■	■■
Resource use charges (e.g. water)	▲	△	○-■	■	■■
Certification and trade of biodiversity products (timber, non-timber forest products, dolphin friendly tuna, croco-/ turtle farms etc.)	△▲	○	○-■	■	■
Tradable development rights	▲▲	▲	○-■■	□	■
CO ₂ sequestration offsets	▲	▲▲	○-■■	□	■
Portfolio capital (equity markets, ethically sound company investment funds, biodiversity venture capital funds)	△	○	○-□	■■	□
Marketable biodiv/forest protection and management obligations	▲▲▲	▲	□-■■	□	■
public-private instruments	△▲	△△	■■	■■	■
Private Investment flows (direct concessionary use, possibly with public support) 3.2, 4.3, 5.3					
Direct investment schemes (tourism, forestry, bioprospecting)	△	▲	□-■	■■	■
Bio-prospecting fees	▲▲	▲	○-■	□-■	■
biodiversity/forestry venture capital funds	▲▲	△	■	■	■
small & medium scale enterprise credit lines	△	▲	■	■	□
micro-credit medium	△	▲	■	■	□
small targeted grants	△	▲▲	■	□	□
Transfer payment approaches – Private 3.3					
Project / programme /budget line funding (International NGOs, Foundations / charitable trust funds)	△	△	■■	□	■■
Grants from private foundations	△	△	■	○	■■
Donations, friends-of-the-park schemes...	△	△	■	○	■■
Lotteries	▲	▲	■■	■	■■
Transfer payment approaches – Public 4.1					
Fiscal instruments (taxes, levies, surcharges, fines, tax incentives, trade agreements)	▲	▲▲▲	■	○	■
Project / programme /budget line funding (Multilateral banks / institutions, bilateral development co-operation agencies/banks, Global environment Facility (GEF))	△	▲▲	■■	□	■■
debt-for-nature swaps	△-▲	▲▲	■■	□	■■
national environmental funds	▲▲	▲▲▲	■■	○	■■
environmental performance bonds	▲▲	▲	■	■	■

The hyperlinked Chapter numbers indicated behind the four main groups of mechanisms are referring to the local, national, international level respectively. Ranges apply where conditions vary between areas; e.g. availability of water user determines whether resource use can be charged.

Limitations: No ○ Low △ Medium ▲ High ▲▲ Very High ▲▲▲
Potentials: No ○ Low □ Medium ■ High ■■ Very High ■■■



An example of another way to design an overview table taken from an assessment of available financing mechanisms for their suitability is shown below for the case of Madagascar. The evaluation leading to the respective classification and suitability was based on a round-table conference of national stakeholders with national and international funding agencies.

Table 9 Example of feasibility assessment of financing mechanisms in Madagascar

	Public Funds	Specific Mechanisms			Tourism rights						
		Trust Funds & Foundations	PSTE	Bilateral debt conversion	DEAP/SF	Concessions	Activities	Div-ing	Air tickets	Cruises	Hotel rooms
Terrestrial protected areas											
Forest Eco-systems											
Integrated rural development											
Coastal and marine zones (including marine NPs)											
Pollution											
Environmental Education											
Communication and environmental monitoring											
Funding Potential	to be defined										

...cont'd

	Private Sector		Taxes and Levies							Environmental Services		
	Grants	Loans	Extraction Nat. Mines	Extraction Nat. Petrol	Ext. Nat. Fisheries	Biopro-spection	Forest FFN	Carbu-rant	Lotte-ries	Rights BV	Conservation Concessions	CO ₂
Terrestrial protected areas												
Forest Eco-systems												
Integrated rural development												
Coastal and marine zones (including marine NPs)												
Pollution												
Environmental Education												
Communication and environmental monitoring												
Funding Potential												

(Keck 2001)

- Legend:
- This instrument could probably be used to finance this result and is relatively easy to implement in Madagascar
 - This instrument could probably be utilised to finance this result but with difficulties in implementation
 - This instrument could be utilised to finance this result but with difficulties in implementation
 - This instrument probably won't be utilised to finance this result in the short to medium term



3 Local mechanisms

The first two chapters introduced the user to the basic strategy of conservation finance. Rather than diverting any organisation's limited staff and resources to a wide variety of rather arbitrarily defined sources of additional funding, a systematic decision making process was proposed. Following that structure, the user can collect the data necessary to evaluate the mechanisms according to his own conditions; in addition to the example criteria in Table 8, he can define additional criteria, depending on the local conditions.

This should result in a priority list of promising mechanisms worth exploring further, and in a number of questions about the suitability of the different mechanisms. Based on these questions, the user then can examine in more detail the small number of promising mechanisms. To help in answering these questions is the function of the second part, chapters 3 to 5.

This second part can be understood as a **source book** to assist in the selection of suitable financing mechanisms. A small introductory table for each described mechanism helps to quickly characterise the main objective, sources and recipients of the mechanism's funds. Then, for almost each mechanism, strengths and weaknesses for gaining conservation finance are outlined, and 'success' criteria or conditions are proposed, which could be necessary for the mechanism to function.

As most of these characterisations have to be rather general and condensed to fit this guide, a list of further information about case studies, useful internet sources of more specific reading, funding organisations, ways to learn about their application procedures, and contacts are provided.

This second part of this guide (chapters 3 - 5), is structured according to the concept explained for Table 7: Starting from the local self-financing level, the national and finally international mechanisms and sources are analysed from the perspective of suitability for different biodiversity protection financing needs. Typical points of strength or weakness are funding volume, selection criteria/conditions, reliability, duration, thematic flexibility, ability to co-operate with other funding mechanisms, networking services, etc.



Some of these mechanisms do not only belong to a single level but could originate from any of them or at least need a local management system, such as tourism investments, donations, friends of the park schemes, etc. Their specific characteristics are described at the respective level. Mechanisms, which are relevant on several levels, are mainly dealt with at local scale.

Most investments, e.g. in sustainable forest management (SFM), are made at national and local levels, which should therefore be the focus of future financing strategies. International level interventions can complement such strategies by raising resources through various mechanisms and providing the necessary common ground rules.

Each country has its specific ecological and socioeconomic conditions, as well as institutional framework. These conditions represent opportunities and constraints, which are the basis for designing national and local-level financing strategies.

At the *local level*, the focus of creating enabling conditions is often on resolving operational constraints, capacity building, and effective participation of interested parties in planning and implementation.

While stressing on innovative private and external funds, we emphasise that conservation of biodiversity resources and protected areas *is a fundamental responsibility of the state* which should not lightly be shifted to private and non-governmental entities simply because they may have easier access to financial resources.



3.1 Market Approaches (based on public good benefits)

3.1.1 User fees: Entry, tourism services and concessions

Type	Direct, public, private, and private-commercial
Objective	Self-financing of protected areas from direct users (here: mainly tourism)
Main source	Private and private commercial: entry fees, tourism, resource use (logging, fishing, hunting), etc. depending on the management system and protection status of the park
Main recipient	Park, Environmental fund, regional/local management authority
See also	3.2.1 Tourism investment schemes;

Functioning / Options:

Entry fees collected at the gate, admissions fees for special attractions such as museums, botanical displays, lectures, exhibitions, films and entertainment;

fees for goods and services such as reservations and permits for camping and picnicking facilities, parking, lodging; sale of food, beverage, books, maps, gifts, souvenirs; sales or rental of equipment or other items; recreation: back-country hiking, trails use, guiding, guided hikes; jeep safaris; float trips, boats for diving or fishing; fees for boat launching, anchorage, yachting, cruise-ship visits, use of golf courses, beaches, and pools; publicity fees to corporations using the protected area as a location or backdrop for advertising, films, posters; installation/ use of facilities as transmission towers, marine platforms, or research stations etc.; or

fees charged to concessionaires who profit from operating such services (including fees licensing the operation, and/or per-person fees they collect). Depending on the legal framework of the country, any function or privilege of the state, including the management of the entire national park, operation of certain facilities, etc., can be contracted to a concessionaire.



General description in: Eagles (1999), IUCN-WCPA (2000: 39-40); Norris/Curtis (2001: II.D)



Strengths

- ▶ Admission and other user fees are the **most direct** way to make users pay for protected area services. In direct contact, **willingness to pay** may also be higher for non-material values.
- ▶ As they are collected in close contact with the park, a state is more likely to also use the proceeds for protection and management **in** the park.
- ▶ They constitute the bulk of the state's direct income from the management of protected areas; high income may motivate a state to protect more areas.
- ▶ Recently, **granting of service concessions to commercial providers** within the protected areas has been gaining in importance. Privatising operation of lodges and other tourist service usually increases their commercial professionalism and income generated for the park, and reduces fixed costs in park management budgets.
- ▶ Increasing the public revenues from the protected areas is not the only goal of this practice. The **concession fees at best flow into a fund that is independent of the national budget**, being regionally administered. It can be used to help finance the respective region's protected areas when there is a temporary shortfall.
- ▶ Granting concessions serves to **involve private service providers and also non-governmental organisations more intensively** in management of the state-owned protected areas. Granting of concessions is thus directly connected with implementation of the principles of **de-centralisation and de-concentration** in the fields of forestry and nature conservation. (Heindrichs 1997: 72).
- ▶ Park systems that charge fees often find an increased level of respect and professionalism on the parts of both staff and visitors. Fees can be used as a tool for managing use and directing activities to appropriate areas. And resources from both national treasuries and international and private donors can be easier to come by when the parks themselves are generating a good portion of their operating income.



Weaknesses and dangers

- ▶ Newly establishing a user fee system **can alienate constituencies** used to free access, **hurt traditional rights**, and cause controversy and public opposition.
- ▶ While the fee structure should not exclude local residents in favour of high-paying foreign visitors, the **differential fees**, free access on certain days or for special events which some park systems allow local residents may cause discontent among visitors from countries with uniform fee systems, even if the park adequately educates visitors. Many countries argue rightfully (Lindberg 2001), higher park fees for foreigners are **equitable** insofar as they usually have higher incomes, they do not pay taxes to support protected areas, and they do not bear the opportunity costs of not using the land for agriculture, logging, or other activities.
- ▶ Fees may **favour more-visited** over less-visited **areas**.
- ▶ The largest risk inherent in a user-fee system is the **risk of commercialisation**. A parks agency that places its emphasis on user-fee revenues can lose sight of some of its objectives, and tend toward facilities designed to produce income rather than protect natural resources.
- ▶ It is particularly important to retain control over the concessionaire's operations to **assure that resources are not over-exploited or damaged**, and that protection and management functions are not neglected in favour of profit-making functions.
- ▶ Re-deployment of scarce personnel resources toward collection of fees may weaken protection of resources.
- ▶ Fees increase likelihood that the park service be held **legally responsible for accidents** suffered by users.
- ▶ The **repercussions** of a user fee policy **on a local tourism industry** can be significant. An entry fee is generally a small part of the overall cost of a trip, so tourists will probably not turn away at the gate if prices have increased (high price-elasticity). But tour operators with better information about similar areas might change programmes, so the entire spectrum of charges and fees should be structured so as not to adversely affect the overall experience. However, private-sector enterprises should not receive "free" use of public facilities; government agencies should make sure that they assess appropriate licensing or concession fees from businesses operated by the private sector on its territory.



- ▶ Obtaining adequate **marketing expertise** can be a problem for parks in developing countries.

Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ The **guiding principles** of the user-fee policy should be **equity** and **cost recovery**. Services geared to distinct user groups (“private” such as visiting and related direct services, rather than “public” interests) are to be financed by user fees based on cost recovery, including protection management. Activities assuring the continuation of the benefits of parks to the public at large should also be borne by that public – i.e. through taxes and other transfers. While ideally the percentage borne by users as opposed to the general treasury depends on the degree of “public” versus “private” benefit generated by each activity, the prime motive must be cost recovery, even if it at times means to make the private or public user pay more than ‘his share’.
- ▶ Parks must design optimal user fee collection, determining the highest **balance** between: **(a) complex high-income systems**: user fees as marketing tool consider the interests of various user groups and promote optimum use, e.g. special prices for residents/nonresidents; free days, low-priced annual passes, off-season discounts, package tours, etc. and **(b) collection costs**. Direct: salaries, contracts, installation and maintenance of toll stations, equipment, supplies, administration (e.g. accounting and control, data processing, reports). Indirect: personnel training, security, and public relations. Voluntary and third-party fee collections may not produce 100 percent compliance, but the offsetting reduction in cost of implementation may make these options more attractive.

The optimal ratio is determined by political, governmental, touristic, and marketing factors, the strengths and weaknesses of the park agency which must be carefully analysed and partly can and should be developed.

- ▶ The challenge is to devise **fee systems** that place a **fair value on uses and services, and generate acceptable net returns**. This requires clear objectives and benchmarks to evaluate the success of each fee, as well as a pragmatic and adaptive approach to issues such as pricing and collection mechanisms. Many organisations and protected areas have begun with a single type of fee and then gradually added more to build a diverse structure. For the initial planning and startup phases they rely on short-term loaned or donated funds, from bilateral and multilateral agencies or donors, and move to reliance on self-generated funds as the program matures.



- ▶ A difficult aspect of concessions is arriving at a balance between the amount that the concessionaire will earn by exploiting the resource, and the amount that will be returned to the state. (In the US, this figure is about 2 to 3 percent of concessionaire earnings).
- ▶ At present, it seems that, with the exception of a few countries, park earnings are not directly re-invested in conservation. Instead, park revenues are often treated as sources of general revenue rather than earmarked for park maintenance or biodiversity conservation (Krug 2000).



Key reading and information

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<http://www.gtz.de/toeb/pdf/tour-e.pdf>

Stecker, Bernd (1996): Ecotourism: Potential for Conservation and Sustainable Use of Tropical Forests. A case Study on the National Parks Taman Negara and Endau-Rompin in Malaysia. http://www.gtz.de/toeb/pdf/TOEB_Ecotourism_Potential_for_Conservation_and_Sustainable_Use_of_Tropical_Forests_A_case_study_on_the_Nationalparks_Taman_Negara_and_Endau_Rompin_in_Malaysia.pdf

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http://www.gtz.de/twrp/Documents/Financing_Instruments_1999e.pdf

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Extent/Volume of Application of Some case studies and further information

While some areas receive hardly any visitors and a majority has very insufficient income from user fees (worldwide average maybe 10%, see [Eagles 1999](#): 16-7), areas which have in some way managed to attract sizeable visitors are covering a large part of their own costs and sometimes also of their national park system (S-Africa reached about 80% cost recovery, *ibd.*).

11 African Countries – Comparison of pricing (1-27US\$, -250US\$ for wildlife trekking permit) and entrance fee policies in [Krug \(2000\)](#). Comparison of organised safaris (two weeks costing more than 30,000 US\$+fees for any hunted trophy) and in [Inamdar/Merode \(1999](#): 12).

Malaysia – see [Stecker \(1996\)](#)

Belize/Mexico – see detailed analysis of tourism management case studies in several protected areas and recommendations in [Strasdas \(2000\)](#).

Costa Rica – Price elasticity for international visitors demonstrated for several parks (10x fee raise would increase income 9x, as only few visitors would stop buying tickets ([Lindberg 2001](#), Table 1).

Perú – Similar low price responsiveness in Machu Pichu & other park management issues: [Andrade 2000](#).

Australia - Most national parks and other protected areas in Australia are managed at the state level, and each state agency has different policies with respect to fees. Daily 2-15AU\$, Annual 20-170AU\$. A recent (2000) review of entrance, camping, and other fees conducted as part of the Nature Tourism National Review project is summarised in [Lindberg \(2001](#), Annex 3).

New Zealand - National system of concession fees, facility & service charges. ([IUCN-WCPA 2000](#): 49-51)

United States - a study of state-run parks showed that approximately 25% of revenues were obtained from camping fees, 22 % from miscellaneous revenues, 16 % from entrance fees, 16 % from lodge rooms, cabins, and cottages; 8 % from concessions, and 7 % from recreational use fees for golf courses, beaches, and pools. Two state park systems have developed modern resorts, and report significant additional revenues. ([Norris/Curtis 2001](#): III.C)



Canada - Environment Canada's Cost Recovery program began with a thorough analysis of user fee- policy issues. EC developed a structured approach for implementing a user fee policy, inspired by the classical approach to marketing and beginning with a series of steps similar to those taken by private companies before launching a new product. Over a five-year period ending in 1991, revenues for recreational services in the Canadian Parks Service increased from 15.5 to 20.1 mioC\$/year (Norris/Curtis 2001: III.C, see also Eagles 1999).

South Africa - The Natal Parks Board has invested in the construction of visitor accommodation facilities through its capital budget. It now generates some 36 percent of its revenues from state appropriations, 35.9 percent from fees for visitor accommodations. Interest from a parks trust fund provides the remainder and is expected to grow.
Natal Parks Board Conservation Trust
<http://www.wildnetafrica.co.za/kwazulunatalparks/profile/contrust.html>
see also Eagles 1999.



3.1.2 `Good-Cause`-related marketing

Type	Private
Objective	Additional income for conservation from willingness to pay extra for good cause
Main source	Private
Main recipient	Public, private conservation programmes
See also	Donations, Friends-of-the-park schemes and Adoption programmes

Functioning:

Sale of items (primarily intangibles) whose main value lies in the purchaser's knowledge of having helped conservation: merchandising (gifts, T-shirts ...), sales (any item of which the organiser transfers an amount to conservation), special events etc.

General description in:

[IUCN-WCPA \(2000: 44\)](#); [Norris/Curtis \(2001: III.D\)](#)



Strengths

- ▶ There is no shortage of ideas for marketing schemes to generate funds for protected areas.
- ▶ Apart from **raising funds**, merchandising products, special events etc. **increase the public awareness** about conservation in general or a specific cause or area.



Weaknesses and dangers

- ▶ Does not favour less visited areas: Apart from sale to tourists in highly frequented parks, the local or national financial potential near protected areas is usually very limited.
- ▶ Less useful for areas without an international marketing partner organisation (NGO or other).



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ The key to success lies in selecting a combination of funding sources which provides return on investment and continuing diversity of funding sources.
- ▶ To gain from **sales**, a sound business plan is essential.
- ▶ Merchandising works best with a) unique products which can b) be sold in collaboration rather than competition with the existing sales industry.
- ▶ To gain from **special events** an organiser should meet three conditions:
 - ▶ must be able to recruit volunteers to do most of the work rather than relying on paid staff.
 - ▶ must be able to get goods and services donated rather than paying for them (the film, the hall, the food, the drinks, the performers, the waiters, etc.).
 - ▶ the event needs to have social appeal, to be the thing to do. If the protected area manager does not have power to create this aura unaided, he or she should consider joining forces with an existing event.



Key reading and information, same as general description above

Case studies on marketing of Brazil nuts from a threatened forest region in Peru used by international companies (in chocolate cookies by a sandwich foodchain and in candy by a icecream maker) are mentioned in (IUCN-WCPA 2000: 18) and can be found on the homepages of CI and WRI.



3.2 Private Investment flows (possibly with public support)

3.2.1 Tourism investment schemes

Type	Direct investment
Objective	Income generation for conservation from public and private operators
Main source	Private commercial, some public enterprises
Main recipient	Public (Conservation activities), private (involved population)
See also	3.1.1 User fees for tourism , 4.2.1 Certification of biodiversity products
Functioning:	Tourism is mentioned here only for the additional aspects of direct investment stimulation, i.e. mostly concessions of tourism services and their use for financing protected areas. The aspects pertaining to entry fees and governmental administered tourism services or concessions thereof are dealt with in chapter 3.1.1 on user fees.

General description in: [Lindberg et al. \(1998\)](#); [IUCN-WCPA \(2000: 43\)](#); [Norris/Curtis \(2001: III.C\)](#)

Strengths



- ▶ Increased tourism is the basis for a significant amount of income for protected areas (see chapter on [User fees – Tourism and Entry](#))
- ▶ Protected area tourism, in return, is a major economic factor in developed countries (for North America, [Eagles \(1999: 14\)](#) assumes an impact range of spending per visitor per day of 90-140US\$, i.e. up to 370 bioUS\$/year) and even more so in many developing countries: about 80% of visitors to Kenya, Namibia, South Africa and Zimbabwe come to these countries primarily to see the wildlife ([Krug 2000](#)).
- ▶ Investment promotion in tourism and infrastructure may attract more (high paying) tourists to the areas, particularly where facilities and national operators in developing countries are underdeveloped and un-diversified.



Weaknesses and dangers

- ▶ The largest risk in increased park tourism is that **resources are over-exploited or damaged**. Weak park agencies are often unable to design and enforce adequate zones and usage limitations for tourism. This is particularly valid for concessions and sub-contracted use rights.
- ▶ **Risk of commercialisation**. A parks agency that places its emphasis on tourism revenues can lose sight of some of its objectives, and tend toward facilities designed to produce income rather than protect natural resources.
- ▶ Re-deployment of scarce personnel resources toward tourism services may weaken protection of resources.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ A difficult aspect of concessions is arriving at a balance between the amount that the concessionaire will earn by exploiting the resource, and the amount that will be returned to the state. (In the US, this figure is about 2 to 3 percent of concessionaire earnings).
- ▶ At present, it seems that, with the exception of a few countries, park earnings are not directly re-invested in conservation. Instead, park revenues are often treated as sources of general revenue rather than earmarked for park maintenance or biodiversity conservation (Krug 2000).



Key reading and information

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<http://www.ahs.uwaterloo.ca/rec/inttrends.pdf>
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<http://www.wwf-us.org>
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<http://www-esd.worldbank.org/>
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http://www.wcpa.iucn.org/pubs/pdfs/Parks_Jun00.pdf
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<http://ecotourism.homepage.com/> or
<http://www.ecotourism.org/membooks/productresults.asp>
- Lindberg, Kreg (2001): Tourist "Consumption" of Biodiversity: Market Characteristics and Effect on Conservation and Local Development. Paper presented at "International Workshop On Market Creation For Biodiversity Products And Services" 25-26.01.2001. Paris: OECD (proceedings available from Dan.Biller@oecd.org) k.lindberg@crctourism.com.au



Extent/Volume of Application - Case studies and further information

Detailed References, Contacts, Descriptions see Case studies and information above, Chapter 3.1.1 [User fees for tourism](#); and particularly in [Steck et al. \(1999\)](#): Annex.

Further Case Studies:

Saba Marine Park Netherlands Antilles (Norris/Curtis (2001: II.D.)
ecomail@ecotourism.org

Bonaire Marine Park Netherlands Antilles - Introduced 10US\$ dive fee helped towards sustainability, no government subsidy, Park-run enterprise (souvenirs) quite risky ([Inamdar/Merode 1999](#): 34); according to [Norris/Curtis \(2001 III.C\)](#) Bonaire introduced a 35US\$ fee per dive (sic!!) which, plus operator fee, would about double the costs compared with a standard dive in the region.

British Virgin Islands Mooring System [Norris/Curtis \(2001: III.C\)](#)

Nicaragua - Description of Protected area system, analysis of Isla Ometepe and good compilation of potential damages of tourism in protected areas see [Steck \(1997\)](#)

Paying for Parks [homepage](#) <http://pay4parks.homepage.com>

EcoTravels in Latin America <http://www.planeta.com> Articles, upcoming conferences, links to many other related websites. In Spanish and English.

Exploring Ecotourism in the Americas <http://www2.planeta.com/mader/ecotravel/etour.html>

The International Ecotourism Society <http://www.ecotourism.org> or
Ecotourism homepage <http://ecotourism.homepage.com/>

The International Ecotourism Society (TIES)
PO Box 755
North Bennington
VT 05257-0755, USA
Tel. +1 (802) 447-2121
Fax. +1(802) 447-2122
E-mail: ecomail@ecotourism.org

World Tourism Organisation
<http://www.world.tourism.org/books.htm>

World Travel and Tourism council <http://www.wttc.org>



3.2.2 Bio-prospecting

Type	Commoditisation: creating market for biodiversity use value
Objective	Generate and recover revenue for landowners and forest users for the production of biodiversity protection services
Main source	Private commercial
Main recipient	Some public research bodies, landowners and forest users, some public sector bodies
See also	Other chapters on Private investment, and Use charges
Functioning	Based on the potential value of natural biological materials to facilitate the development of commodities such as pharmaceuticals, genetic strains of crops, or food supplements. The market recognises only the actual use or economic value of biodiversity by charging bio-prospecting fees (not the non-use or existence value !). Such fees are paid by interested parties, principally pharmaceutical or agrochemical companies, to landowners or intermediary institutions for the rights to access, study and potentially commercialise genetic and other biochemical information stored in indigenous plant, animal, insect and microbial species.
General description in:	IUCN-WCPA (2000: 39-40) ; Moura Costa (1999: Anx 4: 25-27) ; Norris/Curtis (2001: II.D)



Strengths

- ▶ As an estimated 40-90% of the world's species live in tropical forests, bio-prospecting is potentially highly replicable in forest systems, particularly those with biodiversity hotspots, and in general, any species-rich forest types. Thus natural tropical forests are favoured. Conservation areas are most eligible.
- ▶ An interesting criteria for and possible constraint to bio-prospecting is the coincidence of biodiversity-rich forest areas and indigenous knowledge stored in local forest-living or forest-using communities.



Weaknesses and dangers

- ▶ The **general consensus** among professionals in the field is that **the bio-prospecting boom** expected at the beginning of the 1990s has failed to materialise and **is unlikely** to do so.
- ▶ Funding potential has proved controversial. Global revenue has been estimated to be in the region of US\$1 billion annually, but **market demand and success rates are minuscule** (e.g. *Nature* 392, 535-540): in the order of one sample in every 250,000 directly yields a commercially-viable pharmaceutical product. Moreover, drug development lead-times are usually 5-12 years, and it can cost US\$250-350 million to bring a drug to market. Net present value of bio-prospecting rights to pharmaceutical companies is therefore low.
- ▶ Potential for bio-prospecting for genetic improvement of industrial tree crops is also uncertain, given the well-established alternative techniques. Moreover, exploitation of natural genetic material (as opposed to other chemical and biological information) is still an incipient field, with revenue streams likely to be decades rather than years away.
- ▶ Biodiversity values – both use and non-use – are **difficult to evaluate**. Use values in tropical forests range from US\$0.01-21 per hectare per year, though most studies tend towards the US\$1/ha/yr mark. The **social value** of genetic material has been estimated at over 50 times this private use value, but society's WTP **is difficult to recover**.
- ▶ Many commercial firms will rely on in vitro synthesis rather than bio-prospecting. Laboratory synthetic techniques and technologies ("combinatorial chemistry") are improving rapidly. The net result of **biochemical advances** is likely to be that random sampling of natural biodiversity will diminish. **This means that the overall amount of money available for biodiversity conservation from this source will be relatively limited.**



- ▶ While researchers might focus on sampling based on local knowledge of medicines, food stuffs, successful crops, etc., **the most important natural source of testable compounds** are from microbes, which are much **less forest-specific**, and do not involve local populations.
- ▶ **Enforcement**, to trace a chain-of-custody from any given organism to a marketed drug, is **extremely difficult**, thus creating scope for abuse by buyers in awarding royalties to biodiversity providers. As precedents suggest significant revenue from bio-prospecting will only come from royalties generated by “blockbuster drugs”, and not initial payments, enforcement issues as well as payment time-scales are key issues.
- ▶ To most observers outside of pharmaceutical companies, the proceeds are disappointing and contracts very complex. For some individual parties, the financial benefits were interesting, but the **biodiversity protecting areas derived very little** direct or indirect funding from it, and whether it resulted in governmental policy changes for protected areas is hardly measurable.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- u Distribution mechanisms need to be in place to link bio-prospecting payments to those whom provide and facilitate access to the biodiversity, often small-scale forest dwellers, and users.
 - ▶ Corporations are likely to seek relationships that offer
 - ▶ Political stability and binding contractual terms;
 - ▶ Strong local scientific (institutional) capacity to evaluate, manage and analyse samples.
 - ▶ To take more advantage of their biodiversity resources, countries will need to encourage the development of regional biotechnology industries. This means creating the necessary incentives for this industry to develop and helping build the infrastructure that the industry will need (see chapter fiscal mechanisms). The creation of biotechnology industry “centers of excellence”, and the infrastructure that goes with it, is often a precondition (Bayon et al. 2000).
 - ▶ As with intellectual property rights, the future for bio-prospecting deals depends on the development of appropriate international regulations, mechanisms and institutions, including a system for settling disputes over patent rights and exclusive licensing agreements (Richards/Costa 1999) e.g., through the TRIPS agreement
 - ▶ Strong, consistent national and international legal and partly political support is required.



Key reading and information

Bayon, Ricardo; J. Steven Lovink; Wouter J. Veening (2000): Financing biodiversity conservation. Sustainable Development Dept. Technical papers series; ENV-134 (also available in Spanish).

<http://www.iadb.org/sds/doc/>

[ENV%2D134FinancingBiodConservaE.pdf](http://www.iadb.org/sds/doc/ENV%2D134FinancingBiodConservaE.pdf)

Simpson, R. David (2001, forthcoming): Bioprospecting as a Conservation and Development Policy: Overview and Insights from Three Cases. Paper presented at "International Workshop On Market Creation For Biodiversity Products And Services" 25-26.01.2001. Paris: OECD (available from Dan.Biller@oecd.org, or Resources for the Future Simpson@rff.org)

Richards, Michael (1999): Internalising the Externalities' of Tropical Forestry: A Review of Innovative Financing and Incentive Mechanisms. European Union Tropical Forestry Paper No. 1. London / Brussels: ODI / EU. See the ODI website at <http://www.oneworld.org/odi/fpeg/index.html>



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Norris/Curtis (2001: III:E) describe only the more optimistic beginnings:

Perhaps the best known example of biodiversity prospecting as a source of income for conservation is the 1991 agreement between Costa Rica's National Biodiversity Institute (INBio) - a private, nonprofit organization - and the US-based pharmaceutical firm Merck & Co. Ltd. INBio agreed to provide chemical extracts from wild plants, insects, and micro-organisms from Costa Rica's protected areas to Merck for screening their pharmaceutical potential. Merck paid 90 percent of the \$1.1 million required to set up the sampling program, which trained and employed Costa Rican "parataxonomists," and agreed to provide technical assistance and training to help establish drug research capacity in Costa Rica. INBio would get royalties (1-3%) on any marketable products identified through the system, 50 percent of which would go to the government's National Park Fund. This agreement was a watershed in the history of biodiversity prospecting - the exploration of biodiversity for commercially valuable genetic and biochemical resources.



World Bank (1998, 2000 - annually): *Global Development Finance, Analysis and Summary Tables*. Volume 1. Washington, DC.

World Bank (2001) : Best practices in dealing with the social impacts of hydrocarbon operations. Environmental and social impact mitigation practices: Overview. Washington: The World Bank group homepage <http://www.worldbank.org/html/fpd/energy/oil&gas/BestPractices/4/41.html>

World Heritage Fund (2001): Website.
<http://www.unesco.org/whc/6funding.htm>

WRI (1993): *Biodiversity Prospecting*. Washington: World Resources Institute (ISBN 0-915825-89-9) <http://www.wri.org/wri>

- provides the history of the Costa Rica program, details on implementation of the program, lists of pharmaceutical companies, sample contracts for biodiversity prospecting agreements

Instituto Nacional de Biodiversidad (INBio): Biodiversity Prospecting. <http://www.inbio.ac.cr/en/pdb/Prosp.html>

Brazil - PROBEM-Amazonia (the Brazilian Program of Molecular Ecology for the Sustainable Use of Biodiversity in Amazonia) encourages the development of regional biotechnology industries by establishing a \$60 million Biotechnology Industrial Center in the Manaus Free Trade Zone. The objective is to attract investment (both national and foreign) in pharmaceutical products, cosmetic materials, food products, environmentally-friendly pesticides, enzymes of biotech-nological interest, essential oils, anti-oxidants, natural dyes and fragrances (*Bayon 2000*: 27).

Brazil, Argentina, others - Shaman Pharmaceuticals in the U.S. has raised US\$100 million in capital to bio-prospect in co-operation with indigenous peoples. Patents on 2 drugs have been established thus far. Andes Pharmaceuticals seeks to build host countries' own capacity to screen biological materials through technology transfer agreements with universities or NGOs.

Ecuador - Pfizer tried to negotiate a similar arrangement as Merck with Costa Rica, but was unsuccessful.

Andean Community, Organisation of African Unity, U.S.

International Cooperative Biodiversity Group Programme - Various policy and legal frameworks have been established at national and regional levels to regulate future bio-prospecting contracts, and to avoid



further problems with 'bio-piracy', the unauthorised exploitation of a country's biodiversity resources by foreign companies or researchers. A focus of such frameworks has been to ensure any benefits are shared with local communities, often repositories of the knowledge that enabled successful bio-prospecting in the first place (Moura Costa 1999).

Rural Advancement Foundation International (RAFI): Bioprospecting/ Biopiracy and Indigenous Peoples.

<http://www.latinsynergy.org/bioprospecting.htm>

Royal Botanic Gardens, Kew <http://www.rbgkew.org.uk> - good source of information on bioprospecting



3.3 Transfer payment approaches

3.3.1 Donations, Friends-of-the-park schemes and Adoption programmes

Type	Private and private commercial
Objective	Raising awareness and financial contributions
Main source	Private International individual or corporate donations, benevolent or advertising
Main recipient	Protected areas or related NGOs
See also	Donations from international NGOs and foundations
Functioning	<i>Individual donations, Foundations, Corporate donations</i>

Planned giving: charitable donations made through a person's will or estate, or by other mechanisms such as insurance and annuities. It is one of the fastest growing and most lucrative aspects of donations in developed countries today.

Advertisement related donations/Internet referrals (see case study below),

Friends scheme: Membership programmes for a site or a park system,

Adoption: Selling 'deeds' to a real or virtual area of a protected park.

General description in:

IUCN-WCPA (2000: 44-46); Norris/Curtis (2001: III.D)



Strengths

- ▶ Stimulates voluntary contributions from constituencies who may or **may not visit the area**.
- ▶ Offers an opportunity to interested **visitors** for more long term support to an area they liked.
- ▶ Receipt of **donor or membership information**, such as a regular newsletter or magazine, **informs** about **and may stimulate funding** for other related protected areas or programmes, particularly less visited ones.
- ▶ Taps **companies desire to develop a greener image** or implement a true sense of environmental responsibility.
- ▶ Other than fees or taxes, offers a **market based (advertising) motivation** to
 - companies that need to bolster their image (e.g. resource companies) or
 - those with a direct stake in the success of the conservation area or programme (cruise lines, hotels, the food and beverage industry, travel industries, photography).
- ▶ The **range of donation models** provides possibilities for different types, organisation and capabilities of donors as well as parks, be it direct donations, through park systems, or through NGO programmes in the host country or in the developed donor countries.
- ▶ All donations help create a **relationship** between the donor and the protected area. Thus, neighbours and visitors can become 'friends' of the protected area and their support can be mobilised again in future.
- ▶ Offers an opportunity to **channel** contributions **directly to protected area management** (normally easier than entry fees, which are often siphoned-off by governments)
- ▶ **Individuals are probably the easiest** to raise money from in the sense that there are no proposals, deadlines or guidelines. Individuals are also the **most flexible**, and most likely to give donations that can be used according to the protected area manager's own priorities.
- ▶ **Adoption 'deeds' are more structured** in that (e.g. in some Central American parks for about \$35 to \$120 US per acre or hectare) the donor receives a certificate acknowledging his/her adoption of the acre and its wildlife. The certificates have been popular as gifts for Christmas and special events, and class projects for schoolchildren.



Weaknesses and dangers

- ▶ While offering opportunities for less visited areas, most schemes still **favour the more visited** and better known parks.
- ▶ Management of friends database, newsletter etc. may cost small areas more staff time than they gain financially.
- ▶ Securing **corporate donations** often requires an **investment of time** in meetings and presentations and an effort to cultivate mutual understanding. Also the complex decision-making processes which are common among many corporations mean that it can take a long time to get a donation approved.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Requires professional, transparent management: Potential donors, friends, 'adopters' and visitors need to be assured that the scheme is well run and that the proceeds go where they are needed.
- ▶ If individual donors could be approached for contributions, it is important to have an understanding of the inheritance and tax laws that might affect potential local and international donors. Most protected area system managers and conservation organisations will have less knowledge of the options available for obtaining donations from developed countries, particularly the more **sophisticated planned giving schemes**, than the potential donors themselves. It may be possible to secure the assistance of a capable NGO or the services of a financial advisor on a volunteer basis who can provide information on available options.



Key reading and information

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IUCN-WCPA (2000), Financing Protected Areas Task Force of WCPA, Economics Unit of IUCN, Adrian Phillips (ed.): Financing Protected Areas - Guidelines for Protected Area Managers. Gland: IUCN http://www.wcpa.iucn.org/pubs/pdfs/Financing_PAs.pdf

Norris, Ruth; Randy Curtis (2001²): Funding Protected Area Conservation in the Wider Caribbean: A Guide for Managers and Conservation Organizations. New York: United Nations Environment Programme and The Nature Conservancy. (?updated edition. 1999 version: <http://pay4parks.homepage.com/contents.html>)



Extent/Volume of Application - Case studies and further information

With an increasing development of economy and civil society, better-off sectors in more and more developing countries show signs of a budding donation culture.

However, the main potential for donations originates from developed countries. And it is huge – charitable (including conservation) organisations overall receive billions of dollars every year. The potential is particularly high where traditionally the state is not perceived as managing (well) all aspect of social life, and where ethical contributions have a long tradition.

Ecuador - A good example of a friends-of-the park scheme are the Friends of Galapagos in [Inamdar/Merode \(1999: 31-32\)](#).

Internet Advertisement related donations

The Internet has potential for developing some innovative mechanisms for fundraising efforts. One such example is The Rainforest Site (<http://www.TheRainforestSite.com> - For every click on a button (maximum once a day per user) a piece of rainforest land, currently about 14 feet,



will be purchased and protected through an NGO partnership programme co-ordinated by an international NGO based in the USA, The Nature Conservancy. The price is donated by a company interested to have its banner logo displayed on a 'Thank You' page displayed after the user clicks the donation button. Meanwhile, there are several sister sites for other social or benevolent donations, managed by <http://www.TheGreaterCause.com>. The first one was The Hunger Site <http://www.thehungersite.com> which has the goal of helping to alleviate hunger around the world. For every page visitor per day, advertising donors will pay the equivalent of one bowl of rice for food contributions to the United Nations Food Programme.

All sites enable people to learn about the respective issue (rainforest, climate, hunger ...). Access is free, anonymous and does not require any registration. By clicking the users activate a counting mechanism whereby a site sponsor or advertiser donates money. A 'cookie' system will discount for multiple visits by the same user. A button offers to enter the page as the user's default browser homepage i.e. the first page a user sees when starting his web browser, e.g. Netscape or Internet Explorer. Users with own homepages are also invited to enter a page link, with or without a banner.

All sites offer visitors links for instant registration as a donor with the respective organisation (in the above examples for TNC, UNFP ...) and the possibility to register as an advertising donor for one of the sites.

The mechanism is successful because site sponsors are interested both in the advertising and in the public relations benefits of the site. A similar mechanism could be used for a wide range of global or local schemes, such as cultural or natural sites which target tourism, education or outdoor equipment companies as potential advertisers.

Corporate Fundraising

There is a long and quite substantial tradition with donations from large companies and their wealthy owners. Corporations are usually the most difficult type of donor from which to secure major support. They typically require a large investment of time in meetings and presentations, and long cultivation periods. In addition, some corporations have complex decision-making processes, and it can take a long time to get a donation approved. The exceptions are generally corporations that need to bolster their "green" image (resource exploitation companies) or corporations with a direct stake in the success



of the conservation area or program (cruise lines, the food and beverage industry, travel industries). The numbers are too large to even give an overview here. We might just show one example of a company with a stake in geening the image: The Shell Foundation in 2000 has made a \$2.8 million grant to the Smithsonian Institution to establish biodiversity baselines, monitor the impact of human activity and build local capacity to help countries meet their obligations under the biodiversity convention. The first project has begun in Gabon ([Shell 2001](#)).

For more links see the chapters on International NGOs and Foundations.



4 National mechanisms

4.1 Transfer payment approaches

4.1.1 Fiscal instruments (Taxes, Levies, Surcharges, Fines, Tax incentives, subsidies)

Type	Structural (against policy failures /perverse fiscal incentives)
Objective	Restructuring of tax and subsidy regimes to correct negative externalities by providing financial incentives for socially desirable activities, and disincentives for undesirable ones.
Main source	Private commercial
Main recipient	Public, private commercial and non-commercial
See also	Water resource use charges

Functioning:

All countries have fiscal regimes that in some way affect environmental behaviour (so far, often negatively – ‘perverse incentives’). However, the marriage of environmental objectives and fiscal/market structures is comparatively recent, the number of precedents is rapidly growing, particularly in Europe:

- a) Diversion of a part of existing or new taxes to ecological projects: Ecological VAT (e.g. Brazil), Carbon/energy taxes;
- b) **Subsidies** or subsidised credit for ecological activities (e.g. tree-planting);
- c) **Tax breaks** for reforestation, concession taxes, logging taxes, (e.g. EU), direct “transfer payments” fiscal incentives can also be used (e.g. Costa Rican PFP programme; the EU’s Common Agricultural Policy Agenda 2000 reform);
- d) **Environmental performance bonds**: up-front financial payments by a company or operator prior to the commencement of project activities. These guarantees are then returned to the company at the end of the project if certain predetermined environmental performance standards



are met. If not, the performance bond can be used to fund appropriate environmental mitigation measures, or other environmental schemes. Such bonds are generally held on deposit by appropriate government departments or agencies (Moura Costa et al. Anx 4 : 39). While they could also be considered as a market mechanism, they are listed here under transfer approaches, because they serve as a rather straightforward guarantee to government enforcement. The possibility to sell and trade them in case of default is an additional function.

Although incentives are most commonly associated with tax and subsidy regimes, there are also abundant non-monetary incentive mechanisms such as input financing, food for work, wage payments, directed credit, etc.

General description in: IUCN-WCPA (2000: 37); Moura Costa (1999: Anx 4: 34-36); Norris/Curtis (2001: 21-22)



Strengths

- ▶ Tax and subsidy regimes are used in a big variety of ways to encourage environmental behaviour (Moura Costa 1999). Increasingly, for example, fiscal policy is used to ensure that:
 - the private costs of environmentally harmful activities are brought nearer to their social costs (the “polluter pays” principle); and
 - the costs of supplying environmentally beneficial services can be recovered by those who provide them from those who benefit from them (e.g. see 4.2.3 Resource service charges: Water, hydro-electricity).
- ▶ Differential land use taxation also aims to internalise the non-market social benefits of different land uses or potential uses by establishing tax gradients between environmentally “good” (low tax) and “bad” (high tax) activities. Such land use tax reform is designed to compensate land users for providing environmental services, and for lost opportunity costs (Richards 1999).
- ▶ Funds generated from taxes
 - Are a regular, recurrent income,
 - Their use is generally unrestricted, not accountable to donors with other agendas



- Can capture economic benefits from resource uses (tourism, water consumption, hunting/fishing, boating, tourism, etc.)
 - Can serve as national 'matching' funds to generate external inflows
 - Don't need a new collection bureaucracy, only additional administration fees
- ▶ Environmental Fines, e.g. for air and water pollution in most Latin American countries, have an enormous potential as sources of revenue (Bayon et al. 2000: 14). By ensuring that the revenue generated by pollution fines is used to finance projects that help conserve the environment, fines can yield a double benefit for biodiversity conservation.



Weaknesses and dangers

According to each country's priorities there are numerous requirements and limitations, including: institutional and fiscal capacity; effective tax collection and enforcement system; stakeholder consensus; detailed information on impacts, marginal costs of compliance, social costs of different activities; distribution mechanisms, etc.:

- ▶ Funding potential is potentially large, but subject to fiscal traditions, attitudes, and capacity.
- ▶ Taxes:
 - Can result in promotion of inappropriate activities as a means to capture income
 - May require special authorising legislation
 - May generate controversy, especially among constituencies to be taxed (requires public education on advantages and purposes of levy)
- ▶ New taxes can be raised on activities that are effectively subsidised by other indirect components of the fiscal regime. Although disentangling perverse incentives from complex tax structures can be more laborious, the full private cost pricing that should result is generally a necessary first step before new targeted taxes or charges can be effectively used to internalise environmental externalities that carry social costs.



- ▶ Taxes have multiple objectives, which often conflict with making the tax workable or effective. The two principal objectives are to raise revenue (generally requires a low tax with a broad base), or to provide incentives/disincentives for desired/undesired behaviour (generally requires a high tax with a narrow targeted base). Comprehensive programmes of “green tax reform” aim to combine both these objectives by raising environmental taxes but reducing labour taxes, the net result being net revenue neutrality. Other fiscal objectives include the redistribution of land and income.
- ▶ New taxes are usually resisted fiercely by electorates and companies who stand to be affected. Accusations of tax-obsession are cheap and effective weapons in the political arsenal. Ceding exemptions to key affected parties can often undermine the objective of the tax (as happened with proposed EU C/energy tax). Opposition to environmental taxes can be mitigated by earmarking tax revenues to specific synergistic spending or reinvestment plans. However, hypothecation is deeply unpopular with treasuries, and subject to future hijacking (as happened with the Costa Rican fuel tax). In some cases, devolution of tax responsibilities can offer better guarantees of reinvestment.
- ▶ New incentives should be temporary so as to avoid long-term dependencies and intractability of reforms.
- ▶ It is also needed to redress the historical tendency to fiscally favour productivity, associated with intensive monoculture agriculture. Such “perverse incentives” or subsidies activities such as forest conversion pervade most country’s tax systems and are beginning to be studied and addressed within the context of moves towards “full-cost pricing”.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Fiscal instruments often need other legal, economic and policy frameworks to be in place. Examples include: privatisation, land-use zoning, structured markets, established property rights, enforcement and compliance regimes etc. Lack of complementary capacity can undermine fiscal effectiveness.
- ▶ Fiscal reform is information-intensive. Tax-setting needs both accurate valuations of the social costs of given activities, which are controversial at best, and knowledge of the marginal private costs of abating harmful activities or making the transition to beneficial activities, which is often closely-guarded industry information. Flexible taxes can offer some scope for trial-and-error.
- ▶ Distribution mechanisms are needed for fiscal incentives or transfer payments intended to reach smallholders who don't pay income, land-use, or property taxes.
- ▶ Tax deductions for contributions to cultural or natural sites or funds have proven particularly successful in countries where income tax systems are effective at collecting from employees and where there is something of an ethic of giving. Additional issues which may prove important to the success of such a scheme are a real belief on the part of the giver that their funds will actually go to the espoused cause and a simple system of giving and/or reporting gifts.
- ▶ Furthermore, clear guidance about exemption limits is important.



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Moura Costa, Pedro; Jyrki Salmi; Markku Simula; Charlie Wilson (1999): Financial Mechanisms for Sustainable Forestry. UNDP-PROFOR. <http://www.undp.org/seed/forest/pdf/Costa.pdf>

Extent/Volume of Application - Case studies and further information

Differential land use taxation to guide fuel wood collection appears to have been successfully implemented in **Niger** and is being replicated in **Mali, Chad, and Senegal** (and of a different form in **Germany**). **Brazil** has introduced an ecological value-added tax (VAT) in 4 States, and re-allocated tax revenue to municipalities according to environmental criteria such as forest conservation.

Fines could provide a much more substantial contribution, if laws would be properly enforced. Few companies publish their fines. Shell companies paid a total of \$3.1 million in 2000, including workers' compensation payments in Chemicals, the third consecutive year that the levels of fines paid has increased. At the end of 2000 the total liabilities being carried for environmental clean up, decommissioning and site restoration were \$2,989 million (\$3,044 million in 1999. see Shell 2001: 16). While substantial for the recipients, particularly if these funds are directed to individuals or small conservation projects, in absolute terms, this is a very marginal amount.

Others paid similar amounts, e.g. BP, http://www.bp.com/key_issues/environmental/fines.asp

Environmental performance bonds have been implemented in **Malaysia, Indonesia, and the Philippines'** forestry sectors. Their use was largely unsuccessful, largely because their value was set too low. More successful precedents come from other sectors, such as mining. Further examples can be found in **Papua New Guinea, Chile, and Finland**. **India** has applied performance bonds in some states for NTFP leases such as bamboo. Their potential use in Ghana, Honduras, and Cameroon is also being considered (Moura Costa et al. 1999).



Panama's Reforestation Law created a variety of fiscal incentives to promote forest protection, reforestation and at the same time, the country's cultivated wood industry (Law no. 24 of November 23, 1992). The Panamanian incentives provide 100 percent tax exemptions for all incomes for at least 25 years, imported equipment for reforestation, and immigration benefits to foreign investors (Cody 1998). Such tax incentive policies have greatly stimulated investment in plantation forestry by both domestic and foreign investors, big and small. It has attracted more than US\$30 million in reforestation projects since 1992. What is interesting is that many companies involved in the field have created all-new businesses because of the activity generated by these incentive programmes and their sale of stocks, bonds, and reforested land. The sector produced a commercial exchange system through the Stock Market of Panama, accounting for approximately US\$10 million in 1995. Though widely replicated, this is also a controversial policy mechanism.

Malaysia began giving full tax exemptions for plantation forestry under two programmes (for ten years under the Pioneer Status, and five years under the Investment Tax Allowance programmes). Nevertheless, response from the private sector has been low. A central issue for tax incentives is to understand the role such incentives play in the calculus of investors' decisions and avoid subsidising investors unnecessarily with public money. (Joshi 1998: 23)

Chile provides subsidised reforestation credits.

Belize charges a tourist tax of \$3.75 for each passenger arriving in country by plane or cruise ship, with the proceeds going to a national conservation trust that supports protected areas and other conservation activities.

Other countries impose a tourism tax on the price of hotel rooms, some of which is earmarked for conservation. Taxes can be applied to the sale of just about anything – recreational equipment, forestry concessions, licences for fishing, boating or hunting, and electricity and water bills. On the other side of the coin, subsidies can be used to encourage activities such as land donations and easements thus reducing the expenditures side of the protected site budget. These taxes, levies and surcharges represent tolls for goods and services which are excludable but not divisible. (Norris/Curtis 2001: 21-22)

Costa Rica in 1996 introduced (i) an ecotax on consumption of fuels and other petroleum derivatives, (ii) a tax on wood products, (iii) the emission of "forestry bonds", (iv) pollution and other environmental



finances, and other revenues coming into the Ministry of Energy and the Environment., with the intention to fund forestry activities, among other things (Bayon 2000: 18). The Forestry law 1996 and Biodiversity law 1996 created the National Forestry Office and the National Forestry Fund (FONAFIFO). The role of FONAFIFO is to compensate **forest land owners** with about 20-100US\$/ha to maintain or re-establish forest cover instead of other, initially more lucrative land use. 6 million dollars, and later 12 million dollars, would be made available for forestry programs each year. While the payments from **CO₂-sequestration** - also foreseen in the same law - have already been disbursed to forest owners, unfortunately the ecotax-revenue collected are being held back by the Minister of Finance and utilised for other purposes (Heindrichs 1997), an example for the above mentioned problem with governmental continuity.

Also the government has instituted a transferable tax credit (Keipi 2001: 9). This credit applies to landowners who keep forests on their lands or plant native species. Because the credit tends to benefit wealthy landowners with large tax burdens, the system allows small landholders who reforest or plant native species to sell their credits to those with higher tax burdens.

The **USA** use tax incentives in the form of tax holidays, exemptions, and abatements, lower tax rates, outright cash grants, and other incentives to encourage private investment in a particular economic sector, such as manufacturing (see <http://www.irs.gov>).

Innovative financing that helps to ease problems with low rates of return, and encourages more private investments in sustainable forestry, could adopt some cost-share programmes used in the US. Under these programmes, federal and state governments offer cost-sharing payments that reimburse private landowners for tree plantation and forest management activities. A few such programmes in use are the Forestry Incentive Programme (FIP), Stewardship Incentive Programme (SIP), and Conservation Reserve Programme (CRP). These strategies, when implemented with care, can leverage significant private funding.

Brazil has a long history of providing very generous tax incentives for establishing plantation forests.

Also in Brazil, the new National Environmental Law has set up a mechanism whereby the National Environmental Fund (set up with an IDB loan) gets a portion of the environmental fines collected in the country. In LAC, examples of the use of fines to raise revenue for environmental activities include water pollution fines in Brazil and



Colombia and air pollution fines in most countries of the region (Bayon et al. 2000: 14).

The combination of a wide range of sources can help prevent funding from being dependent upon the governmental priorities of the day or any particular economic situation, such as in Colombia (see Example in Table 10). According to Rodríguez (2001), between 1993 and 1998 **Colombian** public budget for the environment tripled in real terms despite economic crises. Part of this is, for example, used in the Colombian Green Plan, which aims to reforest and restore 100 – 160,000 ha of critically degraded and strategic ecosystems. Main funding sources are Ministry of the Environment (4.9%), Regional Autonomous Corporations (RACs, 40%), National Federation of Coffee Growers (3.3%), Magdalena River Corporation (3.3%), Local Community (20%), National Royalty Fund (28.5%).



Table 10 Example - Sources of Environmental Funding in Colombia

<p>Property Tax Percentage.</p> <p>Electricity Sector Transfers.</p> <p>National Royalties Fund (NRF).</p> <p>Percentage of Stamp Tax on Motor Vehicles.</p> <p>Rates Deriving from the 'Polluter Pays' Principle.</p> <p>Percentage of Investment in Water-Related Projects.</p>	<p>A percentage (between 15% and 25.6%) of the total property tax collected in towns is allocated to the RACs (Regional Autonomous Corporations, with strong environmental objectives). ·</p> <p>Companies which generate hydroelectric power and have an installed capacity of more than 10, 000 kilowatts transfer 6% of gross electricity sales - 3% to the RACs and 3% to the towns where the watersheds related to the hydroelectric projects and the reservoir are situated. RAC funds should be allocated to protecting watersheds, while town funds should be used for improving the environment and for basic health. In the case of thermo-electric plants, the sum transferred is 4%, which is distributed as follows: 2.5% for the RAC and 1.5% for the towns where the generating plant is situated. It should be pointed out that Colombia depends heavily from hydroelectric power (80%).·</p> <p>Approximately one third of royalties from the exploitation of oil, gas, coal and other mineral resources is allocated to the NRF. This in turn allocates one third of its funds to financing environmental protection projects that are carried out by regional entities (towns and departments) under RAC supervision. NRF, as well, allocates 10% of the royalties to the Magdalena River Corporation. ·</p> <p>Towns should transfer up to 10% of sums collected for this tax to the RACs. ·</p> <p>(i) Retributive and compensatory rates for direct or indirect use of the air, soil and water allocated to the RACs and the towns. (ii) Water usage and forest exploitation rates, allocated to the RACs. ·</p> <p>1% of the investment in every project that involves using water from natural sources should be allocated by the party executing the project to</p>
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protecting the respective hydrographic basin, in the form of projects, which are supervised by the RACs. ·

Percentage of Regional Entity Budgets. Towns and departments should allocate 1% of their budgets for ten years from 1993 to purchasing land for protecting the hydrographic basins which stock town water supply systems. ·

Indemnities, Fines and Penalties. 50% of the product of indemnities imposed in furtherance of actions by the people are allocated to the National Environmental Fund, and the remaining 50% to the RACs. 50% of the value of fines imposed by regional entities by way of penalties for breaking environmental rules or regulations are allocated to the RACs, and the remaining 50% to the regional entity that imposed the fine.·

National Environmental Fund. This is a financial mechanism that is administered by the Ministry of the Environment and which supports the execution of environmental policy by financing both NES public entity and NGO projects. The sources of its funding include the following: external loans, administration of the Parks System, external debt exchange for environmental activities or projects, 50% of indemnities imposed and collected under Article 88 of the National Constitution with respect to damage caused to the environment, donations or funds received under any title from national or foreign individuals or legal persons, and items assigned under the national budget; also returns obtained on credits granted or on liquidity surpluses. The NEF includes the Amazon, Pro-Sierra Nevada de Santa Marta, and National Parks sub-accounts. Source: Rodríguez and Uribe 1996. *cit. in Rodríguez/Ponce 1999 and Rodríguez 2001.*

Clearly, reform of the tax system is not something that will have very predictable results on forest conservation and biodiversity. Neither will the countries be able to achieve such reforms overnight. Also, the problem in many developing countries (including some in Latin America and the Caribbean) is that there is a generalized inability to collect taxes of any sort. In a situation such as this, tax reform will be of only limited benefit. Still, a number of countries have already instituted environmental taxes with varying degrees of success.



4.1.2 Conservation trust funds and National environmental funds

Type	Direct financial: grants, concessional credit
Objective	stable source of financial resources for environmental conservation
Main source	Public International: GEF, multilateral/bilateral donors, often debt swaps Public: National government budgets (see fiscal instruments) Private: NGOs (see: donations, foundations, ...)
Main recipient	Public-private association
See also	5.1.3.2 Global environment Facility (GEF)
Functioning	A CTF is a fixed fund for an individual area or a group, or as a NEF for an entire national protected area system. It can either cover the entire management of an area or certain topics/programmes (e.g. only certain birds), or for certain types of areas or activities.
General description in:	Bayon/Deere (1998) ; IUCN-WCPA (2000: 39-40) ; Moura Costa (1999: Anx 4: 9-10 and 14-15) ; Norris/Curtis (2001: II.D)



Strengths

- ▶ The revenue from environmental funds allows stable financing of *operating and follow-on costs* of protected areas and which are usually not covered by the donor organisations.
- ▶ As a *long-term* source of finance, environmental funds facilitate the *planning process* of protected area management.
- ▶ The broad participation of state and non-state protagonists in the supervisory bodies of environmental funds contribute to a transparent decision-making process and improve the acceptance of nature conservation measures in society (*ownership*). Through the support of NGOs, village groups and the commercial sector, they also make an important *contribution towards the development of civil society*.
- ▶ As they are independent of state administrative regulations, environmental funds can react *flexibly* to new challenges.
- ▶ Environmental funds can plan in the long-term, because they are *independent of changes of government* and the connected shifts in political priorities.
- ▶ They are more capable than donor organisations of working flexibly and with attention to *small scale details*.
- ▶ They facilitate better *coordination* between various actors (donors, government, civil society).
- ▶ The best funds help to **build local capacity** for managing financial resources. They are locally driven and locally managed, **addressing the priorities of the region**, country, province or community in which they are based.
- ▶ **Leverage effect**: Once started, funds are highly effective to **attract** important **additional** funding from GEF, national, bilateral, multilateral or private donors.
- ▶ **Endowed trust funds** (spend only the interest of permanent capital assets) can be appropriate for ongoing activities such as basic protected area management costs.
- ▶ **Sinking funds** (the invested capital is used up over a pre-defined period of time) can provide predictable support for activities that can be concluded in the medium-term, are handed over to organisations whose capacities have increased, or develop other sources of recurrent funding
- ▶ Particularly interesting for bilateral donors who are prohibited to fund permanent capital assets.



- ▶ **Revolving funds** provide for the receipt of new resources on a regular basis-e.g., proceeds of special taxes designated to pay for conservation programs-which can replenish or augment the original capital of the fund and provide a continuing source of money for specific activities.
- ▶ Conservation trust funds are appropriate when the threat to biodiversity that is being addressed is of a *long-term nature, that requires sustained response over a number of years (e.g. 15)*.



Weaknesses and dangers

- ▶ Trust funds are not the solution when the biodiversity resource in question faces major, **urgent threats** requiring mobilisation of significant amounts of funding in a **short time**
- ▶ Environmental funds tie up *large finance volumes* which only generate relatively modest income, a part of which is spent on administrative costs. However, most funds invest their capital wisely and receive income which corresponds to the opportunity costs. In particular, environmental funds which aim to support protected areas can keep their administrative costs down.
- ▶ Depending on the overall framework and the authority of the supervisory board, there is a danger that the *funds are instrumentalised* by governments and/or NGOs and that there is pressure to spend resources instead of increasing the capital stock.
- ▶ Given the scarcity of resources, the existence of an environmental fund **can entice** governments and donors **to reduce their financial support** of the nature conservation sector.
- ▶ The allocation of fund resources underlines a project orientation with the **danger of neglecting the legal and economic framework**.
- ▶ Economic efficiency: The guaranteed sources of finance can result in **wasteful management** and poor expenditure choice. It has been therefore proposed that NEFs should address the specific market and institutional failures that hinder environmental investment.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Existence of a globally significant biodiversity, whose protection is politically, technically, economically and socially feasible.
- ▶ **Active political support** within the partner country on various - better: **all - levels**
- ▶ **Legal structures** which allow the establishment of a fund, including tax exemption and incentives for donations
- ▶ A **common vision** shared by a **critical mass** of relevant protagonists
- ▶ A **functioning finance system** (this can be partly compensated by off-shore funds)
- ▶ A **participatory process** which integrates important protagonists within the decision-making process
- ▶ The existence of mentors (donor organisations, international NGOs...)
- ▶ A prospect of diversified revenue sources particularly the possibilities to harness in-country resources (user fees, taxes and levies, donations, etc.) to ensure long-term financial sustainability
- ▶ **Quality of PA design and fund management:**
 - long-term plan (area, activities, grant-making criteria)
 - fund governance including the level of representation and decision-making power of NGOs in the board and the relationship between the board and the secretariat
 - asset management (investments, risks, rates of return and the use of the fund's capital base)
- ▶ fund monitoring & evaluation. Transparent and responsive management



Key reading and information

Norris, Ruth (ed.)(2000):The IPG Handbook on Environmental Funds. Washington, DC: Interagency Planning Group on Environmental Funds (IPG)/ New York: Pact Publications. <http://www.undp.org/gef/ipg/ipg.pdf> , hardcopy order: <http://www.pactpub.com/Info/ipg001.htm>

- Contains an exhaustive list of Addresses of planned and existing funds, Sources of additional information, contacts of a wide range of experts and institutions experienced in funds.

- The Inter-Agency Planning Group on Environmental Funds (IPG) is an informal network of individuals and organisations providing financial and technical support to conservation trust funds, or engaged in policy advocacy in support of funds and the financial mechanisms that support them. The group includes donors, conservation organisations, and consultants. It is chaired by Jane Jacqz of UNDP/GEF, telephone +1 (212) 906-6076, FAX +1 (212) 906-6690/6698, email jjacqz@ff101.undp.org. Publications available from IPG include summary reports of four global and regional forums on national environmental funds. (The future of the IPG was in a state of flux for some time. If the contact information immediately above does not work, contact one of the participating institutions such as Conservation International, The Nature Conservancy, or World Wildlife Fund, listed in the Annex.)

Klug, Uwe (2001, forthc.): Courses of action open to DC for the support of nature conservation projects by environmental funds. Eschborn: GTZ Toeb, N°: ABS-7e (Already available in German). Order hardcopy from michaela.hammer@gtz.de , pdf file for download soon at <http://www.gtz/toeb/>

Kruedener, Barbara v. (2000): FSC-Forest Certification: Enhancing Social Forestry Developments? In: Forests, Trees and People Newsletter No.43, November.

http://www.gtz.de/forest_certification/downloads-pdf/d35.pdf

- a short guide on environmental funds



GEF (1999): Evaluation of Experience with Conservation Trust Funds. Washington. http://www.gefweb.org/ResultsandImpact/Monitoring___Evaluation/eval_all.pdf

This a 16-page summary of the full report, are available the GEF website or from the GEF Secretariat monitoring and evaluation team. Three recent issues of *GEF Lessons Notes* focus on trust funds (No. 5, "When is a Conservation Trust Fund An Appropriate Approach?" No. 6, "Creating Program Focus," and No. 7, a profile of the Mexican Fund for Nature Conservation. Indicate whether electronic version or hard copy, and language (English, French, or Spanish)

Monitoring and Evaluation Program
GEF Secretariat 1818 H Street,
NW Washington, DC 20433, USA
Tel: +1 (202) 458-7387
Fax: +1 (202) 522-3240
email: geflessons@gefweb.org
<http://www.gefweb.org>

Bayon, Ricardo; Carolyn Deere; Ruth Norris; Scott E. Smith (1999): Environmental Funds: Lessons Learned and Future Prospects. IUCN/GEF. <http://biodiversityeconomics.org/pdf/topics-18-01.pdf>

Bayon, Ricardo (IUCN US) and Carolyn Deere (1998): Financing Biodiversity Protection: The Potential of Environmental Funds. Paper presented by Jacob Holst at: Financial Innovations for Biodiversity - 10th Global Biodiversity Forum, Bratislava (May 98) <http://biodiversityeconomics.org/pdf/980501-02.pdf>

Bayon, Ricardo; J. Steven Lovink; Wouter J. Veening (2000): Financing biodiversity conservation. Sustainable Development Dept. Technical papers series; ENV-134 (also available in Spanish). <http://www.iadb.org/sds/doc/ENV%2D134FinancingBiodConservaE.pdf>
Ch. 4.10, pp. 123-128 on Environmental Funds



UNSO (no date) / (UNDP Office to Combat Desertification and Drought): *Debt-for-Environment Swaps for National Desertification Funds*. Prepared by Melissa Moye. Introductory guide to debt-for-environment swaps. Available in English and French from UNSO, 304 E. 45th St., New York, NY 10017, USA, tel: +1- 212-906-6497, fax: +1-212-906-6345, unso@undp.org

US AID (no date): *Win-Win Approaches to Development and the Environment: environmental trusts and endowments* (ascii text version)
http://www.info.usaid.gov/pubs/usaid_eval/ascii/pnaby221.txt



Extent/Volume of Application - Case studies and further information

There are more than forty major Conservation Trust Funds. Seven have received GEF support (see 5.1.3.2) and assistance. About fifteen new funds are under design or active consideration.

By 1999, National Environment Funds have been set up in more than 30 countries, including most of the countries in transition in Eastern Europe and Latin America. Only five countries in Africa and two in Southeast Asia have a NEF. Thirteen African and twelve Asian countries are in the process of preparing a NEF. About ten countries have more than one environmental fund.

Volume: By 1994, total financing raised amounted to US\$850 million (GEF 1999).

Selected Case studies, addresses of all Funds, Guidelines, Consultants, Institutions in IPG Environmental Fund Handbook, see Norris, Ruth (ed.)(2000) above

South Africa

Natal Parks Board Conservation Trust
<http://www.wildnetafrica.co.za/kwazulunatalparks/profile/contrust.html>

Belize

Protected Areas Conservation Trust PACT
<http://www.pactbelize.org/> or
<http://www.belizenet.com/pact.html>



Chile Fondo de las Americas (Fund of the Americas)
<http://www.fdla.cl/> or
<http://www.interaccess.cl/fdla/>

Guatemala Conservation Trust Fund of Guatemala
<http://www.sigloxxi.com/FCG/index.html>

Mexico Fondo Mexicano para la Conservación de la Naturaleza
(Mexican Nature Conservation Fund)
<http://www.fmcn.org>

United States & Canada (Primary focus) Trust for Public Lands
<http://www.tpl.org/>

REDLAC - The Latin American and Caribbean Network of Environmental Funds was launched at a conference in Kingston, Jamaica, in November 1998. Contact the Mexican Nature Conservation Fund +1 (525) 611-9779; Lorenzo Rosenzweig fmlaros@datasys.com.mx or Inter-Agency Planning Group on Environmental Funds (IPG, see Norris 2000 above).

Conservation Trust Funds a web site under construction
<http://www.ctf.homepage.com>

IUCN Biodiversity economics website
<http://biodiversityeconomics.org>

IUCN Netherlands' website
<http://www.nciucn.nl/trp/proje0998.html>



4.1.3 Lotteries

Lotteries are a means of gambling whereby individuals purchase tickets etc., which are then drawn for a prize (usually a portion of the earnings from the sale of tickets). National lotteries can raise billions of dollars for charitable causes.



Extent/Volume of Application - Case studies and further information

The **UK lottery** earned about 8.25bioUS\$ and distributed 2.1bioUS\$ to a wide range of such causes in 1998. Roughly speaking, 28% of the UK lottery goes to charitable causes, 13% to tax, 5% to retailers selling the tickets, 3% to operating costs, 1% to profits and 50% to winners. Since its launch in 1994 until 1999, the UK National Lottery has generated over 190bioUS\$ for causes such as heritage, which includes conservation of nature and landscapes and their enjoyment and understanding by the public. Funds have been paid to public and voluntary organisations to acquire land for conservation (e.g. to create nature reserves), to improve their management, to improve public access and enhance public understanding, and to encourage and train volunteers to work on conservation schemes. An estimated 52,000ha of land of high conservation value have benefited from such projects. (IUCN-WCPA 2000: 41)

As lotteries are quite popular in many developed and also developing countries, it is mainly a matter to either found new, conservation-oriented lotteries or to convince existing enterprises of the advertising and social advantages of transferring substantial amounts to conservation causes.



4.2 Market Approaches

4.2.1 Certification of biodiversity products

Type	Commoditisation
Objective	Standards and credibility to increase demand, value, and willingness to pay
Main source	Sensitised consumers and processing industry
Main recipient	Producers (forest owners, fishers, farmers) processing units
See also	Marketing (cause related), Carbon trading

Functioning

Certification – of timber, NTFPs, dolphin friendly tuna, croco-/turtle farms etc. from forests, oceans or other areas ‘sustainably’ managed in accordance with agreed ecological, economic, and social criteria – attempts to increase demand for sustainable management. The main rationale is that an environmentally discriminating market will force those involved in unsustainable practices to improve their management in order to sell their produce on the (world) market; it also foresees more stringent environmental regulations. A second assumption is that consumers are willing to pay a premium for products from independently certified, well-managed areas, i.e. for the ecological services and existence values of forests, oceans etc.

Types: **Concession or company certification** is the main current system and carries with it the marketing strategy incentive, but has not proved popular due to the costs involved and a dislike of having to conform to externally imposed standards. **Product labelling** may be the most difficult to implement due to the vast array of products and processes, and is more liable to be regarded as an illegal discriminatory trade measure by the World Trade Organisation (WTO). **Country certification** has the advantages that it requires policies to be adjusted so that positive incentives are sent out for NFM, is less vulnerable to being classified as a trade barrier, and could be easier to monitor through periodic inspection tours by internationally certified teams monitoring port traffic, reviewing forest policy and management plans, etc. (Richards 1999).



Agencies: The **Forest Stewardship Council (FSC)**, an NGO founded in 1993, operates a complete package of a forest management standard, an international accreditation programme for certifiers, a trademark which can be used in labelling products from certified forests, and a communications/advocacy programme. As of August 2001, 25 million hectares of forest had been certified according to FSC principles and criteria.

The **International Standardization Organization ISO 14001** forestry initiative offers a framework for the certification of environmental management systems (EMSs). It mainly differs from the FSC approach in that it does not specify management performance standards, and there is no labelling. The EMS is certified rather than the products or forests. Although not strictly a forest certification programme, the ISO approach allows more potential to assess the environmental quality of forest management (Bass 1998).

Industry prefers the ISO certification process because it encourages the development of internal management capacity, the standards are set by the company and not by outsiders (so is more in tune with private sector philosophy), companies are used to ISO standards in other operations like processing, and it is cheaper than FSC certification. Environmental NGOs favour the FSC system because it ensures there is an impact on the forest. However the two approaches may be compatible: the adoption of FSC standards and an ISO system to achieve them could be a way forward for national certification systems (Bass 1998, Richards 1999).



Strengths

- ▶ Consumers can support conservation by buying products that carry the FSC label, which certifies that the wood comes from forests that are managed in accordance with FSC's internationally endorsed principles and criteria. (Robbins 2000: 3)
- ▶ Certification contributes to the preservation of forests and forest wildlife worldwide because it:
- ▶ Creates new and higher-value income from sustainably managed products (at least 10% for forestry).
- ▶ Provides a major boost to the 'green market' effect. It should also provide a boost to secondary timber species. (Richards 1999)
- ▶ Ensures that e.g. timber harvesting is ecologically sound, and socially and economically beneficial to local communities
- ▶ Creates market incentives for producers to responsibly manage forests and harvest timber
- ▶ Gives consumers the power to positively "vote" for conservation when they buy certified wood products
- ▶ Certification also has wider benefits. It can:
- ▶ contribute to increased transparency and accountability in the forest industry. These attractions have ensured strong donor support.
- ▶ optimise marketing strategies such as market niche identification (Moura Costa 1999: 106)
- ▶ Past stock market experience with international logging companies has left the residual perception that all tropical forestry is unsustainable. Mechanisms such as environmental due diligence and rating or independent certification of forest management standards (Upton & Bass 1995) can credibly reassure the market and its observers that investments can be done responsibly.
- ▶ Some kind of certification and monitoring of standards is required for almost all traditional and innovative mechanisms



Weaknesses and dangers

- ▶ Most certification of forests has been in the north. And of the 25 Mio ha certified by FSC, small or community forests take a very marginal share (FSC 2001).
- ▶ While a number of community-based NFM projects, e.g. in Mexico, Bolivia, Honduras and Papua New Guinea, have received FSC certification, there is little evidence that, as yet, certification has caused a shift towards sustainable management. Studies of the impacts of certification on the Bolivian and Honduran projects (Markopoulos 1998, 1999) indicate the difficulties of supplying the niche export market for certified timber, but as certification is a very recent development it is rather early to assess its impact. Among the main problems and objections to certification, which have limited it as an effective incentive for NFM so far, are (Ghazeli/Simula 1998; Richards 1999):
- ▶ the **thin demand** for certified timber: there is still little consumer willingness to pay for certified timber and at present, demand for it comes mainly from retailers as a marketing strategy. The upper limit for a premium is 10% according to most studies; secondly, only about 6% of tropical timber comes onto the world market, and at present the demand for certified timber is mainly limited to north-west Europe. The 1998 EFI survey found that timber quality, durability, form, material and price were more important than environmental considerations, although certification was seen as a source of competitive advantage in the market place; and there is a fear is that if the higher costs of tropical NFM certification are passed on to the consumer, this will encourage further substitution by temperate timber and non-timber substitutes;
- ▶ the threat to certification posed by **WTO rules**: discrimination between sustainably and unsustainably harvested timber is regarded as a trade restriction, although WTO agrees that Technical Barriers to Trade (TBTs) are acceptable if they protect consumers, the environment or plant health. As long as WTO rules represent a serious constraint to certification it can only be introduced on a private, voluntary basis, as opposed to the obligatory basis that is ultimately needed, and it should not look beyond purely environmental objectives (e.g. WTO views social standards as preventing countries benefiting from their low labour costs);



- ▶ the **technical problems** of certification: nearly all the forest industry respondents in the EFI survey regarded 'chain-of-custody' verification as highly problematic, given that timber products are composed of wood from various sources and the difficulty of tracking end uses of timber. Another problem is how to stop 'cheating', e.g. certified concessionaires buying in timber from non-certified sources and selling it on as certified timber.
- ▶ the **credibility problem** for certification: will discerning consumers believe the labels?;
- ▶ it is too easy for exporters to supply **undiscriminating markets**;
- ▶ it **favours plantations and temperate forestry** since the costs of certification and monitoring it are less due to lower technical, biological (e.g. the relative ease of maintaining existing biodiversity), policy and social complexities (absence of indigenous peoples, colonists, etc.);
- ▶ the **difficulties of monitoring** certified forests, including the potential for international disputes and the heavier burden placed on over-stretched FDs;
- ▶ the **difficulty of reconciling** national participatory processes and achieving some minimum level of international harmonisation of **certification standards** and procedures;
- ▶ it **favours large export-orientated** forest managers or owners, since the unit cost of certification falls with scale;
- ▶ the objection that timber certification represents historical discrimination against tropical forestry.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ **Balanced criteria of sustainability:** The criteria for sustainable forest management must respect ecological, social and economic aspects.
- ▶ **Objectivity:** The criteria must be verifiable and publicly known. They should be adapted to the local conditions, emphasising performance monitoring and verification.
- ▶ **Independence:** Independent third-party control must be ensured in the interest of credibility.
- ▶ Evaluation on the **level** of a forest management unit: Incentives for improvement of forest management can only be effective at the unit where decisions are taken about management objectives, resource inputs and management operations.
- ▶ **Manageable costs:** The costs of the assessment should be minimised. The forest enterprise should be able to offset at least some of the costs with commercial gains.
- ▶ **Participation:** Consultation processes for the institutional establishment of certification systems and the development of amalgamated process and performance certification standards should involve all interested and affected groups. Setting up national working groups with broadly based participation in such processes helps to balance different interests and build consensus.
- ▶ **National integration:** Certification requires adequate national framework conditions. A certification system has to be integrated in national legislation and adapted to the local context. It should be in line with national forest programmes.
- ▶ **International integration and compatibility:** The system should be compatible with international conventions and agreements. National certification standards and systems should be internationally comparable and compatible to avoid market distortions and consumer confusion.
- ▶ **Voluntary participation:** Certification is a market instrument based on voluntary participation.
- ▶ **Non-discrimination:** Certification must not discriminate between different forest types, forest owners or countries, but should ensure that large scale operators are made more accountable for their actions than small local groups motivated by welfare considerations, most obviously through stronger regulatory and forest management control systems.



- ▶ **Acceptance:** The success of forest certification is judged by the demand on the market. Eventually it is the consumers who decide whether it succeeds or fails. It is recommended to develop buyers' groups in markets for which most supply is from unsustainable sources, as in Southern Europe and East Asia (although this could be difficult given the economic downturn)



Key reading and information

- Bass, Stephen (1998): Introducing Forest Certification. European Forest Institute Discussion Paper 1. Briefing Note 1: http://www.gtz.de/forest_certification/downloads-pdf/d1-i.pdf
- FSC And ISO Approaches To Forest Certification: A Comparison And Suggested Ways Forward. Briefing Note 2: http://www.gtz.de/forest_certification/downloads-pdf/d1-ii.pdf
- Bass, Stephen; M. Simula (1999): Independent Certification/Verification of Forest Management. Background Paper for the Worldbank/WWF Alliance Workshop, November. http://www.gtz.de/forest_certification/downloads-pdf/d28.pdf
- Ghazali, Baharuddin Haji; Markku Simula (1998): Timber Certification: Progress and Issues. Kuala Lumpur/Helsinki, Yokohama: ITTO. http://www.gtz.de/forest_certification/english/bestell_formular_e.html or download directly
[Download Part 1](#)
[Download Part 2](#)
[Download Part 3](#)
[Download Part 4](#)
[Download Part 5](#)
[Download Part 6](#)
- Irvine, D. (1999): Certification and Community Forestry: Current Trends, Challenges and Potential. A Background Paper for the World Bank-WWF Alliance Workshop on Independent Certification, November, 1999. http://www.gtz.de/forest_certification/downloads-pdf/d26.pdf
- Kruedener, Barbara v. (2000): FSC-Forest Certification: Enhancing Social Forestry Developments? In: Forests, Trees and People Newsletter No.43, November. http://www.gtz.de/forest_certification/downloads-pdf/d35.pdf



- Markopoulos, M. (1998): The Impacts of Certification on Community Forest Enterprises - a Case Study of the Lomerío Community Forest Management Project, Bolivia. IIED, Forestry and Land Use Series No. 13. http://www.gtz.de/forest_certification/downloads/d12.pdf
- Markopoulos, M.D. (1999a): The Impacts of Certification on Campesino Forestry groups in Northern Honduras. Oxford Forestry Institute. http://www.gtz.de/forest_certification/downloads-pdf/d21.pdf
- Markopoulos, M. (1999b): Community Forest Enterprise and Certification in Mexico – A Review of Experience with Special Reference to the Union of Zapotec and Chinantec Forestry Communities, Oaxaca. Oxford Forestry Institute. http://www.gtz.de/forest_certification/downloads-pdf/d34.pdf
- Rametsteiner, E., et.al. (1998): Potential Markets for Certified Forest Products in Europe. European Forest Institute Discussion Paper 2. http://www.gtz.de/forest_certification/downloads-pdf/d14.pdf
- Richards, Michael (1999): Internalising the Externalities' of Tropical Forestry: A Review of Innovative Financing and Incentive Mechanisms. European Union Tropical Forestry Paper No. 1. London / Brussels: ODI / EU. See the ODI website at <http://www.oneworld.org/odi/fpeg/index.html>
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- Thornber, K. (1999): Overview of Global Trends in FSC Certificates. International Institute for Environment and Development (IIED), May 1999. http://www.gtz.de/forest_certification/downloads-pdf/d30.pdf
- Upton, C.; S. Bass (1995): The Forest Certification Handbook. London: Earthscan. (downloadable Files see [Bass 1998](#))



WWF (1998): Protecting Forests Through Certification: The Good Wood Crusade. Washington, DC: WWF Issue Brief, August 1998.
<http://www.wwfus.org/news/pubs/forests.pdf>



Extent/Volume of Application - Case studies and further information

The range and number of case studies is growing rapidly.

Honduras, Bolivia, and Mexico are well described case studies in [Markopoulos \(1998, 1999a, 1999b\)](#)

Ghana and Costa Rica are developing national certification programmes; Costa Rica's National Certification Commission has been set up to develop national standards for NFM and to monitor and supervise certification bodies. For Africa, the Interafrican Forest Industries Association (IFIA) is quite active.

Brasil, Finland, Ghana, Indonesia, Malaysia, The Netherlands, and the USA are analysed as detailed case studies in Ghazali/Simula 1998, including concept development, normative frameworks, progress in certification, etc.

A wide range of contacts, training and information on introduction and application of criteria, indicators and certification for sustainable forest management is provided by

Forest Certification Project, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH

Postfach 5180,
65726 Eschborn, Germany;
Tel.: +49-6196-791477, -78, Fax: +49-6196-797106

Email:
dietrich.burger@gtz.de or
barbara.kruedener-von@gtz.de

http://www.gtz.de/forest_certification/english/index.html



Good sources of information are also the

Forest Stewardship Council <http://www.fscoax.org/principal.htm>

International Institute for Environment and Development
<http://www.ied.org>

European Forest Institute

One of the largest certifiers is **SmartWood**, maintaining a useful website
<http://www.smartwood.org>



4.2.2 Resource use charges: Direct extraction of resources

Type	Private: Commoditisation, developing markets for public goods services
Objective	Ecologically sustainable and financially profitable management of protected area with resource users (at best only indigenous population)
Main source	Concessionaires for resource extraction or use/ management contract holders
Main recipient	Protected area
See also	User fees , Bio-prospecting fees ; Carbon offsets
Functioning	(except in areas requiring full protection)

Resource User fee - paid for the sustainable commercial use of a specified quantity of resources such as timber, non-timber products (berries, mush-rooms, medicinal plants) etc. within a protected area over a specified period of time.

Concession charge - is paid for the use of land or other resources. Is for a specified period of time and for a specific nature of development.

Royalty - a fee paid based on the gross output value or gross sales from products out of resources derived from a PA.

General description in: [Inamdar/Merode \(1999: 33\)](#); [Moura Costa \(1999: Anx 4: 28\)](#); [Norris/Curtis \(2001: III.C\)](#)



Strengths

- ▶ **Market mechanism** to regulate demand and use: price of fees reflects protection status.
- ▶ **Internalising the externalities** of forest maintenance costs by making the users pay relieves the governmental budget necessary for other investments.
- ▶ **User acceptance:** objective management provides conflict resolution and long-term management security for use of commons.
- ▶ Long experience with concessions and use agreements on macro and micro level provides ample case studies and guidelines for successful design and management in different areas. Together with recent work on **co-management** a wide body of experience exists to implement financially and environmentally sustainable management.
- ▶ This makes it a well-integrated **pro-active income generation and management tool** for watershed buffer zones, forest management plans and protected areas with alternative sources of income to local populations from sustainable management of biodiversity products.
- ▶ Timber and other concessions can, if properly managed and supervised, contribute to the development of the domestic forest and other related sectors. They can form the basis for lucrative **value-added industries** which in turn increase funds for resource use and protection fees and makes people economically **more independent from unsustainable land use**.



Weaknesses and dangers

- ▶ Setting and adjustment of adequate prices requires **efficient, non-corrupt monitoring and management** which may often not be available.
- ▶ Large timber concessions have been criticised of being **cut-and-run** operations, particularly in natural forests. The same is true for small-scale users, 'invading' also protected areas, particularly under the impression of 'perverse market incentives' such as land laws or subsidies favouring clearing of land for development.
- ▶ Protected area lands have been leased for mineral exploration, oil development, forestry activities, grazing, and other agricultural uses, where extreme care must be taken to assure that the income-generating activities do not conflict with the conservation purposes of the area.



- ▶ Even for less potentially damaging uses that may be assigned for a fee, such as gathering of fallen trees, ornamental plants, seeds, and fruits, it is important not to displace traditional local uses unless the traditional users are involved in planning and operating the revenue-generating activities.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Several issues need to be addressed in the design of the financing arrangements including
 - the need for a reliable (governmental or private) management system,
 - collection of revenues from users and raising funding from other sources,
 - the valuation and pricing of the watershed services,
 - the market mechanism targeted at producers, particularly at the small-scale, and
 - monitoring and supervision.
- ▶ Environmental awareness must be created among the public to establish such schemes and to create a real willingness to pay (WTP).
- ▶ Effective organisation of landholders is necessary to enter into co-operative management and sustainable use agreements.



Key reading and information

- Bayon, Ricardo; J. Steven Lovink; Wouter J. Veening (2000): Financing biodiversity conservation. Sustainable Development Dept. Technical papers series; ENV-134 (also available in Spanish). <http://www.iadb.org/sds/doc/ENV%2D134FinancingBiodConservaE.pdf>
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- Norris, Ruth; Randy Curtis (2001²):Funding Protected Area Conservation in the Wider Caribbean: A Guide for Managers and Conservation Organizations. New York: United Nations Environment Programme and The Nature Conservancy. (updated edition. 1999 version: <http://pay4parks.homepage.com/contents.html>)
- Richards, Michael (1999): Internalising the Externalities' of Tropical Forestry: A Review of Innovative Financing and Incentive Mechanisms. European Union Tropical Forestry Paper No. 1. London / Brussels: ODI / EU. See the ODI website at <http://www.oneworld.org/odi/fpeg/index.html>



4.2.3 Resource service charges: Water, hydro-electricity

Type	Commoditisation: creating market for watershed protection services of forests
Objective	Generate revenue for forest users and managers for the production of watershed protection services
Main source	Resource users (utility companies, consumers)
Main recipient	Forest land owners and managers / local population
See also	User fees , Bio-prospecting fees ; Carbon offsets

Functioning Tax or levy on water or electricity users. Benefits upstream areas including parks which provide a valuable service such as water supplies for downstream population settlements. Compensation is provided to induce environmentally benign practices. Water fees and tariffs are adjusted to pay for watershed management, soil-erosion prevention etc.

General description in: [IUCN-WCPA \(2000: 39-40\)](#); [Moura Costa \(1999: Anx 4: 28\)](#); [Norris/Curtis \(2001: II.D\)](#)

Strengths



- ▶ **Motivation to protect environment:** Paying upstream farmers to choose environmentally desirable land use investments to protect the water supply to downstream populations helps correct market failures. E.g. Costa Rica **pays forest land owners** an initial forest protection area establishment subsidy and an annual management subsidy, which includes compensation for income from other alternatives such as farming, to maintain or re-establish forest cover instead of other, initially more lucrative land use (see case study Costa Rica below).



- ▶ **User acceptance:** Determining the real price for an important resource like water creates a simple to understand connection between resource use and its price. Particularly as the additional costs do not necessarily have to be high: Heredia in Costa Rica raised **consumer fees for water** by about 5% (domestic users pay about 0.20US\$/m³) in order to pay forest owners conforming with biodiversity management requirements additionally up to 70US\$/ha annually for supply of the resource (Castro 2001, Barrantes 2001).
- ▶ **Internalising the externalities** of forest maintenance costs by making the users pay relieves the governmental budget necessary for other investments. It also offers a simple market mechanism helping to **regulate demand** if use increases too fast or the resource becomes more scarce.
- ▶ As these resources have been successfully and effectively used in forest conservation, reforestation and restoration of degraded areas in many countries (Colombia, Brazil, Costa Rica, Ecuador, Thailand etc.) this mechanism becomes more established. This might help shift its **focus from being reactive** (e.g. reforestation to address upstream water flow degradation or soil erosion) **to being more active** (e.g. incorporating watershed buffer zones in forest management plans).
- ▶ In addition to watershed management (tree planting, protection, and erosion control), funds can be used for other activities related to sustainable management of biodiversity products (forest/non-timber) as a means of creating alternative sources of income to local populations.



Weaknesses and dangers

- ▶ Weak administrations are unable (or at least they fail to convince land users of their ability) to set adequate prices and establish reliable long-term management systems (efficiently collect fees, fully transfer them to land users, avoiding corruption and excessive overheads).
- ▶ Areas without taxable downstream users continue to lack funding, unless they are included in fees for other areas, which might undermine the market link and willingness to pay.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Several issues need to be addressed in the design of the financing arrangements including
 - the need for a reliable (governmental or private) management system,
 - collection of revenues from users and raising funding from other sources,
 - the valuation and pricing of the watershed services,
 - the market mechanism targeted at producers, particularly at the small-scale, and
 - monitoring and supervision.
- ▶ Environmental awareness must be created among the public to



Key reading and information

Bayon, Ricardo; J. Steven Lovink; Wouter J. Veening (2000): Financing biodiversity conservation. Sustainable Development Dept. Technical papers series; ENV-134 (also available in Spanish). <http://www.iadb.org/sds/doc/ENV%2D134FinancingBiodConservaE.pdf>

Heindrichs, Thomas (1997): Innovative financing instruments in the forestry and nature conservation sector of Costa Rica. GTZ-Toeb, Eschborn, Germany. (also available in Spanish) http://www.gtz.de/twrrp/Documents/Financing_Instruments_1999e.pdf

Barrantes M, Gerardo (2001): Evaluación económica del recurso hídrico y su aplicación en el ajuste de tarifas en Costa Rica. Paper presented at the regional workshop hosted by GTZ: The implementation of the biodiversity convention in Latin America: sustainable use and financing possibilities, Montelimar, Nicaragua 2-6 April 2001 (Proceedings available from Andreas.Gettkant@gtz.de)



- Rodríguez Becerra, Manuel (2001, forthcoming): The Colombian Green Plan. Paper presented at "International Workshop On Market Creation For Biodiversity Products And Services" 25-26.01.2001. Paris: OECD (proceedings available from Dan.Biller@oecd.org)
- Rodríguez Becerra, Manuel; Eugenia Ponce De León (1999): La Financiación Del "Plan Verde" En Colombia: Retos y Oportunidades. Paper presented at "Workshop on financing sustainable forest management" UNDP - PROFOR, 11-13 Oct 1999, London. (available in English and Spanish from eponce@multi.net.co)
- Richards, Michael (1999): Internalising the Externalities' of Tropical Forestry: A Review of Innovative Financing and Incentive Mechanisms. European Union Tropical Forestry Paper No. 1. London / Brussels: ODI / EU. See the ODI website at <http://www.oneworld.org/odi/fpeg/index.html>
- Chomitz, K. et al. (1998): *Financing Environmental Services: The Costa Rican Experience*. Economic Notes, Number 10. Central American Management Unit, Latin America and the Caribbean Region. Washington D.C.: The World Bank. <http://www.worldbank.org/>
- Keipi, Kari (IDB)(2001): Forests financing in Latin America and the Caribbean. Paper, Cifor Conference, 22-25 Jan 2001, OSLO/IV.6/FF <http://www.cifor.cgiar.org/fsfm/Papers/PDFformat/IV6FF.pdf>



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Applied in some developed and a growing number of developing countries.

Funding potential: Significant (tens of millions of dollars) for areas adjacent to major cities. **Protection potential:** the potential for wide application of this or similar mechanisms has been highlighted by growing recent natural disasters, such as the dramatic flooding in China, Bangladesh, Central America and Europe (Italy, France, Germany), all of which have pointed out upstream deforestation as a major contributing factor.

Thailand - charges user fees at centralised waste-water treatment plants.

Colombia - a law requires the electric power companies to transfer 2% of their gross sales to direct investment in watershed management, or to environmental authorities. (Rodriguez 2001; Moura Costa 1999).

Costa Rica - Since introduction of a range of legislation (Forestry law 1996, Biodiversity law 1996), **fuel tax and others** are used to **pay forest land owners** once an initial 50-200/330/500 US\$ (depending if it is protection/management/reforestation) and for protection/management about 10-20US\$/ha annually, which includes compensation for income from other alternatives such as farming, to maintain or re-establish forest cover instead of other, initially more lucrative land use (Heindrichs 1997, Chomitz 1998, Bayon et al. 2000). Other areas even raise **consumer fees for water** by about 5% (domestic users pay about 0.20US\$/m³) in order to pay forest owners conforming with biodiversity management requirements up to 70US\$/ha for supply of this resource. In another area, the water company is charged US\$6 million and the national power company, the *Instituto Costarricense de Electricidad* (ICE), another US\$3 million per year. The fees finance the conservation of some 1.3 million ha of forest in the watersheds supplying water to the city (Castro 2001, Moura Costa 1999, Barrantes 2001, Chomitz 1998).



Ecuador - Quito established the Watershed Protection Fund, a co-operation of the municipal government and the private sector with the assistance of The Nature Conservancy. Funding is raised from water charges to electricity companies and private water users and from the public water authority. Grants and loans are then provided to individuals and communities upstream to help them conserve the watershed via measures such as tree planting, protection, and erosion control, and develop alternative livelihoods. The example is creating a lot of interest for similar projects in Latin America (e.g. Jamaica). (Keipi 2001: 9)

United States – Payment to upstream providers from water and electricity fees is widely applied.



4.3 Private Investment flows

4.3.1 Direct investment schemes

4.3.1.1 Forestry

The experience with private sources of finance for management of environmentally sensitive areas largely draws from experience in the forestry sector, which need not be repeated here. Most refers to privately owned land or public land with private commercial concessions. They are usually dealt with under commercial considerations, though many areas are or should be in some kind of protection category.



Key reading and information

Only a few key documents are named here, which contain ample reference to other sources.

A good overview of conventional Forestry Economics and innovative approaches is provided by:

Landell-Mills, Natasha (1999): Financing sustainable forestry: a review of international experience. Prepared for the Working Group on Financial Flows and Mechanisms in support of Malawi's National Forestry Programme, September 1999. UNDP PROFOR. <http://www.undp.org/seed/forest/docs/ReviewofIntExpFinalDraft.doc>

Particularly interesting is the part on pp.10-15 where she explains market based instruments to promote improved forest management, including private investment mobilisation.

Haltia, Olli; Kari Keipi (1997): *Financing Forest Investments in Latin America: The Issue of Incentives*, Washington: Inter-American Development Bank IDB. <http://www.iadb.org/sds/doc/env%2D113e.pdf>

explain that, while the most effective vehicles for obtaining significant levels of forest investment are probably macro-economic, political, and institutional reforms that create a better climate for private sector investment, there is still a role to be played by financial incentives for forest investment and conservation because forestation programmes may provide important positive ecological and social externalities.



The innovative mechanisms and strategies for a new forest financing strategy, possibly with a specific investment promotion agency (IPA) are developed and described in detail by:

Richards, Michael (1999): Internalising the Externalities' of Tropical Forestry: A Review of Innovative Financing and Incentive Mechanisms. European Union Tropical Forestry Paper No. 1. London / Brussels: ODI / EU. See the ODI website at <http://www.oneworld.org/odi/fpeg/index.html>

Moura Costa, Pedro; Jyrki Salmi; Markku Simula; Charlie Wilson (1999): Financial Mechanisms for Sustainable Forestry. UNDP-PROFOR. <http://www.undp.org/seed/forest/pdf/Costa.pdf>

A wide range of recent material is available from the homepage of the

January 2001 Cifor conference Oslo:

<http://www.cifor.cgiar.org/fsfm/documents/papers.htm>

Sustainable Forest management:

http://www.cifor.cgiar.org/fsfm/documents/related_links.htm



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Examples abound in the above literature and beyond. [Crossley et al. \(1996\)](#) give a good overview of cases. More are in the titles mentioned above.

Crossley, Rachel A.; Tony Lent; Diana Propper de Callejon; Camilla Sethare (1996): Innovative financing for sustainable forestry. New York: Environmental Advantage. Paper presented on workshop in Pretoria 4-7 June 1996.
<http://www.fao.org/docrep/w3247e/w3247e07.htm>

Crossley at al. also mention one interesting example for attraction of international investment:

Market defining forestry funds: Xylem and The Forestland Group. The Forestland Group Xylem Investments Incorporated is an international timber investment management firm that makes private equity investments in international, publicly traded plantation-based forest companies. Xylem is the first company to be successful in attracting United States institutional forest land investors to forestry investment in emerging markets. Xylem manages approximately US\$ 235 million in forest assets, comprising six timber equity investments across ten countries and 1.4 million ha of softwood and hardwood plantations that are managed on a sustained yield forestry plan.



4.3.1.2 Tourism

 : *Local mechanisms* [3.2.1 Tourism investment schemes](#)

Approaches for supporting protected areas through sustainable and market-oriented tourism management ([Strasdas 2000](#))

4.3.1.3 Bioprospecting

 see local level ([3.2.2](#))



4.3.2 Compensation investments mitigating impact e.g. of oil companies

Many companies, by force of controlling governments and local opinion, or by their interest in a positive public image, are investing large amounts in conservation and socio-environmental development assistance.

Oil and gas exploration and production (E&P) activities can have significant impacts on both the natural environment and human communities. During the past 20 years the oil and gas industry has grown to recognize the need and obligation of companies to identify and mitigate environmental impacts of their activities. In many countries this recognition has been driven or encouraged by adoption of laws requiring environmental impact assessments of new projects.

During the past decade expectations of local communities, national governments, international development organizations, non-governmental organizations (NGOs), and other stakeholders have risen significantly regarding how effectively oil and gas companies must mitigate environmental effects of their activities. In recent years those expectations have explicitly expanded to require companies to address a wide range of social issues and impacts, some of which had not often been incorporated into limited socioeconomic analyses occasionally done as part of environmental impact assessments ([World Bank 2001](#)).

While the cause of impact mitigation is often a very negative one, e.g.

- ▶ resettlement for industry or mining operations,
- ▶ an oil spill, or other disturbances in the local living conditions,
- ▶ the compensation programmes are often substantial, in some cases by far exceeding the spending of the respective national governments for rural or environmental programmes.



Key reading and information

- World Bank (2001) : Best practices in dealing with the social impacts of hydrocarbon operations. Environmental and social impact mitigation practices: Overview. Washington: The World Bank group homepage <http://www.worldbank.org/html/fpd/energy/oil&gas/BestPractices/4/41.html>
- World Rainforest Movement (2000a): The high cost of cheap oil. Montevideo, Uruguay/ Moreton-in-Marsh UK. July 2000. http://www.wrm.org.uy/publications/rtf_Ingles_libro.rtf
- BP British Petroleum (2000): Biodiversity Summary for 2000 biodiversity actions pilot programme. London: BP. http://www.bp.com/corp_reporting/hse_perform/env/biodiversity/evidence.asp
- BP British Petroleum (2001c): London: Oil spills – Evidence. London: BP homepage. http://www.bp.com/corp_reporting/hse_perform/env/oil_spills/evidence.asp
- BP British Petroleum (2001a): Environmental and Social review 2000. London: BP, May 2001. http://www.bp.com/downloads/529/BP_E_AND_S_WEB.pdf
- Shell (2001): People, planet & profits. The Shell Report 2000. [A review of Group companies' progress in embodying sustainable development in the way they do business and meet the economic, environmental and social expectations of stakeholders: includes the latest verified health, safety and environmental data.] The Hague/London: Shell International – Royal Dutch. www.shell.com/shellreport or <http://www.shell.com/downloads/publications/51573.pdf>



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From **Bolivia** to Cuiaba in **Brazil** a new and controversial 650 km pipeline, approaching completion, will transport natural gas via an environmentally and socially sensitive route. The gas will be used to generate electricity, replacing diesel fuel. The pipeline is part of the Cuiaba Integrated Energy project, designed to provide much-needed energy for the region around Cuiaba in the Mato Grosso region of Brazil. Transredes S.A. and Enron are the majority shareholders and operators of the project. Shell Gas Latin America is a minority shareholder in the pipeline and the construction of a power plant in Cuiaba.

A key area of concern identified was the Chiquitano Forest - one of the best remaining examples of a tropical dry forest. Apart from the mitigation efforts already in place, a separate fund has been established to support a long-term conservation plan for this forest. The plan has been set up with the Wildlife Conservation Society, Missouri Botanical Garden, Fundación Amigos de la Naturaleza and Museo de Historia Natural Noel Kempff Mercado. The pipeline owners have committed to support this with up to US\$ 20 million over the next 15 years with a further US\$ 10 million expected from the NGOs.

<http://www.shell.com/royal-en/content/0,5028,25552-56973,00.html>

Shell Conserving biodiversity homepage 2001

<http://www.shell.com/royal-en/content/0,5028,25552-67675,00.html>

“In early 2000 Transredes had a pipeline rupture at a river crossing in the remote Altiplano during the flood season, spilling crude oil along both riverbanks, affecting many local communities. Shell and its partners provided expertise, spill containment and clean-up gear to support Transredes in avoiding further contamination. Transredes worked with local communities, first to provide them and their livestock with clean water and then to clean up the spill, employing at peak more than 3,000 local people, as well as doctors, nurses and vets who monitored community health. The clean up has been monitored and audited by government, and the people of Bolivia were kept fully informed through frequent news releases.

Since then, Transredes has been working with CARE Bolivia to provide community projects to those affected by the spill. The type of project is only determined after communities have been fully consulted, a key element in fair and helpful support for people living in the area. Later



Shell worked closely with Transredes to improve operational and environmental procedures to avoid a repeat of this incident. Transredes is spreading these standards through its contractors and subcontractors. (Shell 2001: 16)

Strong criticism and protest campaigns is, obviously, the answer to such cases among environmental NGOs and activists, such as, the world rain forest movements, which publishes extensively with many negative case studies on “The high cost of cheap oil” (WRM 2000)
<http://www.wrm.org.uy/publications/oil2.html>
http://www.wrm.org.uy/publications/rtf_Ingles_libro.rtf



4.3.3 Micro-credit and small and medium scale enterprise credit lines

Type	Direct financial: grant, concessional loan
Objective	Provision of capital for profitable small-scale activities in forestry or related investments for farmers and other (small-scale) landowners, processing units, small businesses
Main source	Public ODA & locally generated private savings
Main recipient	Private small-scale farmers and other land owners
See also	Small targeted grants

Functioning

Micro-enterprise credit schemes (also called rural micro-financing) are small-scale credit agencies, normally offering local businesses loans of, say, less than \$500.

The micro-credit concept is based on the assumption that individuals and families know best how to improve their own well-being. All that is lacking is access to the necessary capital (for structural reasons and because traditional financing institutions often consider small-scale rural farmers not creditworthy). Once provided with capital, farmers and families can make profitable investments, which allow them to pay back the loan and raise their net income.

A commonly used model is the solidarity group model, in which five to fifteen individuals pursue their own enterprise activities and provide joint guarantees for each person's loan. The groups must be self-selecting.

Access to credit relies on the collective responsibility of all those in the group. No member may receive additional loans until the group resolves payment problems. The responsibility for management of loans is placed primarily on the group members: this tends to build ownership and success of the programme, whilst reducing the administration cost.

Also for **small-and-medium-scale enterprises (SMEs)** access to capital at a reasonable cost will often be the most important determining factor when establishing of biodiversity-based businesses. For this reason, special lines of credit (preferably at concessionary rates) made available in industries that are good for the environment can serve as an important incentive for biodiversity conservation. This form of "green



credit” can help create an environment in which environmentally responsible (and commercially viable) businesses can serve as models and attract larger private capital flows.

General description in: Inamdar/Merode (1999: 43-4); Moura Costa et al. (1999: Anx 4: 18-22); (Keipi 2001: 13)



Strengths

- ▶ Microfinance can be a cost effective service delivery mechanism for benefit-sharing schemes because of the fact that it is designed to recover many of the costs associated with managing it.
- ▶ Micro-credits have been developing rapidly during the past ten years. They can be hailed as a true success story in many countries’ rural development strategies, particularly in Asia.
- ▶ Once provided with capital, farmers and families can make profitable investments, which allow them to pay back the loan and raise their net income. Other innovative elements include:
 - new approaches to accessing capital reducing the costs on potential loan takers for taking a loan;
 - reducing risks relating to bad debts by using social and financial pressure through “credit groups” instead of collateral which small-scale farmers often do not have; and
 - linking extension on technical issues and family-level financial management with the loan-taking (such extension is usually financed by an additional ODA component within the credit scheme).
- ▶ Micro-credit schemes are often self-financing and as such, financially sustainable. Interest rates charged are “market” rates, though lower than the interest rates charged by individual money-lenders. Administrative costs, inflation, and risk are covered by the interest earnings. Loan repayment rates are usually very high, in the order of 95-97%.
- ▶ They work well where traditional rural financial institutions are weak and access to loans by small scale farmers is poor. Particularly well suited to cultures where local social pressure is strong (e.g., East and South-east Asia).



- ▶ There are successful examples of micro-credit schemes targeted at the forest sector (e.g., in Vietnam). In some of these schemes the reduced decision-making power of the borrower is compensated by a slightly subsidised interest rate, with the subsidy justified by the environmental externalities associated with forestry activities.
- ▶ Recently many field forestry projects have included some kind of micro-project or micro-credit schemes. This kind of arrangement (linking micro-credit with broader agroforestry, community forestry, or farm forestry projects) allows adequate technical backstopping for the small-scale investments. In some cases project-based credit schemes can be mainstreamed to become national schemes managed by national forest authorities. Such schemes often include subsidised credit components in order to attain specific forest policy goals. Policy incentives, including (subsidised) micro-credit schemes for farm forestry should be integral components in any NFP.



Weaknesses and dangers

- ▶ Micro-enterprise schemes do not have in-built environmental restraints. However, through establishing some agreed criteria with local users, it should be possible to encourage businesses that use biodiversity sustainably.
- ▶ There is a major theoretical problem in restricting or directing micro-credit schemes to specific types of investment. The essence of micro-credit's success lies in the commitment and ownership of borrowers, which stems from their feeling fully in charge of their own investment. If the scope of micro-projects eligible for credit was limited to forestry projects, the sense of genuine commitment and ownership could be eroded.
- ▶ Forestry targeted schemes also require monitoring of the use of loans (which the non-tied schemes do not need) which can increase administration costs. However, monitoring can and should be linked with extension thereby providing additional training and motivation to the target group.
- ▶ For individual micro-projects, the funding potential is extremely small. For individual schemes, it is usually quite small. However, as the potential for replicability is enormous, the overall funding potential is quite large. Applicable only in areas where forest and land ownership is fairly well defined, and preferably based on individual or family tenure.



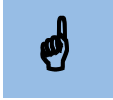
- ▶ Targeted schemes are theoretically somewhat controversial (see above). They also compete for the same ODA & local resources (financial & human) as non-tied and thus more attractive micro-credit schemes.
- ▶ Most projects are small and therefore financial intermediaries are required if funding comes from multilateral sources. This is a constraint and, therefore, only a few projects have been funded. Multi-Project Facilities (MPFs) have been successfully implemented by some multilateral financial institutions (though not the World Bank). Management costs tend to become high if efficient arrangements are not in place.
- ▶ Creditworthiness tends to be a common problem. Traditional corporate and project financing use a project's fixed assets as collateral for a given loan. Environmental ventures do not always have physical assets with sufficient commercial value to secure debt financing, which is also the case in many forest-based projects, where a lack of clear ownership rights may be an additional constraint. (Moura Costa et al. 1999)



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Forestry and other long term investments need available long term credit and the cooperation by the international financial institutions.
- ▶ Countries have to
 - change the legal framework so that a greater variety of collateral including forest can be used to secure credit transactions;
 - increase land titling and registration efforts;
 - reduce the degree of risk creditors face by improving the ease with which credit claims can be legally enforced; and
 - (4) improve the flow and quality of information on rural households, firms, and rural productive activities through investments in surveys, information dissemination services, and the creation of credit bureaus.
- ▶ In order to reduce financial market segmentation and inefficiency, the countries may



- ▶ revise banking and financial regulatory frameworks so that barriers to entry, transactions costs, and constraints to technological innovation are reduced to a reasonable minimum that still serves to protect the soundness and safety of the entire financial system;
- ▶ promote linkages, mergers, and acquisitions between urban and rural based financial institutions so as to better diversify risk, attain economies of scale and scope;
- ▶ improve the variety of risk mitigation techniques available such as insurance, hedging instruments for the client and portfolio securization, intermediary guarantees, and emergency funds for the intermediary so that more intermediaries will be encouraged to enter rural finance profitably. Many of these risk mitigation instruments are underdeveloped due to legal and policy impediments. (Keipi 2001: 15)



Key reading and information

Inamdar, Amar; Emmanuel de Merode (1999): Towards Financial Sustainability For Protected Areas - Learning From Business Approaches. The Environment and Development Group, Oxford/ WWF-UK Sustainable Development series. DMartin@wwf.org.uk, or <http://www.wwf-uk.org/>

Moura Costa, Pedro; Jyrki Salmi; Markku Simula; Charlie Wilson (1999): Financial Mechanisms for Sustainable Forestry. UNDP-PROFOR. <http://www.undp.org/seed/forest/pdf/Costa.pdf>

Keipi, Kari (IDB)(2001): Forests financing in Latin America and the Caribbean. Paper, Cifor Conference, 22-25 Jan 2001, OSLO/ IV.6/FF <http://www.cifor.cgiar.org/fsfm/Papers/PDFformat/IV6FF.pdf>



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UNDP Private Sector Development Programme has an extensive host of information at <http://www.undp.org>. (One United Nations Plaza, New York, NY 10017, USA)

The Virtual Library on Microcredit is the most complete source of information, guidelines, links, organisations, downloadable documents, case studies, training info, etc. (recently changed addresses)
<http://www.gdrc.org/icm/>

There are possibly thousands of micro-credit schemes all over the world, many of them supported by bilateral and multilateral ODA, development banks and NGOs.

Well-known examples are the schemes of the Grameen Bank of **Bangladesh** (<http://www.citechco.net/grameen/bank/index.html>), the Bank of Agriculture and Agricultural Cooperatives (BAAC) in **Thailand**, and the Bank Rakyat of **Indonesia**, Unit Desa (BRI-UD).

The Rural Banking Innovations Project (RBIP) in **Sri Lanka** is developing tools for a sustainable and profitable microfinance (approach) strategy for commercial banks. Credit and Savings are maintained at commercial interest rates. <http://www.microfinance.lk/>

Small & Medium Enterprise Credit in Latin America provide for example the

Caja de Herramientas de Gestión para PYMEs **Peru**
<http://www.cajapymes.com/ASPCode/Home0.ASP>

Caja de herramientas de Gestión para PYMES **Paraguay**
<http://www.webdesign.com.py/gtz/index.asp>

El Salvador <http://www.conamype.org/cajadeherramientas/>

One example of a program designed to use credit as a way of stimulating biodiversity-based businesses is the **GEF Small and Medium Enterprises Program** (<http://www.gefweb.org>). This program was started using \$4.3 million in GEF money, managed by the International Finance Corporation (IFC), to stimulate greater SME involvement in addressing the GEF's biodiversity and greenhouse gas mitigation objectives. Projects supported under this initiative are in the areas of renewable energy, energy efficiency, sustainable forestry, sustainable agriculture and ecotourism. (Bayon et al 2000: 21)



The **IFC SME Programme for Biodiversity and Climate Change** was designed to stimulate the development of commercially viable projects with global environmental benefits. Due to uncertainties involved, the Programme is still in the pilot phase. Sustainable forestry is one of the applications of the programme. The instruments are low-interest loans, credit enhancement (guarantees), co-financing, and technical assistance. GEF grant acts as a lever for risk capital and helps make these projects viable by reducing the costs of financial intermediaries.



4.3.4 Small targeted grants

In view of the overwhelming quantity and variety in small grant programmes, it has been deliberately decided here to use the example of national small grants to NGOs and community based organisations (CBOs) supported by GEF’s small grant programme.

Type	Direct financial: transfer payment
Objective	Provision of financial support to NGOs and CBOs in activities related to sustainable livelihoods and environmental conservation.
Main source	Public, Private (mostly non-commercial)
Main recipient	NGOs, CBOs, communities, research groups
See also	Micro-credit and Small and medium scale enterprise credit lines

Functioning

Targeted grants programmes provide direct financial support to target groups bypassing inherent implementation inefficiencies of central government delivery systems. Examples include Alternative Livelihood Grants and NGO/Small Grant Funds. The former are typically established as part of integrated conservation and development programmes to provide incentives to communities to participate and offset their potential economic losses as a result of implementing conservation activities.

General description in: [GEF \(1994\)](#), [Moura Costa \(1999: Anx 4: 23-24\)](#)



Strengths

- ▶ NGOs/Small Grant Funds address institutional constraints resulting from overly centralised administration of environmentally sustainable development activities. This has improved effectiveness and efficiency in implementation and disbursement. In particular, participation and ownership have contributed to the quality of implementation. Local NGOs and CBOs invest their own time and energy and local collective action can be mobilised. Keeping the interventions small means they are flexible in responding to the needs of real life.
- ▶ Some highly innovative projects and activities have been started and implemented by small-grants programmes.
- ▶ Targeted grants are applicable in most NGO and CBO based activities related to forest utilisation and conservation. The high share of biodiversity related projects within this mechanism is probably due to the NGO/CBO interest in such activities.
- ▶ The available experience is positive, but limited. Targeted small grants often provide the missing link between the local recipient group and the external source of financing. Systematic information on leverage is not available but in kind contributions are assumed to be significant.



Weaknesses and dangers

- ▶ Quality of local organisations to manage this kind of financing is a key constraint. The implementing NGOs and CBOs should have adequate technical knowledge, a legitimate measure of political and financial independence, and a clear link to local communities.
- ▶ The lack of attention to financial management often misses the opportunity for capacity building and for teaching the business and finance skills needed to manage and attract financial investments for environmental conservation. Partnerships with government organisations, international NGOs and the private business sector may often help fill the gaps.
- ▶ Monitoring and evaluation methods are still evolving and there have been limited identifiable measures of success and impacts, partly because funds are relatively new.
- ▶ High apparent administrative costs remain a challenge to be tackled. The GEF Small Grants Programme aims to keep them below the 25% limit. National variations are wide in the efficiency of managing small-grants programmes.



- ▶ The small size of grants and their short duration (1-2 years) do not often allow sustainable impacts. Project income-generating components intended to promote sustainability are generally unconvincing. The often lack adequate feasibility studies and business-oriented management. More technical guidance is needed to help select sites and technologies.
- ▶ The GEF Small Grants Programme has not yet developed a strategy for attracting matching, non-GEF funding for its projects.



Key reading and information

Asad, M. (1997): Innovative Financial Instruments for Global Environmental Management. Washington: World Bank Environment Department, GEF Coordination Unit. Order hardcopy from: <http://www.gefweb.org/>

GEF (undated, ca 1994): The GEF Small Grants Programme (GEF-SGP) - Strategic Framework. New York: UNDP.
<http://www.undp.org/sgp/download/document/SGPStrategicFramework.rtf>

Moura Costa, Pedro; Jyrki Salmi; Markku Simula; Charlie Wilson (1999): Financial Mechanisms for Sustainable Forestry. UNDP-PROFOR.
<http://www.undp.org/seed/forest/pdf/Costa.pdf>

Wells, Michael P.; Delfin J. Ganapin; Francine Trempe (1998): Report of the Second Independent Evaluation of the Global Environment Facility Small Grants Programme (GEF/SGP). 1996-1998. Commissioned by the GEF Coordination Unit. New York: UNDP.
<http://www.undp.org/sgp/download/document/finalev.rtf> ;
Annex E Bibliography:
http://www.gefweb.org/ResultsandImpact/Monitoring__Evaluation/Eval_AnxE.pdf



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The GEF Small Grants Programme allocated US\$16.6 million to country programmes from the US\$17.95 million provided for the Operational Phase. By June 1998, 45 national programmes had been set up and grants had been provided to more than 1,100 projects at a total cost of US\$42 million over 6 years. The share of biodiversity is 71%, climate change 17%, international waters 3% and projects with multiple focal areas 9%. (Wells et al. 1998).

Almost all bilateral donors have experimented and are maintaining a wide range of small grants programmes. Usually, very small grants of maybe \$5000, sometimes up to 20,000 are available from embassies. Small grants up to \$300,000 or sometimes \$500,000 are available through the bilateral aid agencies, often under specific environmental objectives (e.g. see the experience of several decades with GTZ-GATE's small projects programme, <http://www.gtz.de>) or their offices in target countries (e.g. see GTZ's experience in India with two parallel models, the Small Project Fund and the Self-Help Fund). Most of these have the advantage that decisions to fund NGOs' or communities' projects can be taken with less bureaucratic levels, often decentralised within the developing country. <http://www.gtz.de/themen/ebene3.asp?Thema=10&ProjectId=94&Reihenfolge=3&spr=2>



5 International mechanisms

5.1 Transfer payment approaches

5.1.1 Fiscal instruments

While very direct and significant on national level, on international level, fiscal instruments are quite indirect financing mechanisms for conservation. They can rather be characterised as **enabling conditions** which should be created mainly by international organisations and by governments organised in regional or supra-regional bodies.

The typical users of this Guide, interested in concrete sources of finance for specific protected areas or systems, will probably pay most of their attention to the F Fiscal instruments (4.1.1) on national level.

For decision makers on national level, involved or interested in influencing international processes, it should be noted here briefly, that tax agreements and international trade have a very strong indirect influence on conservation. Often, they have negative impact on the environment, as they favour export of primary products and large-scale resource extraction (so called perverse incentives, e.g. low- or no import tax on raw timber, but significant tariffs on processed wood and furniture). Thus, the first positive impact of improvements in international trade regimes should generally be the reduction of negative (perverse) incentives. While these should reduce the direct extraction and destruction e.g. of forests, it will not improve the funding situation of protected areas. Only if the shift to more intensive, income-generating activities in processing and other services increases the tax-base of the population can the state gain more from export fees and taxes, which can be reinvested in conservation. Some protected areas might directly benefit from more tourism, and later from income via more processing activity organised by the park administration with local people, or by concessions.



5.1.1.1 *International Tax agreements ideas*

Many forms of international taxation have been proposed to help finance biodiversity conservation (in particular). They are not new. Already the 1980 Brandt Report mentioned: “placing a levy on international trade, on the arms trade, on international investment, on hydrocarbons and exhaustible minerals, on durable luxury goods, on military spending, on the consumption of energy, on internationally traded crude oil, on international air travel and freight transport, or on the use of the ‘international commons’ - ocean fishing, offshore oil and gas, sea-bed mining, the use of space orbits, radio and telecommunication frequencies and channels” (q. in [Richards 1999](#): 13).

Setting up global taxation schemes is extremely difficult, partly because it implies that sovereign nations agree to transfer a portion of their sovereignty to a supranational authority. At present, the political will for this does not yet exist. Arguably three types of tax have received most attention:

The **Tobin tax** on international foreign exchange transactions would probably raise most money and discourage destabilising speculative currency transactions, but is not an MBI and would therefore not result in direct environmental benefits. It originally had been suggested as a tool for slowing down financial flows (e.g. in periods of economic overheating) rather than as a revenue-generating scheme.

The **tax on air transport** was proposed for a number of reasons, including as a way of financing the alleviation of problems caused by pollution due to air travel. It would be most progressive and also be environmentally beneficial, but would generate least revenue of the three options ([Bayon et al 2000](#): 6).

Carbon taxes would have the biggest environmental impact, but would be more regressive; National carbon taxes already exist, and are bound to increase as countries seek ways to meet their Kyoto commitments, but are less likely to be introduced at the international level. Until there is some kind of global governance system, international taxes - which would need to be applied on a multilateral basis - are unlikely to go beyond the drawing board. A survey in industrialised countries found that 70-90% of respondents favoured giving money to an environmental agency over an international tax ([Richards 1999](#): 13).



5.1.1.2 International Trade agreements



Strengths

- ▶ Trade, apart from tourism, probably has the highest **potential** for raising the contribution of biodiversity products and services to **self-financing of protected areas in developing countries**. The main function is that of enabling framework conditions. In a more specific biodiversity context this could include support to **product and market development** for: products of fair trade, non-timber forest products, certified timber (including standardisation of as yet unknown varieties), eco-products (biologically certified or other green-labelled products), and the whole range of 'good cause'-related marketing products.
- ▶ Any trade regulation has environmental impacts. The main beneficial impact of trade mechanisms on conservation would be **to make users pay** for environmental costs. Countries **internalising the externalities**, e.g. by forest management obligations to concessionaires, should not suffer unfair competition from others with unsustainably low prices. This can be extended to market approaches (based on public good benefits) such as resource use charges (e.g. water), tradable development rights, and with limitations also to CO₂ sequestration offsets.



Weaknesses and dangers

- ▶ Most trade agreements are still dominated by developed country or export elite-priorities, usually not beneficial or even harmful to conservation.
- ▶ Difficult issues such as developing country fears of new protective conditionalities must be overcome to tap on the potential for environmental conditionalities (to some extent exemplified by ODA conditionality on human rights & democracy which was intensified during the 90s).
- ▶ Regarding CITES, finance remains a serious problem in that a trade ban under an appendix one listing does not generate any revenues to finance enforcement of the ban whereas a regulated trade regime under an appendix two listing could generate revenue (e.g. a trade tax) to finance enforcement of the regime.
- ▶ NGOs like [Fern \(2001a\)](#) fear that further tariff liberalisation in the forest products sector will exacerbate current trends of forest loss and increase land conflicts with local communities and indigenous peoples. They therefore oppose any proposal for further tariff liberalisation.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ The setting of a **market value for genetic resources** eventually mostly depends on the involved industry's **willingness to pay**. Emotions must be taken out of the current discussion about adequate prices in order to get any benefit-sharing system started ([Simpson 2001](#)).
- ▶ Requirements:
 - ▶ Information and statistics to understand market trends in key sectors and services affected by sustainable consumption and production;
 - ▶ Understanding of the ingredients for successful **partnerships** between business, environment/ development organisations and government agencies by drawing up good practice checklists;
 - ▶ Independent **verification of standards** and codes of conduct. Retailers in industrialised countries have an important responsibility for providing accurate information to the final consumer;
 - ▶ Greater convergence between the **social and environmental dimensions of trade** by sharing experience among businesses, environment, development and consumer organisations. A lasting shift to sustainable production needs solid social development.
 - ▶ Improved **market access** for developing country exports in industrialised country markets, particularly in biodiversity-relevant sectors. Regulations in industrialised countries that hinder access of sustainably produced exports from developing countries need review: trade restrictions, unnecessarily bureaucratic or indeed discriminatory regulations.
 - ▶ **Subsidies** in both developed and developing countries to create a level playing field for sustainable consumption and production need reform;
 - ▶ Clear **legal and policy frameworks** (including intellectual property rights) on access to, and the use of, biological resources;



- ▶ **Supportive policy framework:** guidelines in industrialised countries for transparency, consultation and the transitional phasing in of proposed environmental regulations. Developing countries should introduce and enforce environmental legislation which provides producers with a firm foundation for accessing export markets, and seek out opportunities for integrating environmental factors in official export promotion strategies (Robins/Roberts 1997: 5-59);
- ▶ **Institutional responsibility** for trade and environment policies at national level; a lead agency with a broad mandate to co-ordinate with relevant ministries to assess and to take into account the effects of international trade on economic growth and on sustaining the environmental and resource base of that growth, and to integrate them in the agendas of WTO, UNCTAD, CBD, CITES, ITTO, and other relevant international and regional agreements and organisations.
- ▶ Incorporation of the objectives of the CBD in **multilateral and bilateral trade negotiations**. Negotiators should be aware that their governments have agreed to conserve biodiversity, use biological resources sustainably, and ensure equitable distribution of benefits arising from such use.
- ▶ Agreements dealing with those commodities whose production involves **high environmental impact**, or whose production is close to limits of sustainability, need high priority. UNCTAD, WTO, ITTO, and the governments involved should ensure that such agreements contain explicit treatment of the management of the resources and ecosystems in question. Funding arrangements should be extended to cover these objectives, and in particular the Common Fund should be used for promoting resource regeneration and conservation.
- ▶ **Institutions controlling trade in renewable resources** (CITES and ITTO) are suffering from insufficient resources; governments should ensure that their contributions are sent in time, and make voluntary contributions for relevant projects. CITES and CBD do not have an independent financial mechanism.
- ▶ **Rationalising the trade aspects of biodiversity policy**, in particular harmonising CBD and CITES.
- ▶ Increased education and **public understanding** on the value of biodiversity.



Key reading and information

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- Richards, Michael (1999): Internalising the Externalities' of Tropical Forestry: A Review of Innovative Financing and Incentive Mechanisms. European Union Tropical Forestry Paper No. 1. London / Brussels: ODI / EU. See the ODI website at <http://www.oneworld.org/odi/fpeg/index.html>
- Stone, Christopher D.; David Downes; A. Charlotte de Fontaubert (1998): Biodiversity, Trade, and the Fishing Sector. Case Study West Africa. Gland: IUCN* <http://biodiversityeconomics.org/pdf/topics-20-01.pdf>
- Robins, Nick; Sarah Roberts (1997): Unlocking Trade Opportunities. Changing Consumption and Production Patterns. London/ New York: International Institute for Environment and Development (IIED, UK) / UN Department of Policy Co-ordination and Sustainable Development. <http://www.oneworld.org/iied/> , <http://www.un.org/dpcsd/>
- UNCTAD (2001): The BIOTRADE Initiative. An integrated approach towards trade, biodiversity conservation and sustainable development. An overview. <http://www.biotrade.org>
- Vorhies, Frank (1999): Biodiversity And Globalisation. An essay. Gland/ Switzerland: IUCN.* <http://biodiversityeconomics.org/pdf/topics-12-01.pdf>



Extent/Volume of Application - Case studies and further information

IUCN, with financial support of BMZ (German Ministry for Economic Co-operation and Development), in 1997 initiated a project to examine the **relationship between CBD and the World Trade Organisation (WTO)**(Downes 1999). The project was motivated by a widely shared concern that the aims of the CBD, which are essentially to conserve and equitably distribute the benefits of the environment, might be undermined by the WTO, which aims at the liberalisation of trade. Liberalised trade has the potential to integrate economies, regionally and globally, in mutually beneficial ways. But some observers are concerned that it may do so at a cost of impairing the environment and amplifying disparities in wealth, much of which, in poorer nations, is disproportionately represented in endowments of natural resources. Negative impacts of trade through subsidies in developed countries – e.g. export oriented cattle/cash crop production in developing countries which leads to eradication of indigenous wildlife and subsistence agriculture on marginal lands or invasion of forest land – are described by IUCN (McNeely 1996). Other commentators have claimed to locate synergistic potential, suggesting, for example, that trade law's anti-subsidy disciplines might be conscripted into the campaign against environmental abuses such as over-fishing (Stone *et al.* 1998: 1).

UNCTAD launched the **BIOTRADE Initiative** at the third Conference of the Parties of the CBD in November 1996. BIOTRADE' mission is to stimulate trade and investment in biological resources to further sustainable development, in line with the three objectives of the CBD, *i.e.* to promote: conservation of biological diversity; sustainable use of its components; fair and equitable sharing of the benefits from the utilisation of genetic resources (UNCTAD 2001).

More links on Trade and Biodiversity in Downes (1999)
<http://biodiversityeconomics.org/pdf/topics-21-01.pdf>



5.1.2 Debt-for-nature swaps

Type	Direct financial: transfer payment
Objective	1. Transfer of financial resources from industrialised countries in recognition of the global externality values of natural areas, as most costs are incurred at the local and national levels, whereas most benefits accrue at international level. 2. Debt reduction.
Main source	Public (bilateral), in the 1980-90s private commercial
Main recipient	Debtor government, NGOs
See also	Conservation trust funds and National environmental funds

Functioning

Agreement between a donor or environmental NGO, and a debtor country, on the cancellation of (probably unrecoverable) commercial bank or bilateral debt in exchange for environmental commitments by the debtor country. Advantage for the debtor: he provides local currency counterpart funds mostly below the debt face value, which, together with possible additional donor TA funds, are invested for agreed conservation or development within the country.

General description in: [IUCN-WCPA \(2000: 41\)](#); [Moura Costa \(1999: Anx 4: 11-12\)](#); [Norris/Curtis \(2001: III.F\)](#)



Strengths

- ▶ **Reducing poor country debt while helping conservation is a double advantage**, appealing to both, developing and developed country governments and societies.
- ▶ Transfer of financial resources from industrialised countries **recognises the global externality values** of natural areas, as most costs are incurred at the local and national levels, whereas most benefits accrue at international level.
- ▶ The rate of debt conversion **reflects a WTP for biodiversity conservation** by the international community. While the debt-swap formula can be used to promote developmental investments, reforestation, sustainable use, carbon sequestration (debt-for-carbon), or indeed anything else relating to biodiversity, most projects have been oriented towards conservation or protection.
- ▶ **Significant funds** can be generated in national currency for biodiversity conservation and protection. Since 1987, debt swaps have leveraged more than 1 billion US\$ for conservation.
- ▶ While the main sources in the beginning have been **commercial private debt**, since the mid-1990s it is official **bilateral debt**, which also has the highest share with indebted countries.
- ▶ The 10%-clause under which **official debts** can be sold to a converter, does not say anything about pricing which is freely negotiable, and donors are also free to donate the debts for nature conservation or development. The potential could expand if **multilateral** development bank debts, which are currently exempt from cancellation, could be drawn on. This has been suggested, e.g. by COICA in the Amazon Basin, and the scope would be extended to cover debt-for-indigenous-territory swaps in which national governments agree to restore and protect indigenous land rights in return for debt reductions.



Weaknesses and dangers

- ▶ Any debt restructuring, particularly including partial forgiveness, increases '**moral hazard**', i.e. the repayment sincerity with which credits are taken and managed. Such habitual treatment of bilateral or even multilateral debt raises concerns that credits are already given with repayment negotiability in mind, a risk for the budgetary discipline in donor countries and their bank's refinancing credit rating (Kloss 1994).
- ▶ While the funds generated for conservation may be interesting in some countries, the overall **debt relief effect seems negligible**. Debt-equity swaps, for example, converted more than 40bioUS\$. The **volume** of eligible bilateral debt developed countries are willing or able to convert is **limited**, similar to the reduced availability of discounted commercial debts and limited discounts in the 1990s, but recurring financial crises may change the situation again.
- ▶ The potential for leverage so far has been overrated; it often appears limited.
- ▶ **Organisational capacity** and strategic planning of conservation organisations, combined with an **unstable economic and political situation** has reduced effectiveness and increased transaction costs.
- ▶ If the debtor's currency is unstable, **high inflation** can wipe out any expected leverage gains, unless the counterpart funds are invested in an inflation-adjusted high-interest or hard-currency denominated fund.
- ▶ If the NGO or protected area have a high need for hard currency, e.g. to purchase equipment overseas, a swap agreement for non-convertible local currency is inappropriate.
- ▶ As the danger of inflation-caused diminishing of local funds at times creates pressure for fast implementable schemes, some have been criticised for **lack of local participation** in land-use decision-making and in enforcing property rights, which may cause inefficiency and inequality.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ **Inflationary impacts** in the debtor country must be controlled, particularly if large projects are involved. Purchasing second-hand debt tends to increase the price of remaining debt, and any restructuring limits the debtors creditworthiness for new loans, both **increasing** the macro-economic burden for debtors and thus the **pressure on natural resources**.
- ▶ The willingness to use swaps for nature depends on the priority given to the sector by the ministry of finance in the debtor country as well as by the donor. The effects of conservation on the economy (income generation and employment, see chapters on tourism) can provide additional priority justification for the debtor government.
- ▶ Debt swaps are best **designed as part of a country's overall debt management strategy**. Through net present value analysis, the debtor government can review potential restructuring terms for different categories of debt and identify debt that may be suitable for conversion.
- ▶ Debt swaps are most effective when they **support a country's investment priorities** and are used to attract "additional" investment to the country.
- ▶ **Debt swaps require co-ordination among debtor country government agencies**. The debtor country's debt management agency generally plays a lead role in negotiating swaps, but this agency will need to work with planning and sectoral ministries in order to analyse the macroeconomic impact and micro-level results to be achieved through swaps.
- ▶ Counterpart organisations and projects must be able to usefully absorb the funds: The use of the funds created from swaps is only as good as the debtor county's implementation capacity.
- ▶ Debt swaps can be designed to **promote participation by civil society** in funding and administering development programmes. Debtor governments should play a role in designing participatory governance structures for counterpart funds and environmental funds and put in place monitoring and evaluation systems to ensure accountability.



Key reading and information

- Kaiser, Jürgen; Alain Lambert (1996): Debt Swaps for Sustainable Development - A Practical Guide for NGOs. Gland/Brussels: IUCN/Swiss Coalition of Development Organisations (SCDO) / Euro-pean Network on Debt and Development (EURODAD).
<http://biodiversityeconomics.org/pdf/topics-42-01.pdf>
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<http://www.rrz.uni-hamburg.de/IK/publikat/sr40.htm>
- Moye, Melissa (2000): Overview Of Debt Conversion. Debt Relief International, USA (mgmoye@aol.com)
- SCDO (1998): *From Debt to Development: The Swiss Debt Reduction Facility*. Berne, Switzerland: Swiss Coalition of Development Organisations. <http://www.swisscoalition.ch>
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<http://www.iadb.org/sds/doc/ENV%2D134FinancingBiodConservaE.pdf>
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<http://www.tnc.org>
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- Kloss, Dirk (2001): Sustainable Financing of Biodiversity in UN-Financing for Development Process: Policy Discussion Paper. Submitted to BMZ for Inclusion in UN-FfD. Eschborn, Germany: GTZ-Sector Project Protected Area Management and Bufferzone Development. Available from Rolf.Mack@gtz.de



Rosen, Sydney; Jonathon Simon; Donald Thea; Paul Zeitz (1999):
Exchanging Debt for Health in Africa: Lessons from Ten Years of Debt-for-Development Swaps. Cambridge, MA: Harvard Institute for International Development (HIID), Development Discussion Paper No. 732.
<http://www.hiid.harvard.edu/pub/ddps/ddps.html>

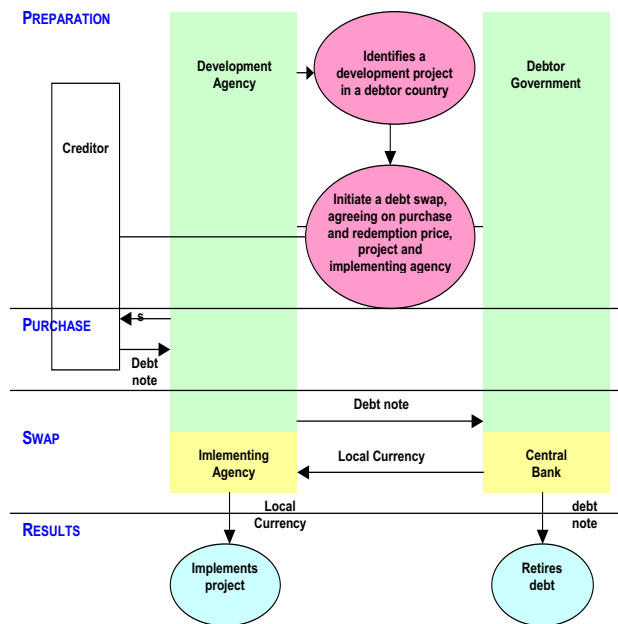
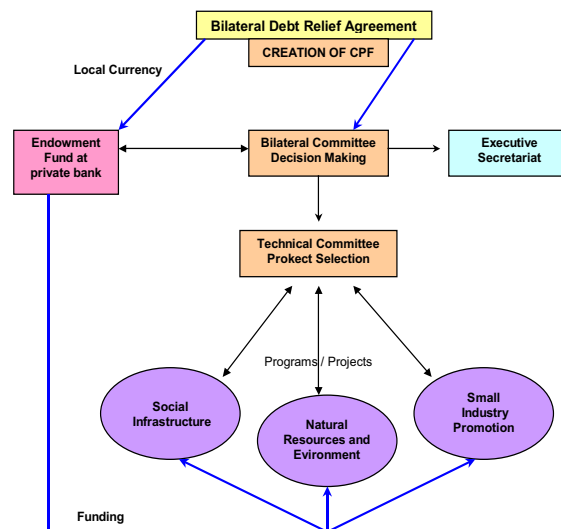


Fig: A simplified model of a debt-for-nature/development swap and, as one of the many possible structures of bilateral debt swaps, the Swiss Counterpart Fund (CPF) with Peru 1996 (Kaiser/Lambert 1996: 16, 23).





Extent/Volume of Application - Case studies and further information

Debt-for-nature swap cases are available from **over 50 countries in all regions of the world**. The above mentioned literature provides information and references to further sources. Interested organisations and projects are recommended to contact their respective governments and international NGOs previously involved in swaps, such as the WWF, CI, TNC and others. Overview lists are provided by the [World Bank Global Development Finance, Analysis and Summary Tables](#): 2000 edition contains statistics on bilateral debt conversion, 1998 edition contains the latest chapter on conversion of commercial debt. Also see earlier editions of Global Development Finance and the World Bank Debt Table for historical data on debt swaps.

The overview tables are reproduced e.g. in [Norris/Curtis \(2001\)](#), and old, incomplete tables of swaps with commercial debt are still repeated in many others, such as [Bayon et al. \(2000: 11\)](#), e.g. if compared with an also incomplete but more comprehensive list up to 1994 in [Kloss \(1994\)](#).

Up-to date secondary **commercial debt** information can be found at: <http://www.Brady.net>. A web site devoted to secondary market debt. Although debt prices are only available by subscription, commentary and articles that give a sense of the market are available free of charge.

Emerging Markets Traders Association (EMTA) <http://emta.org> extensive background information on the secondary market and emerging markets debt.

More interesting currently are the **bilateral** swaps. But particularly the bilateral swap lists mentioned above are anything but complete, and a more careful survey among all creditor governments would likely produce much more examples.

One of the better designed bilateral debt swap programmes, the **Swiss** Debt Reduction Facility, is described in [SCDO \(1998\)](#), and the homepage provides valuable links.

The **USA** has long included bilateral swaps for nature in its ODA programmes, e.g. the Enterprise for the Americas Initiative. An interesting recent example is the Tropical Forest Conservation Act created by the US Congress in 1998 on Debt Reduction for Developing Countries with Tropical Forests. The Act recognises the values received by US citizens from the protection of tropical forests as the justification



for re-channelling existing resources into debt reductions to facilitate their protection. More Information:

<http://www.usaid.org> ,

<http://thomas.loc.gov> ,

iclarke@tnc.org .

The planned annual amounts of 25-100mioUS\$ are quite minimal, though.

Almost all donors have their own mechanisms, in line with their financial and technical assistance strategies. Information is available through the respective ODA institutions of donor countries.



5.1.3 Project / programme /budget line funding

5.1.3.1 Multilateral banks / institutions

Bilateral and multilateral donors are still by far the most important source of financing for biodiversity and protected areas. It is not the goal of this Guide at this time to provide more information than is already available through literature and the donor organisation offices. However, as explained in the introduction, most donors are currently not committed to provide permanent, ongoing support for recurrent cost and management of protected area programmes. Some mechanisms to overcome this are mentioned in the chapters on environmental funds, debt swaps etc., but further detailed analytical and, most of all, policy efforts are required on this issue.

This pertains particularly to:

- multilateral donors (e.g. GEF, IDB, FAO, UNDP, World Bank, IFC, ITTO)
- foreign export agencies (e.g. OPIC)
- specific donor Funds, e.g. small grants fund (UNDP), sector investment funds (IFC/GEF).

One of the instruments meriting mentioning below for its role in establishing funds for more sustainable biodiversity financing is the Global Environment Facility.

The Secretariat of the Convention on Biological Diversity (CBD) provides an excellent list of links to potential funding institutions, their application procedures and relevant policy documents. While some of the documents might be rather general, in all cases you can find contact persons and more details.

<http://www.biodiv.org/financial/cooperation.asp?x=inst>
(last downloaded 27.08.2001).

If you can suggest more or better links for this table, please inform the biodiv.org webmaster. In order to use this table or see its hyperlinks, you should have the Word or PDF version of this Guide on your computer. (In case you only have the printed version, see page 8: [How to order this Guide](#)).



Table 11 Links for application information of Multilateral Funding Institutions

Institution	Application procedures	Relevant policy
Global Environment Facility	Project cycle Procedures for Medium-Sized Projects Small Grants Programme	Operational Strategy Operational programs 1. Arid and Semi-Arid Zone Ecosystems; 2. Coastal, Marine, and Freshwater Ecosystems; 3. Forest Ecosystems; 4. Mountain Ecosystems; 13. Conservation & Sustainable Use of Biological Diversity Important to Agriculture
World Bank	Project cycle	Environment strategy under preparation
International Finance Corporation	IFC project cycle	Environmental Projects Unit
United Nations Development Programme (UNDP)	Programming manual	
United Nations Environment Programme (UNEP)		
Food and Agriculture Organization (FAO)	Technical Cooperation Programme criteria	
African Development Bank	Project Preparation Facility Operational Guidelines (Ppf)	Environmental Sector Policy Paper
The Arab Fund for Economic and Social Development (AFESD)		
Arab Bank for Economic Development in Africa (BADEA)	Lending policy	
Caribbean Development Bank (CDB)	Lending policy	Environment policy
International Fund for Agricultural Development (IFAD)		
Islamic Development Bank (IDB)	Project cycle	
Kuwait Fund For Arab Economic Development	Applications	
UNESCO World Heritage Fund	Operational guidelines	
Asian Development Bank	Project cycle	Environment Policy Working Paper
Inter-American Development Bank	OP-302 Project preparation, evaluation and approval	OP-703 Environment
The European Bank for Reconstruction & Development (EBRD)	Financing with the EBRD	Environment policy
European Investment Bank (EIB)	Projects	

Further Links to regional Institutions can be found on IUCN's biodiversity economics homepage

<http://biodiversityeconomics.org/funding/directory.htm>



5.1.3.2 Global environment Facility (GEF)

Type	Direct financial: transfer payments, concessional credit
Objective	Provision of long-term financing for biodiversity conservation. The purpose of GEF-supported funds is to finance the incremental costs of protecting globally significant biodiversity resources.
Main source	Public, multilateral
Main recipient	Public, national and local
See also	Micro-credit and small and medium scale enterprise credit lines, and Small targeted grants

Functioning

The GEF is a global trust fund, overseen by an international Council and a Secretariat headquartered in the World Bank. Three agencies - the World Bank, the United Nations Development Programme (UNDP), and the United Nations Environment Programme (UNEP) actually oversee GEF projects (these are the "Implementing Agencies.") In general, projects involving investments are submitted to the World Bank; projects involving technical cooperation and capacity-building are submitted to UNDP, and projects involving scientific research are submitted to UNEP, although these distinctions are often blurred.

The GEF funds projects in four focal areas: biodiversity, climate change, international waters, and ozone. Projects to address land degradation, as it relates to the four focal areas, are also eligible for funding.

Biodiversity. A wide spectrum of efforts to conserve and sustainably use earth's biological diversity makes up nearly half of all GEF projects. As the financial mechanism for the Convention on Biological Diversity (CBD), GEF receives guidance from the conference of parties (or COP) on policy, strategy, program priorities, and eligibility criteria related to the use of resources for purposes of the Convention. Projects generally deal with one or more of four critical ecosystem types and the human communities found there: 1) arid and semi-arid zones; 2) coastal, marine, and freshwater resources; 3) forests; and 4) mountains.

Between 1991 and 1999, GEF allocated \$991 million in grants and



mobilized and additional \$1.5 billion in co-financing (from recipient countries, bilateral agencies, other development institutions, the private sector, and nongovernmental organizations) for biological diversity projects.

From 1991 to 1999, GEF allocated \$884 million to 227 climate change projects and enabling activities, which was matched by more than \$4.7 billion in co-financing.

Land degradation. GEF's interest in financing activities to prevent and control land degradation comes from the nature and extent of its link to global environmental change. Destroyed forests and degraded water resources imperil biodiversity, induce climate change, and disturb hydrologic cycles. Taking into account the objectives of the Convention to Combat Desertification (CCD), dozens of GEF projects cut across the four focal areas described above to address land degradation.

Between 1991 and 1999, GEF has funded more than \$350 million worth of projects focused primarily on deforestation and desertification. (see http://www.gefweb.org/Projects/Focal_Areas/focal_areas.html)

Funding Options

GEF funds a variety of project types, ranging from its Small Grants Programme and project preparation grants to Enabling Activities, Medium-Sized Projects (MSPs), and full projects.

Full-size projects (multimillion-dollar) – involving creation of new protected area(s), establishment/ development of management regimes and agencies, etc. – are available mainly to eligible governments, although in a few cases these have gone to establish non-governmental conservation trust funds linked to protected area systems. Application is made through the appropriate Implementing Agency (generally World Bank or UNDP). The average project receives \$5.5 million and takes several years to implement. A typical process involves initial negotiations with the Implementing Agency, application for Project Development Funding, preparation of a detailed project proposal in collaboration with a task manager or team from the IA, approval of the project as part of the work plan of the IA, submission to the GEF Council, and, following approval, implementation and supervision under the normal procedures of the IA. GEF's three implementing agencies (and soon RDBs) work with the operational focal point in each recipient country to develop project ideas that are consistent both with the country's national



programs and priorities and with GEF's operational strategy and programs. Regional or global programs and projects may be developed in all countries that endorse the proposed activity.

Medium-Sized Projects (MSPs). Grants of less than US\$1 million are available through expedited procedures that speed processing and implementation. These medium-sized grants increase GEF's flexibility in programming resources and encourage a wider range of interested parties to propose and develop project concepts (see MSP Guidelines http://www.gefweb.org/Documents/Medium-Sized_Project_Proposals/MSP_Guidelines/msp_guidelines.html).

Enabling Activities. Grants for enabling activities help countries to prepare national inventories, strategies, and action plans in cooperation with the Convention on Biological Diversity and the UN Framework Convention on Climate Change. This assistance enables countries to assess biodiversity and climate change challenges from a national perspective, determine the most promising opportunities for project development, and subsequently pursue full-scale projects. Applicants can relatively (about 6-12 months) quickly and with less inter-institutional coordination receive funding (up to \$350,000 plus up to \$100,000 (no co-financing needed) for assessing capacity building needs and CHM).

Project Preparation and Development Facility (PDF). Funding for project preparation is available in three categories or "blocks." Block A grants (up to \$25,000) fund the very early stages of project or program identification, and are approved through GEF's implementing agencies. Block B grants (up to \$350,000) fund information gathering necessary to complete full-size project proposals and provide necessary supporting documentation. These grants are approved by the GEF CEO, with attention to the GEF operations committee's recommendations. Block C grants (up to \$1 million) provide additional financing, where required, for larger projects to complete technical design and feasibility work. Block C grants are normally made available after a project proposal is approved by the GEF Council.

Small Grants Programme. UNDP administers this project, which offers grants of up to \$50,000 to eligible projects.
<http://www.undp.org/gef/sgp/main.htm>



Incremental Costs

GEF funds the “incremental” or additional costs associated with transforming a project with national benefits into one with global environmental benefits. For example, choosing solar energy technology over coal or diesel fuel meets the same national development goal (power generation), but is more costly. GEF grants cover the difference or “increment” between a less costly, more polluting option (the standard option that is or would be used in a country’s situation = baseline) and a costlier, more environmentally friendly option.

The process of determining incremental costs can be complicated. In response to the GEF Council’s request to “clarify and simplify” this concept, simplified guidelines for calculating incremental costs are being developed by the secretariat to accelerate this step in the project approval process.

Until the simplified guidelines are available, the following documents represent GEF efforts to develop and demonstrate the concept of incremental costs.

General description in: <http://www.gefweb.org> , IUCN-WCPA (2000: 34); Moura Costa (1999: 55-68); Norris/Curtis (2001: IV.A)



Strengths

- ▶ Big range and high volume of funding,
- ▶ professional guidelines and selection criteria
- ▶ close integration of local, national and international institutions



Weaknesses and dangers

- ▶ According to the Study of GEF's Overall Performance, the GEF's project preparation and approval process is considered **lengthy and cumbersome**, especially in view of the size of the grants awarded. Unexpected and unexplained delays are also reported to be common. The cumbersome project cycle is common to all GEF operational programmes, and no additional evidence was found that forestry projects would have been treated any differently. It is clear, however, that the institutional and stakeholder complexities of certain projects (e.g. SFM) make the preparation process harder than average. This may discourage countries and organisations to submit such project proposals, e.g. on production forests, to GEF.
- ▶ Genuine **national planning processes** or existing plans have not been always used as a starting point for project planning. In GEF forest projects, only rarely is a reference made to existing nfps or other sectoral strategies (e.g. Tropical Forest Action Programme).
- ▶ The **local ownership** of GEF projects appears to be somewhat controversial. According to the Study of GEF's Overall Performance, the degree of ownership depends on the project design and development process. In many cases, this process has been dominated by foreign experts and consultants. Some recipient country representatives are of the opinion that international priorities and obscure global concepts dominate the project formulation discussion. This issue is particularly important in forest-related projects in general (Moura Costa 1999: 65-6).
- ▶ **Limited Private Sector Involvement:** The GEF was conceived as a financing mechanism mainly for public sector projects. Private sector representatives are not included in the GEF institutional structure. There are, however, several GEF trust fund projects which can finance or which are specifically targeted to private sector projects, most notably the GEF/IFC Small and Medium Scale Enterprise Programme, the Central American Fund for Environment and Development, and the Terra Capital Fund (which became operational in October 1998).



- ▶ None of these trust funds has yet financed a private sector forestry project. According to the fund managers, the reason has been that no forestry proposals have been submitted. It is likely that potential private sector investors/operators active in forestry do not know about the availability of such financing, or these trust funds are perceived as conservation funds. This indicates that the GEF could take special efforts to inform the private sector of the availability of these instruments. The GEF is currently preparing a paper on modalities to engage the private sector in its operations without subsidising it.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ **Applicants** have to be fully aware of the detailed guidelines for GEF funding (see sources of detailed information below).
- ▶ They need full communication and support by their governments, focal points, and implementing agencies.
- ▶ While they can receive financial assistance to research and develop the necessary data, documentation and implementation structure, they must have the technical potential, manpower, and management capacity to follow-through the lengthy process.
- ▶ An **international agreement** is required for substantial institutional and “cultural” changes to widen GEF’s potential for financing productive SFM-related projects beyond its current limitation at global and national levels.
- ▶ While the present emphasis on conservation is positive, the base of representation and staffing in all the **GEF** institutional organs, including the council, needs broadening and adequate private sector involvement. Many sides demand revision of the **GEF mandate** to Ecosystem Specific GEFs (Forest-GEF, Atmosphere-GEF, Water-GEF, and Urban-GEF). For example, when the UN Convention to Combat Desertification and Drought asked the GEF to become its financial mechanism, the proposal was declined. The reason was that preventing desertification was considered to be an issue which should be addressed by the countries’ own sustainable development programmes (Moura Costa 1999, 212).
- ▶ The GEF is and will continue to be an important financing mechanism for forest conservation. For solving the complex problems of deforestation and forest degradation, not to mention the sustainable development of forest-dependent human communities in required scale, the above mentioned reforms are necessary.



- ▶ A legally binding global convention on forests, and a possible concomitant high-level policy decision to use GEF as (one of its) financing mechanism(s), could bring about the policy changes required for mobilising large-scale financing of sustainable forest management in production forests as well through GEF.



Key reading and information

Direct sources:

Focal points, nominated by every GEF-eligible country itself, are key national contacts for coordination of GEF programs. Typically there is an operational focal point (often in the ministry or department of environment), a political focal point (finance/planning ministry) and sometimes an NGO focal point. In-country offices of GEF Implementing Agencies (UNDP, World Bank, RDBs) can usually provide contact information.

GEF homepage <http://www.gefweb.org> and publications:

GEF (1999): Evaluation of Experience with Conservation Trust Funds. Washington. http://www.gefweb.org/ResultsandImpact/Monitoring__Evaluation/eval_all.pdf



- Also provides information on best practices for conservation trust funds. Information in English, French and Spanish: <http://www.gefweb.org/html/publications.html>

GEF (2001): Preparation, submission and approval process of Medium-Sized Projects. Washington. http://www.gefweb.org/Documents/Medium-Sized_Project_Proposals/MSP_Guidelines/msp_guidelines.html

Asad, M. (1997): Innovative Financial Instruments for Global Environmental Management. Washington: World Bank Environment Department, GEF Coordination Unit. Order hardcopy from: <http://www.gefweb.org/>



Other sources:

Griffen, Jeff (1997): Biodiversity, International Waters and the GEF: An IUCN Guide to Developing Project Proposals for the Global Environment Facility. Gland, Switzerland/Cambridge UK: IUCN Publications Services Unit, email for hardcopy order: iucn-psu@wcmc.org.uk



- A step-by-step guide on the documents –project brief, that clearly explains criteria and procedures and includes samples of the concept paper, annexes, etc.– that need to be submitted to GEF at each stage of the process. One of the most useful documents.

Burgiel, Stanley W.; Sheldon Cohen (1997): The Global Environment Facility: From Rio to New Delhi, A Guide for NGOs, Gland: IUCN.
<http://biodiversityeconomics.org/finance/topics-212-00.htm>



- A 64-page booklet with a good orientation to the GEF, explanation of the processes by which funding is allocated, discussion of each of the four focal areas (biodiversity, international waters, climate change, ozone depletion), options for NGO involvement, directory of contacts.

Sand, P. (1996): The Potential Impact of the Global Environment Facility of the World Bank, UNDP, and UNEP. Enforcing Environmental Standards: Economic Mechanisms as Viable Means?
<http://www.jura.uni-muenchen.de/tel/materials/gef.htm>

Norris, Ruth (ed.)(2000):The IPG Handbook on Environmental Funds. Washington, DC: Interagency Planning Group on Environmental Funds (IPG)/ New York: Pact Publications.
<http://www.undp.org/gef/ipg/ipg.pdf> (hardcopy order
<http://www.pactpub.com/Info/ipg001.htm>)



Extent/Volume of Application - Case studies and further information

Overviews and detailed reports on GEF homepage, IUCN and most of the above sources. It is recommended to obtain detailed reports and experiences from national focal points and project partners.



5.1.3.3 *Bilateral development cooperation agencies/banks*

Given the diverse programs, strategies and institutions of the bilateral donor community, no single publication can provide a full orientation. The best practice is to contact bilateral donors in the respective country through their aid agency offices, embassies and to speak with current partners and previous recipients.

The CBD-Secretariat's excellent list of links to potential funding institutions, their application procedures and relevant policy documents contains also most of the bilateral agencies. While some of the documents might be rather general, in all cases you can find contact persons and more details.

<http://www.biodiv.org/financial/cooperation.asp?x=inst>
(last downloaded 27.08.2001).

If you can suggest more or better links for this table, please inform the biodiv.org webmaster. In order to use this table or see its hyperlinks, you should have the Word or PDF version of this Guide on your computer. (In case you only have the printed version, see page 8: [How to order this Guide](#)).



Table 12 Links for application information of Bilateral Funding Institutions

Institution	Application procedures	Relevant policy documents
<p>Australia Australian Agency for International Development (AusAID)</p>	The Activity Cycle	Environment
<p>Austria Austrian Development Co-operation</p>		
<p>Belgium Development Cooperation</p>		Policy plan for development
<p>Belgium Technical Cooperation</p>	A Standard Work Plan	
<p>Canada Canadian International Development Agency (CIDA)</p>	Overview of the Bilateral Project Cycle	CIDA's Sustainable Development Strategy 2001-2003: An Agenda for Change
<p>International Development Research Centre (IDRC)</p>	How to Apply for IDRC Funding	Corporate program framework: 2000-2005
<p>Denmark DANIDA</p>		Denmark's development policy -
<p>Danish Cooperation for Environment and Development (DANCED) CARE Denmark</p>	Danced Project Management Manual: Project Implementation	
<p>European Community European Community Environment DG</p>	Funding opportunities	
<p>Finland Department for International Development Co-operation</p>	Guidelines for programme design and evaluation	Development cooperation as an element of foreign policy
<p>France Agence française de développement (Afd)</p>	Application for funding and project cycle	
<p>French Global Environment Facility (FFEM)</p>	Eligibility criteria	
<p>Germany Federal Ministry for Economic Co-operation and Development</p>		Program of Action 2015
<p>Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH</p>	Transforming an idea into a project, Project cycle management	
<p>Kreditanstalt für Wiederaufbau (KfW)</p>	Cooperation with Developing Countries: the Procedures followed in FC	
<p>The Alexander von Humboldt Foundation</p>	Application	
<p>The German Foundation for International Development (DSE)</p>	General application procedure for short-term and long-term programmes	
<p>Greece Ministry of Foreign Affairs</p>		



Institution	Application procedures	Relevant policy documents
<p>Ireland Ireland Aid</p>		<p>Irish Aid: Consolidation and growth - A strategy plan</p>
<p>Italy Ministry of Foreign Affairs</p>		
<p>Japan Ministry of Foreign Affairs Japan International Cooperation Agency (JICA) Japan Bank For International Cooperation (JBIC)</p>	<p>Project cycle</p>	
<p>Luxembourg Lux-Development</p>	<p>Project cycle management</p>	
<p>The Netherlands Netherlands Ministry of Foreign Affairs/ Directorate General for International Cooperation Dutch Interchurch organization for development cooperation (ICCO)</p>	<p>Conditions for financing</p>	
<p>New Zealand NZODA</p>		
<p>Norway The Norwegian Agency for Development Cooperation (NORAD) Ministry of Foreign Affairs</p>		<p>A Strategy for Environment in Development Cooperation</p>
<p>Portugal Ministry of Foreign Affairs</p>		<p>Cooperation for development: foreign policy</p>
<p>Instituto da Cooperação Portuguesa</p>		
<p>Spain Agencia Española de Cooperación Internacional (AECI)</p>		
<p>Sweden Sida</p>		
<p>Switzerland Swiss Agency for Development and Cooperation (SDC)</p>		<p>Strategy 2010</p>
<p>United Kingdom DFID</p>		<p>White paper</p>
<p>United States U.S. Agency for International Development (USAID)</p>		<p>USAID policy paper: environment</p>

Further comprehensive lists of donors are at

<http://www.friends-partners.org/ccsi/usnisorg/usnisfnd.htm>



5.1.3.4 International NGOs

Private organisations, with their relatively simple organisational structure and experience in obtaining results from limited budgets, are an attractive source of short-term and project-specific funding for protected areas. Organisations such as World Wide Fund for Nature and World Wildlife Fund, are among the best known sources of private funding, but world-wide, there are many organisations operating on a local, national, and regional scale. Besides donating funds directly, private organisations can help catalyse national trust funds and debt-for-nature swaps, and can serve as sources of information and references to various funding mechanisms.

In general, NGO programs tend to focus on “projects.” That is, they should not be counted on as long-term sources of operating funds, but rather to support discrete activities such as development of management plans, staff training, environmental education and community outreach programs, and new program initiation. NGO-donated funds generally come with restrictions on how they may be used. (Norris/Curtis 2001: 37)

Even more so than with bilateral agencies, the vast quantity and variety of possible supporting NGOs requires research within each country and internationally. Even a simple list would exceed this document. The references at the end of the document (see: [Websites, Background Reading And Related Links](#)) and information at the web-sites of NGOs are a good starting point.



5.1.3.5 Foundations

It is difficult to find reliable information about the extent of private philanthropic giving for protected areas and biodiversity conservation, and much of the information that has been widely circulated is out of date. However, for the USA, one can gain some understanding of the scope of the possibilities from the latest data (1997) on giving by US charitable foundations for all international activities - more than \$500 million, of which about 40 percent goes directly to overseas organisations and 60 percent to US organisations with overseas programs (w/p from [TNC 2001](#): 37-38).

There are a few basic points to be understood about foundation donors at the outset:

- ▶ A partnership with a conservation organisation in the country where the prospective foundation donor is located can be a very useful point of entrée.
- ▶ Foundations are *not* generally a source for recurrent costs of basic management, nor do they generally support “core” activities of government agencies. Look to foundations to support special projects (developing a research program/research centre, launching a public awareness campaign, involving conservation organisations with surrounding communities in efforts to support resource-based livelihoods).
- ▶ The activities that a foundation can support must meet the definition of charitable purposes in the country where the foundation is located.
- ▶ Foundations have missions, goals, and objectives. Your project will have a much greater chance of success if it is presented in terms of meeting those aims. (Information about specific foundations’ aims can be researched through directories, libraries, or copies of their annual reports.)
- ▶ Foundations are publicly regulated in the countries where they are registered. Their missions, officers and directors, and grant-making data are generally a matter of public record, and most will respond to requests for information. Many foundations issue guidelines for prospective grantees, and it is wise to consult these before making an approach.



Extent/Volume of Application - Case studies and further information

For **USA sources for US and non-US-Organisations**, the Foundation Centre, www.foundationcenter.org, is the best place to start research on foundations, corporations, and other institutional donors. The Foundation Centre maintains libraries in New York and Washington DC (hint: recruit a volunteer to research there); sells directories and guidebooks including the *Foundation Directory*, *Foundation Grants Index*, and **directories of international and environmental grantmakers**; offers reference librarian services (some free online, others for a fee); and gives short courses on donor research and proposal writing, among other subjects. The Web site includes digests from philanthropy-oriented publications on trends in philanthropic giving. Libraries include many reference books on topics touched in this publication.

The Complete Guide to Top US International Foundation Grantmakers from Chapel & York Ltd, London. A volume for non-profits outside the US wishing to fundraise from US foundations. Lists interests, limitations, and deadlines for 95 US foundations which accept unsolicited applications; give over \$500,000 per year; and support international projects. ~ 1998, 111 pp., \$55 includes shipping. Credit card orders: Centre for Civil Society International (Seattle WA USA), telephone (206) 523-4755; FAX 523-1974, for information: info@chapel-york.com or <http://www.friends-partners.org/ccsi/print/prnt-fnd.htm>

Fundraising in America for non-US Organizations is also on CSIs homepage

Funding Resources world-wide variety of NGOs are listed at CSI's page <http://www.friends-partners.org/ccsi/elctrnic/e-fnd.htm>

Civil Society International has links to funding sources etc., with a special attention to Eastern Europe: <http://www.friends-partners.org/ccsi/>

The Eurasia Foundation puts a stronger focus on Eastern Europe funding needs <http://www.eurasia.org/>



Global Philanthropy is The Synergos Institute's program and website to strengthen the role of organized philanthropy, social investment and foundations in social development. Synergos is a nonprofit organization based in New York that works with local partners around the world to fight poverty. <http://www.synergos.org/globalphilanthropy/knowledge/resources1.htm>

Their database contains profiles of over 120 foundations and grantmakers operating in [Latin American countries](#). Information about foundations in Southeast Asia and Southern Africa will be added in coming months.

Their lists of other books leads to more links and sources

The Worldwide Fundraiser's Handbook: A Guide to Fundraising for Southern NGOs and Voluntary Organisations Michael Norton. A Directory of Social Change Publication, in association with the International Fundraising Group, 1996.

The Resource Alliance (formerly known as The International Fund Raising Group) seeks to enable voluntary sector organisations worldwide to build their capacity to mobilise support for their causes <http://www.ifrg.org.uk/>

Fernand Vincent (1995): **Alternative Financing of Third World Development Organizations and NGOs: Volume One and Two** (448 and 668 pages) (IRED), and many other such publications are listed at the UK NGO **Bookaid's** homepage <http://www.bookaid.org/text/resources/ngo/finance.htm>

South Africa - Endangered Wildlife Trust (EWT) - initiates and funds projects that make a significant contribution to the maintenance of biological diversity of species in southern Africa. These projects aim to prevent species extinction, promote sustainable management of species, and link action to conserve species with the conservation of their habitats.

Endangered Wildlife Trust
The Gold Fields Environmental Centre
Johannesburg Zoological Gardens
Gauteng Province
Private Bag X11
Parkview 2122, South Africa

Director : John Ledger
Tel: ++27-11-486-1102
Fax: ++27-11-486-1506
E-Mail : ewtsa@global.co.za
<http://www.ewt.org.za/>



5.2 Market Approaches

5.2.1 CO₂ sequestration offsets

Type	Commoditisation
Objective	Compensating and motivating land owners and investors (users of CO ₂ -emitting products or systems) to conserve and rehabilitate natural vegetation, which is assumed to have attained the long-term optimum of carbon-sequestration.
Main source	Private commercial (Industry), Public
Main recipient	Land owners/mangers, conservation projects, public/private traders
See also	Other market approaches in this chapter

Functioning

Land owners conserving natural vegetation (the current discussion mainly addresses forests) and reforesting land which had been deforested a long time ago (*not* just prior to reforestation) are compensated for their costs and foregone profits. Their guarantee to establish and maintain maximum carbon sequestration is sold to investors interested to offset their carbon emissions.

Apart from a number of isolated national or individual carbon offset programmes, the main economic interest is created by the **1997 Kyoto Protocol** of 170 governments to the UNFCCC which sets quantitative targets requiring 37 industrialised countries to reduce their total greenhouse gas (GHG) emissions to an average 5.2% below 1990 levels during the first so-called 'budget period' 2008-2012. Most of this reduction must be achieved with direct emission cuts by industry and consumers. A small portion of this reduction target may be temporarily replaced by four not yet concluded 'flexibility mechanisms' of which only the fourth might benefit forests in developing countries:

Land use change by reforestation in industrialised countries counts against the emission target.

Joint implementation enables an industrialised country or industry to receive emission reduction credits for financing a GHG reduction project in another industrialised country representing emissions not generated



by that country.

International Emissions Trading (IET) allows industrialised countries and companies to meet their target by buying any excess from countries that reduce their emissions below the quotas.

Clean Development Mechanism (CDM) allows industrialised countries to gain 'certified emission reduction' credits for financing carbon reduction projects in developing countries that help further sustainable development. These include the transfer of energy efficient technologies and the promotion of alternative energy sources. Whether or not the planting of trees - dubbed carbon sinks - will be an acceptable activity under the CDM is currently one of the most controversial issues under discussion.

While the July 2001 Bonn meeting of the Kyoto protocol confirmed recognition of **reforestation** and **afforestation** (on areas that were not historically forested) as eligible categories, it is still questionable whether or how *forest preservation* can be credited under the Kyoto CDM.

A large body of scientists and NGOs massively reject any inclusion of forest carbon sinks in CDM.



Strengths

- ▶ Protection of forests in or outside protected areas can be financed by income from reforestation activities in other areas (maybe even from CDM preservation funds, if accepted).
- ▶ Income from reforestation helps local communities avoid using protected or other natural areas, thus reducing the costs of protection systems.
- ▶ The number and detail of positive analysis regarding JI and CDM projects by far exceeds the available space here. For a thorough examination from a forester perspective see [Moura Costa et al. \(1999, Anx 5\)](#).



Weaknesses and dangers

Irrespective of the negative or positive opinion about the impacts on local and international level, the recommendation to individual parks and projects, concerned about increasing their medium-term budget for protection and local bufferzone development, will almost always be in favour of accepting a carbon offset project. The summary of comments on dangers in the following section therefore has two functions: reflect the concerns of a wide range of scientists and NGOs, and appeal to decision makers to integrate in future policies as well as in individual projects these concerns without taking the pragmatic acceptance of carbon project funds on project level as an alibi for ignoring these considerable shortcomings and dangers. This pragmatic stance shall be exemplified by a declaration of one international NGO:

WWF's future efforts linking climate change and forest policy will proceed on three fronts:

1. In the near-term, WWF will advocate a more precise definition of "forests" and forest-related activities under the Kyoto Protocol to ensure priority is given to maintaining and enhancing existing carbon sinks rather than to creation of tree plantations, and to guard against incentives that may lead to destruction or conversion of existing forests. (WWF will draw on its field-based experience to help resolve the scientific and methodological issues being addressed by the IPCC *Special Report*, slated for submission to the UN climate convention's technical bodies in May 2000.)
2. WWF will work to promote the use of a "cap" to limit the portion of climate targets that can be met using forest and land-use activities, and the concept of "discounting" or "price adjustment" credit for sequestration activities to reflect their uncertainty in amount, insecurity over time, and inherent limitations in meeting long-term climate objectives.
3. In the longer-term, WWF will work to ensure that treatment of forests under the climate convention serves to strengthen forest conservation *and* efforts to slow climate change. A focus will be the negotiations on critical details such as the definitions of sinks, calculation of baselines, and activities that qualify for credit, and CO₂ reduction targets to be negotiated for the second commitment period from 2013-2017.



WWF believes that the threat climate change poses to the world's forests can be at least partially countered by increasing forest resilience. By addressing the anthropogenic causes of forest loss and degradation at a landscape level, we can act now to reduce the likelihood that forests will succumb to longer and more intense dry seasons. WWF will work to ensure that forest resilience is enhanced through minimising forest fragmentation, especially in protected areas, encouraging governments to develop proactive fire management strategies and promoting forest restoration activities to enhance and protect ecologically important forest landscapes. WWF has urged that forest-based carbon sequestration activities not be pursued for the purpose of generating credit for compliance with the Kyoto Protocol until the key issues above have been settled and a sound scientific basis has been provided by the IPCC *Special Report*. In the meantime, however, an increasing number of voluntary, business initiatives are proposing forest-based carbon storage and sequestration activities, outside the climate convention and Kyoto Protocol, and not intended for the purpose of generating credits for an eventual regulatory framework. WWF believes such initiatives may be helpful by informing the ongoing scientific and methodological debates concerning carbon sequestration.

<http://www.wwfus.org/forests/forestssection.cfm?sectionid=182&newspaperid=17&contentid=617>

- ▶ Every 'carbon sink' credit is a disincentive to end fossil fuel exploration to meet Northern energy demands. This is likely to slow down the inevitable shift towards renewable energies in North and South. Decisions about 'carbon sinks' in the Clean Development Mechanism will have far-reaching consequences for the South.
- ▶ Carbon credits will further increase CO₂ concentrations in the atmosphere because they justify the continued release of carbon stored in fossil fuels in exchange for temporary sequestration of carbon in biomass. Attempts to address the lack of permanence associated with above-ground carbon sequestration fail to recognise that CO₂, once released into the atmosphere, remains active as a greenhouse gas for about 100 years.
- ▶ Perverse incentives are likely to reduce the genetic diversity of tree species (planting instead of natural regeneration, potential use of genetically engineered varieties that are bred for maximum carbon uptake but potentially ill-suited to adapt to a changing climate). This would further reduce the capacity of forest ecosystems to adapt to climate change.



- ▶ Granting credits for carbon sink projects in the Clean Development Mechanism will allow an increase of overall greenhouse gas emissions in industrialised countries.
- ▶ Carbon sink concepts likely lead to a new wave of colonialism – CO₂ colonialism. Land in the South would be locked up in long-term land leases to provide carbon credits so the North can continue to pollute. The consequences for continued over-consumption and pollution by the North are born first and foremost by forest peoples and local communities in the South (Eraker 2000).
- ▶ Should countries in the South have to commit to emission targets in a future commitment period, they will have given away the cheapest options to fulfill their obligations to companies in the North - most likely for a fraction of the value that carbon credits might render on the emerging carbon market.
- ▶ The Kyoto Protocol lacks any direct reference to forest peoples' rights and there is do date no guarantee that 'carbon sink' projects will respect forest peoples land rights and land use rights.
- ▶ Maintaining and restoring intact forests requires substantial additional financial commitments from industrialised countries as the main actors responsible for the increase of greenhouse gases in the atmosphere. These funds should be provided without link to the flexible mechanisms as this would, among others, require reliance on scientifically unsound methods of measuring and monitoring changes of carbon uptake and release from forest ecosystems.
- ▶ In the case of the Clean Development Mechanism, it would also allow industrialised countries to release additional carbon from fossil fuels above and beyond their emission targets while the carbon sequestered in exchange would be stored only temporarily.
- ▶ The concept of carbon sinks is scientifically unsound (IPCC 2001; Fern 2001: 17):
 - ▶ Carbon sequestered or stored above-ground is not equivalent to carbon stored in fossil fuel
 - ▶ Climate Change may soon turn forests from sinks into sources.
 - ▶ the uncertainties related to current methodologies result in margins of error that are often larger than the actual change in carbon uptake and release that is being measured
 - ▶ natural climate variability alone appears to have resulted in the carbon balance between carbon uptake and release in terrestrial ecosystems oscillating over more than 1Gt C during the past 60 years (total emission reduction obligations of Annex 1 countries in the first commitment period (2008-2012):250Mt C),



- ▶ it assumes without credible proof that methodologies exist that can distinguish between human-induced changes in carbon stock (the only ones for which carbon credits could be claimed) and those changes in carbon stocks resulting from natural phenomena (effects of increased nitrogen and CO₂ fertilisation etc.)
- ▶ it assumes without credible proof that social variables affecting the carbon balance of terrestrial ecosystems in cases of changes to land use can be measured, monitored and controlled.
- ▶ The current negotiating text provides perverse incentives that are likely to exacerbate the global forest crisis:
 - ▶ The proposed forest definition continues to confuse forests with tree plantations. This is a major shortcoming given that large-scale tree plantations are already expanding, often associated with the destruction of primary forests. Any incentive to further accelerate the pace of establishment of large-scale tree plantations will exacerbate deforestation.
 - ▶ Climate talks have up to this point ignored the underlying causes of deforestation and forest degradation. Taking decisions pertaining to land use, land use change and forestry without consideration of these underlying causes and of the lessons from more than a decade of failed intergovernmental initiatives to halt the forest crisis will do little to reverse this trend. On the contrary, the proposals discussed under the Kyoto Protocol may even worsen the situation because they provide perverse incentives for the establishment of large-scale tree plantations and fail to put in place adequate measures to protect forests from the expected negative impacts that climate change will have on forests.
 - ▶ Within the context of the Kyoto Protocol, only human-induced activities warrant carbon credits – ecologically advantageous natural regeneration may be replaced by planting even in those areas where forests already exist and natural regeneration should be the method of choice. Even if governments agreed to include biodiversity provisions into the agreement, these provisions might be difficult to implement and monitor effectively.
- ▶ Misinformation about the difference between monoculture tree plantation and a forest and lack of knowledge have forced entire regions to accept tree plantation models developed at other latitudes.



- ▶ Negative impacts of large-scale monoculture forest plantations ([World Rainforest Movement:\(1999\)](#))

Subsidising industrial tree plantations. Monoculture plantations have a much lower biological diversity.

- ▶ Direct and indirect impacts upon other areas tend to lead to processes that release CO₂ and other greenhouse gasses. The displacement of farmers and communities, for example, favors deforestation in other areas. Likewise, desiccation of wetlands and other changes in the hydrological regime lead to increased frequency and intensity of wildfires, soil deterioration: Infertility and Erosion
- ▶ Net increase in emissions due to releases from local soils cleared of undergrowth, under a number of possible climatic scenarios
- ▶ Affect the carbon-storage capacity of soils downstream through erosion or other mechanisms
- ▶ Loss of trees from insect infestation, disease, or accident
- ▶ Causes forests to be cleared elsewhere to make up for lost food or other crops.
- ▶ Displaces timber operations to other locations
- ▶ Brings about other social changes affecting net carbon sequestration, such as loss of sustainable local agricultural knowledge or rising consumerism
- ▶ Draws funding away from other forms of carbon storage or sequestration, whose effectiveness would also need to be quantified for long periods under different scenarios
- ▶ Slows the development of technologies or networks of political resistance which could prevent the mining of remaining oil or coal
- ▶ Undermined existing technologies or social networks which prevent climatically-destabilising forms of industrial land clearance
- ▶ Stimulated profiteers to degrade forests outside project boundaries in order to attract their own money for carbon projects
- ▶ Caused local people to abandon already-instituted good forest conservation practices
- ▶ Drove out of business other forestry operations not subsidised by carbon-“offset” money; or, alternatively, pushed up wood prices, increasing pressures for logging outside project boundaries
- ▶ Affected the nature of the market for forest products and the market for land, both of which have an impact on net carbon emissions



Key reading and information

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- CO₂OL (2000): The CO₂OL Concept – Addressing Climate Change and Poverty. Everybody Wins – Mitigate your Emissions now! Brochure. <http://www.co2ol.com>
- BP British Petroleum (2001b): Greenhouse gas emissions trading in BP. May 2001. London: BP. http://www.bp.com/downloads/340/ghg_emissions_trading_in_bp_may2001.pdf
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<http://www.wupperinst.org/download/Evaluation.pdf>



Extent/Volume of Application - Case studies and further information

Until 1999 already more than 25 forestry projects had been funded, offsetting about 103mio tC on about 4mio ha (Moura Costa 1999). This number has meanwhile grown significantly.

Bolivia's Noel Kempf Foundation is a positively documented example. This biodiversity conservation trust has brokered a deal with a consortium of private sector energy producers in the US to conserve a large tract of tropical forest. The deal is worth \$10m, paid as an endowment which will assure the sequestration of 15m tonnes of carbon (Inamdar/Merode 1999: 15-6). For details see also <http://www.tnc.org>

Cases from **Malaysia, Belize and Costa Rica** are analytically presented in Moura Costa (1999: Anx 5: 18-25)

Emissions trading has already a much longer history, dating back to the 1980s in California. The United Kingdom is now in the process of planning a domestic emission-trading experiment. The Danish government already has secured legislative authority to implement a trading program of its own, and similar programs are under development in Norway and Sweden.



Almost all major oil, energy, and processing industries, after rejecting the GHC problem for many years, have meanwhile developed or already implemented internal and limited regional trading systems (Shell 2001; BP 2001; <http://www.shell.com/royal-en/content/0,5028,25544-56952,00.html>)



5.2.2 Resource use charges (e.g. water)

 [chapter 4.2.3](#)



5.2.3 Tradable development rights, conservation easements

Type	Commoditisation
Objective	Domestic TDR (domestic buyer) provides a financial means of compensating restricted or “attenuated” property rights. International TDRs (international buyer) represent potential way of capturing and internalising global externalities.
Main source	Public (Government, research institutes), private non-profit (Local/international NGOs)
Main recipient	Private commercial, private non-commercial
See also	5.2.4 Marketable forest protection and management obligations , 5.2.1 CO₂ sequestration offsets , and also environmental performance bonds under 4.1.1

Functioning

TDRs are marketable rights to development in areas reserved for conservation that can be sold to public and private sector conservation interests, or exchanged for development rights on land outside the “restricted use” areas. Land itself is not sold, only the development rights. TDR values should reflect a balance of buyer’s WTP for the public good values (conservation), and the seller’s estimation of their foregone development benefits (opportunity costs), plus a profit margin.

In international TDRs the equilibrium price should lie between the WTP of the rest of the world for a nation’s conservation benefits, and a supply price based on the opportunity costs of conservation or forgone development benefits. International Franchise Agreements (IFAs) represent a contractual structure for TDRs on state-owned land in which national sovereignty is respected, conflicts are minimised, and appropriate land use incentives are promoted.

A conservation easement is a special type of TDR, in which landowner and conservation organisation enter into a voluntary agreement, in which the former is compensated for restricted use of the land in order to protect a specific habitat. ([Richards 1999](#))

Based on the idea of “Tradable permits”. Permits differ from fines in that they set an upper limit on a certain activity and use the market to



achieve the environmental objective in the most efficient way possible. An example of a system of tradable permits is the one currently in place in the United States to reduce air pollution (particularly in terms of sulphur dioxide, SO₂). Under this system, polluters are given “permits to pollute.” If they go beyond their permitted pollution levels, they are fined. The system allows those who underpollute to sell their excess permits to overpolluters and thus can create a strong incentive for pollution abatement. Permits (this time on resource extraction) have also been used to limit the use of water resources (in Chile) or to minimize the impact of industrial activities on fisheries (in New Zealand). (Bayon et al. 2000:14)

General description in: Bayon et al (2000: 14); Moura Costa et al. (1999: Anx 4: 30-31); Richards 1999: 25-26)



Strengths

- ▶ TDRs can be established on a bilateral level and no international convention is needed;
- ▶ the market place determines the value; and
- ▶ national sovereignty issues can be avoided as countries can retain control.
- ▶ Permit systems such as TDRs tend to reduce compliance costs considerably and can often be more effective at reducing pollution than more command-and-control mechanisms (though this only applies when pollution legislation is effectively enforced).
- ▶ Permits differ from fines in that they set an upper limit on a certain activity and use the market to achieve the environmental objective in the most efficient way possible.
- ▶ If permits are initially auctioned off to users, they can raise a modest amount of revenue that can be used to protect the environment. Likewise, fining destructive users can serve as a source of income for the public sector.
- ▶ Replicability for forestry is unproblematic, particularly as TDRs can specifically address the opportunity costs associated with SFM. It is likely to be limited to conservation or non-extractive forest uses.



Weaknesses and dangers

- ▶ Funding potential is difficult to estimate though probably low. Some argue domestic TDRs would only take off if purchasers could set them off against a general conservation tax that requires a high (and therefore unlikely) level of political and financial commitment.
- ▶ Payment is conditional on performance, and this requires monitoring: how it is done and by who is a politically sensitive issue;
- ▶ The initial division of land between development and conservation areas, the establishment of a market for TDRs, and the distribution of benefits requires careful research, planning and management: this capacity does not usually exist at the local level and would need outside funding and support. (Richards 1999: 26)



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Markets for TDRs have to be developed. Allocation of yet more property rights over forests could provoke further reaction from local communities and NGOs. Also, legal reform would be required to recognise TDRs.
- ▶ Significant levels of capacity are also required, including:
 - ▶ capacity to assess WTP for public goods;
 - ▶ monitoring / enforcement capacity, as payment for TDRs is conditional on performance;
 - ▶ long-term strategic development plans / visions to determine the division of land between development and conservation
- ▶ The distributions of benefits should be based on clear principles. All this requires local capacity building to plan and implement TDRs.



Key reading and information

Bayon, Ricardo; J. Steven Lovink; Wouter J. Veening (2000): Financing biodiversity conservation. Sustainable Development Dept. Technical papers series; ENV-134 (also available in Spanish).

<http://www.iadb.org/sds/doc/>

[ENV%2D134FinancingBiodConservaE.pdf](http://www.iadb.org/sds/doc/ENV%2D134FinancingBiodConservaE.pdf)

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<http://www.undp.org/seed/forest/pdf/Costa.pdf>

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<http://www.oneworld.org/odi/nrp/46.html>



Extent/Volume of Application - Case studies and further information

Only a few applications in North America, most notably in Virginia where the impetus came from land use zoning regulations in which land has been divided into conservation and development areas. Conservation easements have been applied in North America and proposed for the Amazon.



5.2.4 Marketable forest protection and management obligations

Type	Commoditisation
Objective	To provide a multilateral financing mechanism for forest protection and SFM
Main source	Public (possibly private)
Main recipient	Governments with large and small protection obligations
See also	5.2.3 Tradable development rights, conservation easements . And also environmental performance bonds under 4.1.1

Functioning

A global system of marketable forest protection and management obligations has been suggested by [Sedjo et al. \(1991\)](#). Under a voluntary global forestry agreement the aggregate or global requirement for protecting or sustainably managing forests could be distributed to the signatories according to a formula based on the mix of their forest areas and national incomes. Holders of obligations must either fulfil them on the ground or induce another agent to assume them by means of a payment. Countries with large obligations (based on income levels) and small forest areas would have an excess of obligations, while countries with small obligations and large forest areas would have excess forest, providing a clear basis for negotiation and trade. The system has the advantage that countries would comply with conservation and SFM obligations from self-interest, and less-forested countries would have relatively higher costs.

General description in: [Moura Costa \(1999: Anx 4: 32\)](#)



Strengths

- **Funding potential** cannot be assessed at this stage; theoretically large.



Weaknesses and dangers

- ▶ **Not applied at present.** The difficulties lie in
 - ▶ negotiating a comprehensive international agreement to establish the system,
 - ▶ the need for an international institution or clearing house to allocate the certificates, and regulate international trade in them, and
 - ▶ the common monitoring and enforcement problems. Similar problems are being observed with regards to the trading of carbon offsets.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Theoretically it is widely replicable, but a political feasibility assessment would be necessary



Key reading and information

Moura Costa, Pedro; Jyrki Salmi; Markku Simula; Charlie Wilson (1999): Financial Mechanisms for Sustainable Forestry. UNDP-PROFOR.
<http://www.undp.org/seed/forest/pdf/Costa.pdf>

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<http://www.oneworld.org/odi/fpeg/index.html>



5.3 Private Investment flows

5.3.1 Direct investment schemes

Most direct investment and investment promotion schemes on international level benefit biodiversity protection areas very indirectly. They are not covered here beyond the national level.

Recommended reading: [Moura Costa et al. 1999](#), 4.3 Private financing and Globalising Forestry sector pp.154-169

5.3.1.1 Tourism



national level

5.3.1.2 Bioprospecting



national level



5.3.2 Biodiversity venture capital funds, Ethical and private investment funds

Type	Direct financial: equity and debt
Objective	To provide risk capital for emerging biodiversity-based businesses
Main source	Public, Private commercial, non-commercial
Main recipient	SMEs in biodiversity-based businesses
See also	Direct investment in forestry

Functioning

Sector investment programmes or venture funds have been designed to address the special need of inherently high risk biodiversity-based businesses. Innovative reduction of the risk barrier and increase of economic recognition of biodiversity values in enterprises are their main justifications.

Other **ethical investment funds** cover a more conservative equity portfolio but are screened against certain ethical, social or environmental criteria, which already appeals to a larger public and often outperforms the general stock market.

General description in: [Bayon et al. \(2000: 23-28\)](#), [Moura Costa et al. \(1999: Anx 4: 7-9, 16-17\)](#)



Strengths

- ▶ Sector investment funds are expected to fill a much needed void in the provision of risk capital to emerging biodiversity-based business. The funds are likely to finance natural forest management and utilisation, including non-timber forest products.
- ▶ Regional sector investment funds can be expected to raise funding in the order of tens of millions of dollars for SFM projects in the private sector. Leverage potential is significant, estimated at five to twelve times the initial investment.
- ▶ While a considerable pragmatism must probably apply to most of these 'biodiversity-sensitive' investments, they at least express grown



Weaknesses and dangers

- ▶ Venture financed businesses cause typical risks through excessive use of natural resources similar to investments discussed in the chapters on resource use, user fees on tourism etc.
- ▶ Even after passing 'ecological agriculture' and other criteria, they are part of the economic sector which causes and even attracts more landuse conversion of biodiversity areas such as forests – it may only be a 'lesser evil' that this is done with more environmental friendly or biodiversity-based activities.
- ▶ Likewise, the return of income gained by such businesses to conservation is quite indirect; either through concessions, user fees or agreements similar to those needed in bioprospecting, or – for the enterprises just using some biodiversity products in their processing – the benefits have to be transferred via taxes and government subsidies to conservation.

Other weaknesses pertain to the setting-up and functioning of the funds themselves:

- ▶ Cost effectiveness may be jeopardised if the funding volume remains small.
- ▶ Companies in the start-up phase may have difficulties in receiving priority for reasons of risk.
- ▶ Priority given to forestry will be highly dependent on the expected return of projects.
- ▶ Carefully designed investment guidelines would be required to ensure both profitable investments and contribution to biodiversity conservation and sustainable use.



- ▶ Due to high risks, grant funding is necessary to initially capitalise the funds.



Success criteria

(If one or several are not fulfilled, the mechanism may not be viable)

- ▶ Identify willing and able investors familiar enough with the fund's investment focus;
- ▶ Find qualified and knowledgeable partners and management;
- ▶ develop a high quality pipeline of potential investment objects; and
- ▶ establish host country support to the regional fund. The "market test" of country/regional demand needs to be passed before the funds can become operational.



Key reading and information

Bayon, Ricardo; J. Steven Lovink; Wouter J. Veening (2000): Financing biodiversity conservation. Sustainable Development Dept. Technical papers series; ENV-134 (also available in Spanish). <http://www.iadb.org/sds/doc/ENV%2D134FinancingBiodConservaE.pdf>

Asad, M. (1997): Innovative Financial Instruments for Global Environmental Management. Washington: World Bank Environment Department, GEF Coordination Unit. Order hardcopy from: <http://www.gefweb.org/>

Moles, Patricia (2001): Terra Capital Investors. Case study presented at "International Workshop On Market Creation For Biodiversity Products And Services" 25-26.01.2001. Paris: OECD (proceedings available from Dan.Biller@oecd.org)

Moura Costa, Pedro; Jyrki Salmi; Markku Simula; Charlie Wilson (1999): Financial Mechanisms for Sustainable Forestry. UNDP-PROFOR. <http://www.undp.org/seed/forest/pdf/Costa.pdf>



Extent/Volume of Application - Case studies and further information

Two recent venture fund examples from Latin America may indicate the functioning, the first for large, already viable investment ideas, the second rather for smaller enterprise development:

The Terra Capital Fund in Brazil invests 15mioUS\$ in organic agriculture, non-timber forest products (NTFPs), aquaculture, forestry, nature tourism and other biodiversity related business in Latin America since 1999. Set up in 1998 by Environmental Enterprises Assistance Fund (EEAF, Arlington, VA), Sustainable Development Inc. (SDI, Rio de Janeiro), the Brazilian bank Banco Axial, and the World Bank's IFC, it is managed by A2R, a Brazilian 50-50 partnership between the principals of GMO-RR, a Boston-based fund management company, and a group of Latin American executives. It secured funding from a variety of private, bi- and multilateral sources (including IDB, MIF, the Swiss government agency for Economic Co-operation SECO) and received a technical assistance GEF-grant of 5mioUS\$ to finance the additional selection and management costs. It offers investment management expertise, advanced sector know-how, and local and foreign capital.

Investments range from US\$500,000 to US\$2,000,000 for 6-8 years. Expected returns on investment (ROI) are 18-22%, i.e. high but commensurate with risks taken. The ROI target of projects is 30%. The return requirements are lower than in more traditional venture capital funds because of the GEF grant. Target companies include private SMEs under start-up or expansion in Latin America. Instruments are (preferred) equity up to 49% of ownership, convertible debt and subordinated loans as well as warrants and options. The Fund contribution can range from US\$0.5 million up to 15% of the total capital.

Contact: <http://www.terra-capital.com> or patricia.moles@a2r.com.br



The Eco-Enterprises Fund, created in 1998 by the IDB's Multilateral Investment Fund (MIF) and the NGO The Nature Conservancy (TNC) since 1999 uses 10mioUS\$ in an NGO enterprise development fund which promotes and supports conservation ventures of micro-enterprise and small businesses in Latin America and the Caribbean. The financing consists of 6.5mioUS\$ in risk capital and a technical assistance grant of 3.5mioUS\$. Eligible projects include those in organic agriculture, sustainable forestry, and ecotourism. Over a 10-year period, the fund provides between 50,000 and 800,000US\$ (with an average of 200,000US\$) financing a maximum of 50% of up to 30 ventures. Revenues generated by the ventures will contribute to the long-term financial sustainability of the participating environmental organisations and demonstrate ways to integrate economic growth and environmental protection. By 2001, all the available capital was already fully invested. Contact: <http://www.tnc.org> or ecoenterprises@tnc.org

In Africa, the **Kijiani Initiative**, conceived by IUCN and the World Bank's IFC, plans to establish by 2002 two entities which will develop and invest in sustainable biodiversity businesses. The *Kijani Business Service* will provide technical assistance to entrepreneurs to develop biodiversity business plans. It will foster critical partnerships between the conservation and business communities and promote market access for African biodiversity goods and services. The *Kijani Capital Fund* will provide private equity and debt finance to biodiversity business projects with capital requirements from 500,000 to 10mioUS\$ to stimulate foreign and domestic direct investments in organic agriculture, ecotourism, sustainable forestry, non-timber forest products, medicinal plants, sustainable fisheries, and aquaculture. Contact: <http://www.kijiani.org> or fwv@iucn.org

Ethical funds (in their broadest sense) control in the order of US\$ 40 billion in assets worldwide (ballpark figures only), predominantly in the European Union and the United States. The estimated proportion of these resources in forestry is unknown.



These funds are well established in the U.S. (e.g., Ventana North American Environment Funds) and Europe (e.g., Friends Provident & Jupiter in the United Kingdom, various Green Fund initiatives in Holland). Equity portfolios are dominated by companies listed on developed countries' capital markets. However, several examples exist of comparable developing world funds (for example, in Thailand), or of funds in developed countries that are dedicated to investing in the developing world. One example of the latter is Progressive Asset Management (PAM), a U.S. investment firm, which now handles US\$350 million (1996 figures) of environmental investments in developing country enterprises (Moura Costa et al. 1999).



5.3.3 Public-Private Partnerships

This chapter is to be updated and completed by GTZ PPP information. The contents below has been extracted mainly from [Moura Costa 1999](#), Anx 4, pages 4-6, plus some ppp info on biotrade.

Type	Direct financial: equity, debt
Objective	Use of public sector resources, either financial or in kind, to remove key barriers to private sector involvement with activities for which social benefits generally outweigh private benefits; one result is often the leverage of significant levels of financial resources from the private sector both as direct investments and through the capital markets.
Main source	Public, Private commercial
Main recipient	Public, Private commercial
See also	Biodiversity venture capital funds
Functioning	Mechanisms that facilitate or embody public-private joint ventures.

Seedcorn equity capital– public or public private sources - typically invested in emerging enterprises which require debt or equity financing to scale-up to the next level of commercial activity; investors may have an interest in the later stages of a project, and so commit venture capital to pre-operational requirements such as feasibility studies or carry out market evaluations;

Project-based capital funds – targeting more immediate returns and thus more suited to providing debt or equity financing from private sector resources;

Public-private partnership arrangements – can be mediated by equity investments in joint venture companies designed to carry defined projects through the pre-profitability early stage using public or concessionary capital (cf. seedcorn capital); public sector cofinancing can have specific objectives such as buying down risk insurance or providing regulatory oversight; private sector involvement can ensure managerial expertise, operational efficiency, further access to capital markets, etc.

General description in: [Moura Costa \(1999: Anx 4: 4-6\)](#)



Strengths

- ▶ Forced by shrinking state roles and revenues a global trend towards public-private instruments throughout many sectors, particularly transport and construction, as well as environment is likely to continue.
- ▶ The prevalent global system by which the management of forest resources under state ownership is carried out under concession or contract by the private sector can in fact be seen as a loose form of public-private arrangement. Moreover, more specific types of joint public-private mechanisms are being developed for the forestry sector. One example are “tax-exempt environmental performance bonds” which are based on the large U.S. market for long-term (15-20 years) tax-exempt bonds which can be issued by local governments or private not-for-profit groups. Such groups could issue such a bond and buy a forest with the proceeds, paying back the low-interest debt over time using revenues from the sustainable management of the forest.



Weaknesses and dangers

- ▶ Considerable doubt still remains as to whether public money should be used to effectively carry private ventures through their pre-profitability stage.
- ▶ Joint ventures are often designed to support activities for which, given existing policy and market failures, social returns are much higher than private returns, which themselves may therefore be lower than normal capital market requirements.



Key reading and information

Moura Costa, Pedro; Jyrki Salmi; Markku Simula; Charlie Wilson (1999): Financial Mechanisms for Sustainable Forestry. UNDP-PROFOR.

<http://www.undp.org/seed/forest/pdf/Costa.pdf>



Extent/Volume of Application - Case studies and further information

Widespread across a range of sectors. Well documented examples include (Moura Costa 1999):

UNDP-BCSD Public-Private Partnerships for the Urban Environment programme provides technical assistance and seed funding through the Project Development Facility to identify and develop investment projects in which both public and private sectors have a stake and managing role.

GEFI - The Global Environment Fund Inc. holds three funds with total managed assets of over US\$140 million, one of which is the Global Environment Emerging Markets Fund, backed by OPIC, the export promotion arm of the US State Department. This Fund invests 75% of its capital in private firms, targeting investments between US\$1.5-5 million with returns in excess of 40%. OPIC provides a credit guarantee which lowers GEFI's risk profile when issuing bonds on the institutional debt market.

NEFCO - The Nordic Environmental Finance Corporation was capitalised by ECU 40 million from 5 Nordic countries, under the auspices of the Nordic Investment Bank . It operates a venture capital programme involving equity joint ventures (and some loans) as a minority investor with generally less than a 35% stake.

EEAF - The Environmental Enterprises Assistance Fund Inc. manages various venture capital funds capitalised by a mix of private and public money. It provides loans or equity capital (or in combination) to small and medium sized environmental projects that might be excluded by large institutions and traditional capital markets.

UNCTAD (2001): The BIOTRADE Initiative. An integrated approach towards trade, biodiversity conservation and sustainable development. An overview. www.biotrade.org



UNCTAD launched the **BIOTRADE Initiative** at the third Conference of the Parties of the CBD in November 1996. The mission of BIOTRADE is to stimulate trade and investment in biological resources to further sustainable development, in line with the three objectives of the CBD, *i.e.* to promote: conservation of biological diversity; sustainable use of its components; fair and equitable sharing of the benefits arising from the utilisation of genetic resources (UNCTAD 2001).



6 Bibliography

To reduce footnotes and make the document more readable, authors' names in the text are hyperlinked to the Bibliography in the annex. In the bibliography, the titles of the respective documents are hyperlinked to available files on an accompanying CD, and fully spelled-out http hyperlinks are provided for the location in the internet from where they were taken. These hyperlinks were valid at the time of writing (5/2001). The volatility of internet references naturally limits their longevity. Mostly, however, homepages of the respective organisations can be found by copying the reference into your browser and slash by slash deleting the last segments. A host of resourceful homepages, most with collections of related links, is mentioned at the end of this document.

It is planned that most of the hyperlink-marked documents and additional specific information can later also be requested on a forthcoming CD from GTZ (Rolf.Mack@gtz.de and Dirk.Kloss@gmx.net). (some * marked filenames are based on the IUCN biodiversity CD issued for the 2000 Amman World Conservation congress, which in some instances may not fully correspond with the filenames on the IUCN homepage)



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7 Websites, Background Reading And Related Links

Most of the links to websites are already listed under the respective chapter.

Here only a few additional ones, and some of the more general ones for easier reference.

Conventions:

The Convention on International Trade in Endangered Species of Wild Fauna and Flora <http://www.cites.org>

Convention on Biological Diversity, Secretariat:
<http://www.biodiv.org>

Clearing House Mechanism on Biodiversity (Bonn, Germany)
<http://www.biodiv-chm.de>

CIFOR Oslo financing conference
<http://www.cifor.cgiar.org/fsfm/documents/papers.htm>

Sustainable Forest management:
http://www.cifor.cgiar.org/fsfm/documents/related_links.htm

EU LIFE
<http://www.europa.eu.int/comm/life/nature/history.htm>

LIFE-Nature: A brief history of nature conservation financing
'List of available documentation'

Forest Stewardship Council
<http://www.fscoax.org/principal.htm>

International Institute for Environment and Development (IIED, UK)
<http://www.oneworld.org/iiied>

Overseas Development Institute ODI, UK)
<http://www.oneworld.org/odi/index.html>

Magazine: Natural Resource Perspectives
<http://www.oneworld.org/odi/nrp/index.html>



IUCN homepage on GEF mechanisms, summary and links
<http://biodiversityeconomics.org/funding/dir0-01.htm>

IUCN-WCPA: The Management Effectiveness Task Force
<http://www.wcpa.iucn.org/taskforce/effect/mgteffect.html>

The website is located at
<http://www.nrsm.uq.edu.au/wcpa/metf/>

IUCN-WCPA: Finance and Protected Areas Task force
<http://www.wcpa.iucn.org/taskforce/finance/fianance.html>

IUCN - The Economics of Biodiversity Site
<http://biodiversityeconomics.org>.

IUCN directory on Institutional Sources of Finance.
<http://biodiversityeconomics.org/funding/directory.htm>

This directory is being developed by the IUCN Economics Unit working in close collaboration with the IUCN World Commission on Protected Areas.

The directory is organised according to IUCN's regional structure. Generally institutions are listed in the region in which they are headquartered. Intergovernmental organisations and international NGOs generally are listed under the International section.

For links to financing institutions, click on the various regions below:

For information on countries, such as country codes, click on Country Lists.

Country Lists

- 0 - International
- 1 - Africa
- 2 - Meso and South America
- 3 - North America and the Caribbean
- 4 - South and East Asia
- 5 - West Asia
- 6 - Oceania
- 7 - East Europe, North & Central Asia
- 8 - West Europe



Additional information on this site that is related to the topic of financing protected areas is available on the **Financing Protected Areas** topics page which links to guidelines on financing protected areas and overviews of mechanisms for securing financial resources for protected areas.

Financing Protected Areas

Pay for Parks

<http://pay4parks.homepage.com> homepage under construction

Related links suggested by

<http://pay4parks.homepage.com/recommended.html> :

Ecotourism

<http://ecotourism.homepage.com/index.html>— resources for an independent look at the concept and practice of ecotourism

Exploring Ecotourism in the Americas

<http://www2.planeta.com/mader/ecotravel/etour.html>

Biodiversity

<http://biodiversity.homepage.com/index.html> — a starting point for exploring biodiversity (biological diversity)

Conservation Trust Funds

<http://ctf.homepage.com/index.html> — creative mechanisms for funding for parks and protected areas

Other NGO contacts

IGC network , related links

<http://www.igc.org/igc/issues/develop/or.html>

Association of Non-Government Organisations in Germany

http://www.venro.org/fr_mglied.html

One World NGO-network homepage

<http://www.oneworld.net>

Terra Capital Inc (biodiversity-sensitive investment fund in Latin America) <http://www.terra-capital.com>



Regional Organisations – Latin America:

Corporación Andina de Fomento (CAF, Caracas, Venezuela):
<http://www.caf.com>

Instituto Alexander von Humboldt (Villa de Leyva, Colombia):
<http://www.humboldt.org.co>

Consejo Nacional de Medio Ambiente (CONAM, Lima, Perú):
<http://www.conam.gob.pe>

Poverty and Environment in Amazonia (POEMA, Belem, Brazil):
<http://www.ufpa.br/poema>

Department for International Development, DfID, UK (formerly the
Overseas Development Administration)
<http://www.dfid.gov.uk/>

OECD Development Assistance Committee DAC
<http://www.oecd.org/dac>



United Nations programmes related:

UNCTAD Biotrade initiative

<http://www.biotrade.org>

UN-DPCSD - UN Department of Policy Co-ordination and Sustainable Development Division for Sustainable Development

<http://www.un.org/dpcsd>

UNDP Forestry Related Publications - PROFOR (Programme on Forestry) homepage under Socio-Economic and Environment Department SEED on

<http://www.undp.org/seed/forestry>

UNDP Poverty Related Publications

<http://www.undp.org/poverty/publications/>

UNF/UNFIP (United Nations Foundation, initiated by Ted Turner 1997):

<http://www.unfoundation.org>

World Trade Organisation

<http://www.wto.org>

WWF - Forest protected areas management conference [http://](http://www.panda.org/forests4life/spotlights/trees/bt_abstract.htm)

www.panda.org/forests4life/spotlights/trees/bt_abstract.htm

World Resources Institute <http://www.wri.org/wri>

e.g.: <http://www.wri.org/wri/trends/resrisk.html>