Financial mechanisms for poverty-environment issues

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1. INTRODUCTION

Conventional strategies to escape poverty have been agriculture/forestry and migration. Migration is no longer a solution for the one billion poor people living in the rural areas of the world, while the traditional systems of agriculture and forestry are not necessarily leading to development in the future. People are caught in the so-called rural poverty trap.

Bio-rights could form a new mechanism for rural development in developing countries and countries in transition, as it would de-couple poverty and environmental degradation.

Bio-rights provide a financial tool, as a contract between local communities and the global community, to provide income for the local people, and to conserve natural resources and biodiversity. The global community offers financial compensation to local stakeholders for the immediate loss of income opportunities (local opportunity costs) from their natural environment, as an incentive to conserve the natural capital of the globe. This turns environmental protection and biodiversity in developing regions into a development opportunity rather than being associated with the poverty trap. In time, the costs of the Bio-rights system to the global community may decrease as poverty levels will be reduced.

Is there a need for such a system? In the absence of an adequately operating market mechanism there is a need for such a financial mechanism. Deforestation and loss of forests and wetlands would not occur under perfectly operating market conditions as conversion of the land would not be profitable.

In the past this was different. Conversion of the land was profitable, because biodiversity, clean water and other functions associated with wetlands and forests were not yet limited. Moreover, labour incomes generated from agricultural land were relatively high. Nowadays converting additional (marginal) land for agriculture does no longer increase food security. Food security for poor people may even decrease if more land is converted.


2 Bamford et al., 2002: Economic reasons for conserving wild nature: Science vol 297 950-953
Economic growth model

Social investments
- Education
- Poverty reduction
- Conflict resolution

Environmental investments
- Biodiversity
- Energy
- Water
- Desertification
- Climate
2. A RECIPE FOR SUCCESS

Nowadays there is global consensus that for sustainable economic growth social and environmental issues must be addressed. In other words, social and environmental aspects should be internalised in market prices.

But the world is not a level playing field. Some areas are endowed with opportunities, while others are not. In poor areas, social and environmental investments to start sustainable development cannot be made. In developing countries, there is a gap between the social/environmental aspects of development and economic growth.

One may argue that in poor regions, such as Central Kalimantan, windfall profits in forestry have been made, which could have triggered sustainable development. But even if this capital had been used to provide a positive return on investments (which is not the case), the sustainable profitability of forestry in natural forests is low as a result of a long rotation period and low prices for the timber. With respect to the potential of agriculture to trigger development and provide job opportunities, the future looks not bright. Owing to the high productivity of agriculture, especially in developed countries, the demand for labour in agriculture is decreasing and low wages are no longer a competitive advantage.

Services, including environmental services, are a way out for many underdeveloped rural areas.
3. BIO-RIGHTS

3.1 BACKGROUND AND RATIONALE

Some seventy-five percent of all poor people live in rural areas in developing countries, more often than not trapped in systems of impoverishment without adequate means for sustainable development. This results in increased pressure on the environment and natural resources, including remaining areas of importance for global biodiversity conservation.

Addressing environmentally sound management of natural resources and biodiversity may require a range of measures, including limited or even non-use options. These place constraints on the poor regarding their development opportunities and rights to make use of local resources. In these situations, a system of "Biodiversity Rights" or "Bio-rights" could provide the means for achieving both the objectives of poverty reduction and biodiversity conservation.

Environmentally sound management and the global biodiversity value of natural areas in developing countries and countries in transition will be easily ignored unless it can be expressed in and accepted as an economic value. It should be recognised that people trapped in poverty, in the absence of job opportunities, have no alternative but to (over)exploit the natural resources available to them.

As a result of globalisation, continuing population growth and increasing labour productivity there is insufficient job creation in rural areas of developing countries. Traditional sources of income, especially from agriculture, fisheries and forestry, have declined. Rural poverty in developing countries leads to over-exploitation of natural resources, although biodiversity maintenance could be an important sustainable source of income.

Under conditions of poverty, exploitation of natural resources has direct short-term advantages because it can provide an immediate increase in local income levels that politically outweighs the long-term benefits of sustainable development, even if the latter are greater.

It is therefore time to introduce a new system for financing integrated approaches to sustainable development of natural resources and conservation of global biodiversity. Independent of local or national conditions, this system will capitalise on the immediate socio-economic advantages of biodiversity and environmentally sound land manage-
ment for agricultural use and forestry, allowing its value to contribute directly in monetary terms to local and national incomes.

3.2 MAIN PRINCIPLES

To ensure the conservation of areas of global biodiversity value, local communities and governments (as the main local stakeholders) should be paid compensation for biodiversity conservation and protection. These payments would substitute for the potential income that they would otherwise reasonably expect to receive from their unsustainable use of and encroachment upon the area and its natural resources. Guaranteed conservation of the area would be a precondition for receiving the payments that should be regarded as interest paid by the global community on natural capital (in this case global biodiversity) to local communities to cover their lost opportunity values and new management costs.

Payments (which presumably could be disbursed on a per hectare per year basis) should cover the following elements:

a) Profits associated with potential direct use (e.g., community income from natural resource exploitation) and encroachment (e.g., potential annual profit from conversion of the area to the locally predominant land use).

b) Recurrent costs of auditing the biodiversity resource.

c) Recurrent costs of the protection and sustainable management of the biodiversity resource.

The funding arrangement should be based on a legal agreement that the area will be dedicated to biodiversity conservation for a long period of time, and the local people, local governments and the national government must endorse this.

3.3 CRITERA

A payment scheme to compensate local communities for maintaining their (globally important) biodiversity resources should focus ideally on areas of high biodiversity value that are in real danger of being lost. In addition, the area should be one of low opportunity costs, i.e., low

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3 The document focuses mostly on global biodiversity and not yet on avoiding erosion, desertification, water pollution/depletion and nutrient depletion over fertilization of agricultural land in developing countries and countries in transition.
potential for agricultural production (or other source of income generation). The latter would translate into relatively low minimum payments needed to compensate stakeholders for setting aside the area and thus maintaining its biodiversity. In general, a workable payment scheme should take the following into account:

1. The degree of importance of the area to be protected for global biodiversity (and evidence thereof), i.e. it should be high;
2. The potential of the area to generate substantial income through the exploitation of its natural resources, i.e. this should be low;
3. The approach used should be fully endorsed by the country or region, including local communities;
4. The approach should be complementary, building upon already existing plans and programmes;
5. The payment scheme should be part of a larger overall strategy for integrated sustainable development and biodiversity conservation;
6. The details of the scheme should be designed in full consultation with local communities and other relevant stakeholders;
7. The approach should bear clear evidence of an explicit pro-poor approach;
8. The approach should pay specific attention to gender equality;
9. The scheme should be relatively straightforward and simple to implement;
10. The approach should be sufficiently flexible in terms of its procedures that should be tailored to local circumstances.

3.4 MECHANISM

The mechanism for providing compensation payments should be based on the public value of the area, which should be expressed as a direct economic benefit. This could be accomplished through the sale of Bi-rights that can be considered a variation of the established concept of "Development Rights". This is a mechanism to "purchase" a "behaviour" and places a value on the opportunity costs of the behaviour.

The direct revenue provided by sale of Bi-rights should be managed in an endowment or trust fund. This would provide the budget for sustainable management of the targeted areas (including financing for conservation jobs, as well as investment capital for sustainable development and poverty alleviation programmes for the surrounding areas). Investments should focus on pro-poor growth measures, i.e. to boost economic growth of those activities that are most relevant for the poor, and include participation of the poor themselves.
The system will be particularly useful for extensive land-use areas where opportunity costs are relatively low.

The total sustainable compensation provided through the system must be sufficiently lucrative for local communities and governments to take all necessary action to protect the area’s biodiversity and prevent the depletion of natural resources; they must account for this to the Bio-rights Manager. If they fail to deliver on this, the payments will be reduced accordingly or cancelled. The size of the endowment fund needs to be at least 10 times the annual required compensation payment to local people and governments (as interest and/or benefits from investments will generally be about 10% per annum).

Property and exploitation/use rights will not be attached to the ownership of Bio-rights although the stakeholders and/or governments may have these rights (e.g. local land owners, governments). Payments will be linked to legal obligations for strictly sustainable management of biodiversity/natural resources that could offer sustainable development opportunities (e.g., eco-tourism) that, in turn, may be exploited through free market mechanisms (but always within the sustainability criteria - no loss of biodiversity or depletion of natural resources).

Bio-rights payments would be made at regular intervals, subject to review (e.g. 10 years) of the price of the Bio-rights and the success of the scheme. The price could eventually go down to zero once the biodiversity starts paying for itself through other economic mechanisms (e.g., bio-prospecting).

3.5 MONITORING AND EVALUATION

It is essential that the continuation of payments be linked to a regular independent audit of the sustainable management and conservation of biodiversity. The audit should certify that the biodiversity of the area is indeed protected and maintained. The certification can be implemented under the authority of the relevant environmental conventions (e.g. CBD, Ramsar). If the requirements of biodiversity conservation/natural resources are not (fully) met, then the payments will be reduced accordingly or withdrawn, and the shareholders will be reimbursed. The audit guarantees the credibility of the system.
Stakeholders

Appropriate stakeholder involvement in the development of individual Bio-rights projects is essential for the success of the system. It is therefore envisaged that a Proposal Development Fund (PDF), similar to the current PDF system of GEF projects, will be needed to facilitate development of the required local mechanisms and agreements.

The Players:

- The local programme manager: The National Government who can and perhaps will empower other, preferably local, agencies or organisations (for instance not-for-profit organisations with a mandate agreed upon with local communities and local governments).
- The Bio-rights Manager: An international agency (e.g. multilateral aid agency) in cooperation with local or regional development banks may act as the organisation responsible for administering the Bio-rights system, including sale of Bio-rights, issuing of compensation payments and management of the endowment fund.
- The contributors: private or public sector, individual tax payers, donors and governments. They would contribute to a Bio-rights fund that would be managed under various endowments. Governments could also contribute to the system through providing tax incentives for purchasing Bio-rights.
- The beneficiaries: The local communities, governments and global human populations.

Future activities:

1. Identification of promising areas for intervention, i.e., areas with the following characteristics with respect to bio-diversity: (A) high biodiversity benefits, (B) threatened (i.e. likely to be developed for short-term economic gain if no action is taken), and (C) limited total economic returns in the long run (this will keep the necessary compensation payments within limits).
2. Ecosystem enhancement and -capacity building: technically assist stakeholders in strengthening their local organisations and support...
the development of community initiatives on ecosystem management.

3. Monitoring systems: obtain improved information and understanding of the areas for continuous provision of biodiversity conservation, natural resources management services and local socio-economic benefits. In order to make sure that local stakeholders comply with the agreement, a set of indicators for monitoring biodiversity and ecosystem quality over time would have to be developed (e.g. number and species of plants, birds, habitat quality etc.).

4. Establishment of a payments fund ‘gain experience on communities’ response to incentives for biodiversity conservation/natural resources management: Identification of the incremental costs of local communities related to biodiversity conservation, or the level of opportunity costs for which they would need compensation. This implies the need for field surveys and for a methodology that is able to deal with opportunity costs that may change over time (requiring subsequent adjustment of payments).

5. Policy formulation and decision support: assemble policy guidelines for biodiversity conservation/natural resources management is general and the operation of payment schemes aimed at community-level beneficiaries in particular. Policy guidelines would have to be supported with policy analyses and the development of decision support tools at the community level. The analyses would focus on key policy constraints, i.e. distortions in input and output pricing that lead to environmental distortions, infrastructure policy, and constraints to community empowerment. The policy formulation activity must be linked strongly to the monitoring activity (see above).

3.6 POTENTIAL BENEFITS

At the local level, the Bio-rights system will contribute to income for community members and increased self-determination through enhanced community participation. The scheme would also enhance environmental awareness among community members and the perception of communities towards biodiversity. At national and global levels, the scheme would lead to an increase in the provision of global environmental services in terms of biodiversity conservation/natural resources conservation. Specifically, the scheme would affect the various groups of stakeholders as follows:
For the contributors to the scheme:

- For the private sector, investing in Bio-rights could be part of a package of mitigation measures. Contributing to both development and biodiversity conservation will be beneficial to contributors, as it will ensure a sustainable social, economic and environmental setting for their enterprises.
- PR/image (private & public sector) - good for marketing
- A good feeling (the general public wants a sustainable world); contribution to poverty alleviation, sustainable development, and nature conservation.
- Maintenance of biodiversity, as a source of life for future generations.
- Guarantee of sustainability of the investments (through monitoring, evaluation and certification).

For governments:

- Bio-rights can contribute to achieving their obligations under international conventions such as the CBD and Ramsar Convention, as well as the goals of the UN Millennium Declaration including eradication of extreme poverty and hunger, ensuring environmental sustainability and formation of global partnerships for development.
- Information on the response at the community and beneficiary level to incentive systems for biodiversity conservation to produce global economic benefits.
- The value of biodiversity can be made directly visible and accountable in the national budget and accounts. This can be done through accounting of active as well as potential Bio-rights.
- Nature management will lead to an enhanced capacity for poverty alleviation and sustainable development.
- Specific recommendations for sector and environmental policies in terms of environmental services.
- Bio-rights can be a powerful mechanism for leveraging co-funding to the GEF/DCF funding.

For the local communities:

- Trained stakeholders and strengthened local organisations that are better informed about integrated ecosystem management, and significant areas with protected biodiversity characteristics.
- Close proximity to a well protected and managed nature area with sig-
nificance for global biodiversity conservation will enhance access to funding for community facilities (e.g. schooling, health care, infrastructure) and sustainable development initiatives. 

Equitable participation of local community members in the economic benefits derived from environmental services (in this case biodiversity).

For nature conservation agencies and natural resource managers:

- The system provides added value as it enhances (the understanding of the) linkages between sustainability of the biodiversity conservation measures/land & water management and local economic development.
- Everybody can purchase Bio-rights and be personally involved with specific sites of global importance for biodiversity conservation and land/water management.
- It provides a more sustainable approach to conservation of biodiversity and sustainable use of agricultural ecosystems on a much wider base.

3.7 SPIN-OFF’S

- Debt for Nature Swaps could become increasingly lucrative for the governments and stakeholders involved, as not only the debt will be relieved but additionally the protected biodiversity will add to national accounts and possibly budgets (through Bio-rights).
- More capital will be available for Green Funds.
- The system will provide a strong incentive for improved awareness and education programmes with regard to biodiversity values.
- The system will establish the foundations of a comprehensive policy dialogue that would ensure an integrated approach for lasting local and global benefits.
- Finally, the documentation of experience gained, good practices, and dissemination of lessons learned and know-how would be an integral outcome of a "trial scheme" (assuming that a payment scheme for biodiversity conservation would first be implemented on a trial or pilot scale).
3.8 INTEGRATED DEVELOPMENT

Bio-rights could become a tool to conserve the environment, while enhancing economic growth in rural developing economies. It is only one of the potential pillars for integrated development of poor rural areas. Apart from the traditional sectors, i.e. agriculture and forestry - which have a limited capacity to absorb the growing labour force - other economic pillars such as (environmental) services and tourism may provide options for development. Pre-requisites for development are the availability of education and finance facilities. Income generated from Bio-rights can provide such investment capacity through direct payments and/or micro-credits/revolving funds. In the appendix a brief account is given of a pilot project in Central Kalimantan, Indonesia, where the Bio-rights concept is being experimented besides some other financial mechanisms for development.

3.9 CONCLUSION

The greatest threat to natural resources and biodiversity in developing countries is poverty, which encourages short-term planning of profitable but often destructive exploitation of remaining nature areas (often regarded as man’s land or wastelands). Through the Bio-rights system these areas will be linked to a sustainable enhanced investment capacity, which will provide an economic reason for all stakeholders to protect these areas.

The Bio-rights system links sustainable development and poverty reduction with biodiversity conservation/natural resource management at the local level. This can be institutionalised through, for instance, local management agreements between local communities, local government and the Bio-rights Manager. Instead of a ‘poverty trap’, rural areas with biodiversity potential would become ‘development opportunities’. As long as an area is well managed and protected, it will provide access, through the Bio-rights system, to sustainable development funds for local stakeholders. This will ensure that local communities, other stakeholders and governments have a continuing incentive to protect among others their internationally important nature areas. The greatest financial hurdle to development (the starting capital for investment) will be overcome by the system.
ANNEX

Financial mechanisms for poverty-environment issues: the Central Kalimantan case

With decentralisation in place in Indonesia, new opportunities are created for linking local economic growth and poverty reduction with conservation of carbon and biodiversity.

Central Kalimantan has a population of 1.8 million inhabitants, of which half are living below the poverty level. The province has huge areas of peatland, including a drained area of one million ha (the Mega Rice Project) and 2.5 million ha in the Sebangau catchment - which also harbours the most important population of orangutans in the world. The Mega Rice Project, which aimed to secure rice self-sustainability in Indonesia, has failed. Rehabilitation of the scheme through water management is needed to provide a basis for private and public investments for income generation, food production and to improve its potential as a resource for green (bio-energy e.g. from oil palm) and carbon credits.

Carbon credits will become economically interesting as soon as protection of carbon reservoirs becomes accepted under the Kyoto Protocol (carbon credits) and/or by private investors (carbon rights). In this respect, the enormous reservoir function of tropical peats combined with their low methane emission cannot be ignored. However, these peatlands are at considerable risk of further degradation. Over the last decades, millions of hectares of peat swamp forest have been burned in Indonesia, with in 1997 alone an estimated\(^6\) 0.8 to 2.5 G tonnes of atmospheric emissions of carbon.

In the (degraded) forest areas of the Sebangau watershed sustainable income cannot be generated from timber. Conservation of the remaining forest resource is the best option, but can only be achieved if income can be generated from Bio-rights.

Meetings with the Deputy-Governor and with local stakeholders in 2001 and 2002, respectively, indicated that there was considerable local interest to develop environmental services and products as a pillar for future development of Central Kalimantan. Project inception has started with financial support from the Global Peatland Initiative. A meeting of stakeholders was held in Jakarta (September 2002), to discuss the programme. A follow-up meeting is scheduled for January 2003 in Palangka Raya. Central Kalimantan. Feasibility studies are expected to start in the second half of 2003.


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ABSTRACT

Bio-rights is a financial mechanism which can assist in reconciling poverty reduction and sustainable use of natural resources in developing countries and countries in transition.

The system conditionally compensates for the opportunity costs of local stakeholders to use their natural resources or conserve biodiversity in a sustainable way. The conditions are that the system is endorsed by both donors and local stakeholders and that compliance with environmental goals is monitored and made transparent to the global community.

Bio-rights would allow, for instance, the public value of key biodiversity areas to be transferred over time to local stakeholders as a direct economic benefit. This turns natural resource management and bio-diversity conservation in the rural frontiers into a development opportunity.

Further discussion should include, among others, modes to transfer the additional income to stakeholders such that the capital is used not only to conserve the natural resources, but also to provide socio-economic benefits in the rural frontiers of the world. Income redistribution and environmental monitoring must be sustainable over the long term.