

# **International Payment for Forest Conservation**

**Special Case: Compensation for Leaving the Oil in the ground in Yasuní National Park, Ecuador**

**A Report to the Norwegian Ministry of the Environment**

Kristin Rosendal, Peter Johan Schei, Per Ove Eikeland and Lars Gulbrandsen





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A Report to the Norwegian Ministry of Environment

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**Abstract**

This report evaluates the Ecuadorian proposal to have the international community compensate Ecuador for not exploiting the oil in the ITT area of Yasuní National Park. It includes the evaluation of this proposal in a broader context, assessing the possible consequences of the arrangement for future systems for international payment for biodiversity/rainforest conservation or payment for other ecosystem services as outlined in the Millennium Ecosystem Assessment. Recently, the debate about international funding of rainforest conservation and payment for ecosystem services in general has received new momentum thanks to the climate change negotiations. Although the debate goes back several decades, the content has now been broadened to include at least five major concerns: carbon sequestration and uptake, biodiversity conservation, maintenance and balance of other ecosystem services, safeguarding the livelihoods of local and indigenous people, and adaptation to climate change.

This report examines the various past and current efforts relating to the question of international payment for forest conservation, linking it to the international obligations of developed countries to support global environmental goals in developing countries. The Yasuní case raises several questions that are also relevant to the Norwegian Bali initiative to contribute NOK 3 billion annually over five years for forest conservation. A central question is how these (new) flows of funding should be organized in order to achieve the relevant internationally agreed objectives emanating from multilateral environmental agreements. Here we discuss the role of the GEF, with its implementing agencies the World Bank, UNDP and UNEP. We tie the discussion to the obligations that developed countries have undertaken to support the implementation of global environmental goals in developing countries as emanating from the Convention on Biological Diversity (CBD), as well as obligations pertaining to indigenous peoples' rights under the CBD and the ILO Convention.

**Key Words**

forest conservation, Yasuní National Park, Ecuador, payment for ecosystem services, biodiversity, indigenous people, ecosystem, adaptation to climate change, GEF

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## 1 Introduction<sup>1</sup>

The Ministry of the Environment, Norway, has requested FNI to evaluate the Ecuadorian proposal to have the international community compensate Ecuador for not exploiting the oil in the ITT<sup>2</sup> area of Yasuní National Park (see maps Appendix 1 and proposal Appendix 3), established in 1979. The proposal involves compensating 50% of the value of oil over a period of 20 years.<sup>3</sup> The compensation, US\$ 350 million per year, is planned to be used largely for local development purposes. Payment is to be handled through a trust fund administered by the Andean Development Bank. The President of Ecuador, Rafael Correa, has set a deadline of September 2008: if the project leaders and supporters have not secured the basic funding and international support by that time, oil exploitation will proceed as originally planned. The project secretariat is placed in the Ministry of Foreign Affairs, Ecuador.

FNI has also been asked to evaluate this proposal in a broader context, assessing the possible consequences of this arrangement for future systems for international payment for biodiversity/rainforest conservation or payment for other ecosystem services as outlined in the Millennium Ecosystem Assessment.

Recently, the debate about international funding of rainforest conservation and payment for ecosystem services in general has received new momentum thanks to the climate change negotiations. Although the debate goes back several decades, the content has now been broadened to include at least five major concerns: carbon sequestration and uptake, biodiversity conservation, maintenance and balance of other ecosystem services, safeguarding the livelihoods of local and indigenous people, and adaptation to climate change. Whereas earlier initiatives focused on debt-for-nature swaps, increasing attention is now being given to efforts to value ecosystem services. New initiatives can be expected following discussions at the UN Framework Convention on Climate Change (UNFCCC) COP 13 meeting (Bali, December 2007) on adaptation to climate change and the obligations of rich countries in this connection.

This report examines the various past and current efforts relating to the question of international payment for forest conservation, linking it to the international obligations of developed countries to support global environmental goals in developing countries. We take the case of Yasuní National Park as our point of departure. The work has been carried out primarily as a desk study, supplemented by interviews with some central actors and stakeholders, but with the inevitable methodological limitations that follow from building mainly on secondary sources for the case-study material. Less uncertainty attends the more general empirical and

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<sup>1</sup> The authors wish to thank Steinar Andresen for valuable comments throughout the process of preparing this report.

<sup>2</sup> ITT: the Ishpingo-Tiputini-Tambococha oilfields.

<sup>3</sup> Interview with Yolanda Kakabadse 20 January 2008. Kakabadse was the President of the World Conservation Union (IUCN) and is a former Minister of the Environment in Ecuador.

theoretical material applied in the study, as here it has been possible to build largely on the authors' own peer-reviewed research work.

The Yasuní National Park (established 1979) and Biosphere Reserve (established 1989) constitute one area, 9820 km<sup>2</sup> in size. In 1990, the Ecuadorian government officially recognized the rights of the Huaorani people to an adjacent area of 612,560 hectares of land; the Huaorani Ethnic Reserve now includes 6100 km<sup>2</sup> (see maps, Appendix 1). It is the largest mainland park in Ecuador and represents the empirical case for this study. UNESCO has described the Biosphere Reserve as follows<sup>4</sup>:

The Yasuni Biosphere Reserve and National Park is situated in the Amazonian region, in Napo Province in the north of the country. The terrain is very sinuous, despite of being in the Amazonian plains. With the exception of Rio Napo, which originates in the foothills of the Andean Cordillera, rivers crossing the national park originate at altitudes from 300 meters to 600 meters above sea level. The topography is represented by low plains alternating with the foothills of the Andean chain, with a softly inclined platform supported by the Guyano-Brasilian shield that extends from the south of Colombia to Peru. Three main types of vegetation occur: 'Terra firme', found on the high relief areas and not subject to flooding; 'Varzea', a forest type subject to periodic flooding, and 'Irapo' in the permanent or near permanent flooded forest. Cononaco is traditionally a settlement area for indigenous communities, such as the Huaorani, Aucas and Quichuas. There are more than 9,800 people engaged in agriculture (coffee, bananas, yuca, paw paw, citrus fruit, maize and achiote), fishing, forest dwelling, hunting and gathering forest products. About 150 people<sup>5</sup> visit the reserve each year; the potential for tourism is considerable and therefore encouraged. Oil exploitation by the National Petroleum Company affects local communities' social practices and the natural ecosystem. The objectives of the biosphere reserve are to conserve natural ecosystems, to provide protective legislation, in situ conservation, encourage regional planning and rural development, and encourage local participation in land use and environmental education.

The Yasuní case raises several questions that are also relevant to the Norwegian Bali initiative to contribute NOK 3 billion annually over five years for forest conservation. The decision can be seen as a means of spearheading and spurring increased international funding for reduced greenhouse gas emissions. To what extent will this and other climate-motivated pledges of funding be additional to ordinary development aid and environmental assistance budgets? How should these (new) flows of funding be organized in order to achieve the relevant internationally agreed objectives emanating from multilateral environmental agreements? There will most certainly be great interest among bilateral and multilateral agencies to accommodate and put to use these financial resources but which are best suited to deal with the interlinked objectives of carbon sequestration and uptake, adaptation to climate change, bio-

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<sup>4</sup> [www.unesco.org/mabdb/br/brdir/directory/biores.asp?code=ECU+02&mode=all](http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?code=ECU+02&mode=all) (Accessed 8 January 2007).

<sup>5</sup> The current number of tourists is likely to have greatly exceeded this number.



diversity conservation, poverty reduction and improved livelihoods, and indigenous peoples' rights? How to monitor, in a transparent and legitimate manner, the implementation of such projects?

Norway, as a small country, is traditionally best served by multilateral institutions and tends to advocate this type of approach to global environmental issues. Here we will discuss the role of the GEF, with its implementing agencies the World Bank, UNDP and UNEP. We tie the discussion to the obligations that developed countries have undertaken to support the implementation of global environmental goals in developing countries as emanating from the Convention on Biological Diversity (CBD), as well as obligations pertaining to indigenous peoples' rights under the CBD (article 8j) and the ILO Convention (article 169). (The UNFCCC does not include measures for sustainable development in developing countries.) We start by presenting economic valuation methods, in particular valuation and payment for ecosystem services.

## **2 Valuation of and Payment for Ecosystem Services**

Humans derive many utilitarian services from biotas and ecosystems. In the 1990s, payment for ecosystem services (from users to providers) was launched as an environmental policy instrument to create incentives for managing ecosystems in ways that could ensure the continued provision of services.

This section discusses briefly the concept of 'ecosystem services'. It then discusses opportunities for and limits to monetary valuation of such services. Next, basic principles of payment systems are presented together with practical examples. We round off with a discussion of the feasibility of payments for global benefits as a possible instrument at the international level (to pay for the conservation of biodiversity) and some thoughts on the specific case of compensation for not exploiting the oil in the ITT block of Ecuador's Yasuní National Park.

### **2.1 Ecosystem Services**

The Millennium Ecosystem Assessment (MA, 2005: 3) distinguishes between four types of ecosystem services, based on a functional perspective:

- provisioning services, such as food, water, timber, and fibre;
- regulating services, such as regulation of floods, drought, land degradation, and disease;
- supporting services, such as soil formation and nutrient cycling; and
- cultural services, such as recreational, spiritual, religious and other non-material benefits.

Against such a functional grouping of services, the literature on payment for ecosystem services (e.g. Pagiola et al., 2005; Grieg-Gran et al., 2005; Wunder, 2005) tends to group ecosystem services on the basis of their resource content, with typical services linked to:

- hydrology
- carbon sequestration
- biodiversity protection
- landscape beauty.

Each resource group could next be linked to vital functions. Hydrological services include the regulation of flows and qualities of water resources. Carbon sequestration in plant material above and below ground is a service providing for global climate regulation. Biodiversity protection is often held to be vital for ecosystem resilience to external shocks, a security against fundamental imbalances that could accelerate extinction of species and destroy functions provided by them when ecosystems come under pressure from climate changes, pollution, etc. Landscape beauty is intimately linked to cultural services and ecotourism.

Myers (1996) discusses specifically the service of biodiversity protection; its interdependencies with other vital ecosystem services more closely associated with utilitarian values, and as such, its role as a *meta-service*. He groups main ecosystem services into seven categories, all with efficiencies potentially affected by the biodiversity status of the ecosystem:

- Maintaining local/regional climate, in which a connection is made between biodiversity and rainfall. Typical examples are rainforests maintaining the gaseous composition of the atmosphere and cycling vast amounts of water to create a humid tropical climate.
- Maintaining biogeochemical cycles, in which a potential but uncertain connection is made between biodiversity and the ability of earth biotas to store carbon dioxide. Some evidence suggests that species-rich ecosystems can often (through not always) consume carbon dioxide at a faster rate than less diverse ecosystems. Additionally, to the extent that species-rich ecosystems produce more biomass, they consume carbon dioxide, thereby reducing CO<sub>2</sub> build-up.
- Maintaining hydrological functions in which biodiverse plant systems (thick and sturdy vegetation) permit a slower and more regulated run-off of water, allowing water supplies to make steadier and more substantive contributions to their ecosystems, instead of quickly running off into streams and rivers, causing floods and erosion in cultivated areas.
- Maintaining soil protection, in which biodiversity to some extent is seen as protecting soil cover and thereby reducing soil erosion and fertility.
- Maintaining crop pollination, in which biodiversity is seen as a guarantee for keeping sound habitats for insects.
- Maintaining pest control, in which biodiversity is seen as providing natural controls in the form of predators and parasites plus host-plant resistance.
- Providing for ecotourism, where biodiversity plays an important part in this fast-growing sector.

## 2.2 Valuation of Ecosystem Services

The values of ecosystem services are certainly enormous, but forbiddingly complex to calculate pre-emptively in monetary terms. Some services, notably the current level of ecotourism, are relatively easier to value in monetary terms (through travel-cost methods) than complex systemic and global services, like maintaining biodiversity, where the values would become fully apparent only if they actually disappear. There are three generally accepted approaches to estimating the monetary values of ecosystem services, each including several methods (more in Appendix 2).

### 2.2.1 Market Prices – Revealed Willingness to Pay

The values of some ecosystem goods or services can be measured using market prices. Some ecosystem products, such as fish or wood, are traded in markets. Thus, their values can be estimated by estimating consumer and producer surplus, as with any other market good. Other ecosystem services, such as clean water, are used as inputs in production, and their value may be measured by their contribution to the profits made from the final good. Some ecosystem or environmental services, like aesthetically pleasing views or many recreational experiences, may not be directly bought and sold in markets. However, the prices that people are willing to pay in markets for related goods can be used to estimate their values. For example, people often pay a higher price for a home with an ocean view, or will take the time to travel to a special spot for fishing or bird watching. These kinds of expenditures can be used to place a lower bound on the value of the view or the recreational experience.

### 2.2.2 Circumstantial Evidence – Imputed Willingness to Pay

The value of some ecosystem services can be measured by estimating what people are willing to pay, or the cost of actions they are willing to take, to avoid the adverse effects that would occur if these services were lost, or to replace the lost services. For example, wetlands often provide protection from floodwaters. The amount that people pay to avoid flood damage in areas similar to those protected by wetlands can be used to estimate willingness to pay for the flood protection services of the wetland. Imputed willingness to pay methods include the related *damage cost avoided*, *replacement cost*, and *substitute cost methods*. These methods are most appropriately applied in cases where damage avoidance or replacement expenditures have actually been, or will be, made.

### 2.2.3 Surveys – Expressed Willingness to Pay

Many ecosystem services are not traded in markets, and are not closely related to any marketed goods. Thus, people cannot ‘reveal’ what they are willing to pay for them through their market purchases or actions. In these cases, surveys can be used to ask people directly what they are willing to pay, on the basis of a hypothetical scenario. Alternatively, people can be asked to make trade-offs among various alternatives, from which their willingness to pay can be estimated. Expressed willingness-to-pay methods includes the contingent valuation method, such as simply knowing that giant pandas or whales exist, and the contingent choice method, inferred from the hypothetical choices or trade-offs that people make.

### 2.3 Payment for Ecosystem Services (PES) – Basic Criteria and Challenges

The emergence of PES as policy instrument must be seen as partly a response to a need to identify additional sources for funding conservation, and partly as a response to the widespread disappointment with the environmental efficacy of more conventional approaches to conservation: the establishment of protected areas or unconditional economic incentives, the latter exemplified by the ‘integrated’ conservation and development projects promoted during the 1980s and 1990s (McShane & Wells, 2004; Ravnborg et al., 2007:6). Moreover, PES has often had the dual goal of environmental protection and development (poverty alleviation), applied for remunerating environmentally responsible management practices among poor people. It is essentially a means of trying to integrate biodiversity and ecological services into the economy and to remedy market failure by paying for services for which there is no market.

PES has been hailed by multi-lateral development aid agencies as a more cost-efficient approach to conservation than previous community-based conservation efforts (Wunder, 2006; Hope et al., 2005).

Wunder et al. (2005:1) define PES as a “voluntary, conditional transaction with at least one seller, one buyer, and a well-defined environmental service”. In order to count as a PES, several criteria must be fulfilled:

1. It must be *voluntary*, implying that ecosystem managers have a ‘real’ but also a ‘legal’ right to choose how the ecosystem in question should be managed. If local people are the real managers, they must have a choice of complying or not complying with good management practices, and they must have the legal right to such choices. Dilemmas occur for PES when the ‘sellers’ either have no option but to continue bad management, or if they do so illegally.
2. The ecosystem service must be *demarcated*. This can in some cases be only a minor problem, as with the conservation of a specific biodiversity-rich forest or the storage of a certain amount of carbon. In other cases, demarcation is more difficult, and what is being bought could rather be expressed as a specific *natural resource management practice* assumed to lead to the provision of the desired ecosystem service (e.g. reforestation to enhance water infiltration or avoidance of deforestation for the same purpose). Incomplete understanding of the links between desired ecosystem services and ecosystem management practices is a potential problem.

Another dimension of demarcation concerns the level at which ecosystem service benefits accrue. Main beneficiaries can be local, regional or global (in principle located anywhere in the world). This spatial distribution of beneficiaries has obvious implications for the institutional arrangements adopted between buyers and sellers of ecosystem services. A problem would occur if beneficiaries at one level ‘pay too much’ when an ecosystem service implies the simultaneous provision of other ecosystem services with beneficiaries at lower levels.

Table 1 shows typical ecosystem services and concurrent demarcation of levels at which ecosystem service beneficiaries occur.

**Table 1.**

Category of ecosystem service	Examples of ecosystem services	Functional type of ecosystem service	Spatial boundedness of ecosystem service beneficiaries		
			Local	Regional	Global
Hydrological service	Water (quality and quantity)	Provisioning	X	X	
	Erosion and landslide prevention	Regulating and supporting	X	X	
	Micro-climate regulation	Regulating	X	X	
Landscape Beauty	Eco-tourism	Cultural	X	X	X
Biodiversity Conservation	Habitat protection	Regulation and cultural			X
	Gene pool conservation	Provisioning			X
Carbon sequestration	Vegetative carbon sequestration	Regulating			X

Source: Ravnborg et al. (2007)

3. There must be buyers and sellers. Lack of buyers presents a major barrier for PES as a policy instrument. Potential buyers are often unaware of the PES concept or not willing to accept its risks. The UN Economic Commission for Europe (UN, 2006) distinguishes between public, private (self-organized) and trading schemes in its draft code of conduct regarding PES in integrated water resources management:

*Public schemes* involve municipalities, local or national governments as the sole or primary purchaser of a specified ecosystem service or a related land use or management practices. These tend to be local.

*Private schemes* involve private entities as buyers and sellers (companies, NGOs, farmers' associations or cooperatives, private individuals). These tend to be local.

*Trading schemes* refer to markets in which established rights (or permits) and/or quotas can be exchanged, sold or leased. These, such as the CDM, tend to be global.

4. To qualify as a PES scheme, resources (cash or kind) should pass from the buyer(s) to the ecosystem service provider(s), directly or through intermediaries. Lack of or incomplete transfer of resources would undermine the legitimacy and efficiency of the system.

5. PES is defined as a *conditional transaction*, contingent upon continued provision of the service. Users should pay only if the service is delivered or the resource management practice is assumed to ensure that the service is provided, and providers will provide the service only if they receive the agreed payment. Monitoring or transactions is needed for PES to remain a legitimate instrument, and monitoring of environmental impact is critical to ensure that PES will actually deliver on its intentions as an environmental policy instrument.

## 2.4 Payment for Ecosystem Services in Practice

The PES concept is closely associated with Latin America and particularly Costa Rica. A literature review made by Ravnborg et al. (2007) recorded 200 references, of which 140 dealt with regionally specific PES experiences. More than 40% of these concerned Latin America, notably Costa Rica, Mexico and Ecuador.

### 2.4.1 A Global PES System for Biodiversity Conservation

PES systems implemented so far have involved transactions mainly at the local level. The CDM system is the only major example of a payment system at the international level, targeting carbon sequestration as an ecosystem service. The design of a global PES system for biodiversity conservation services must be evaluated in terms of the criteria above.

Concerning criterion 1, selling and buying biodiversity conservation at the global level must be a voluntary endeavour where that the real and legal rights to choose management system rest with the entity entering the PES system. If a national government acts as seller, this implies that the government must have the real and legal right to manage the ecosystem under discussion. If local people have the real and/or legal rights, these would be the sellers and the national government could function only as an intermediary in actual transactions.

Looking at the need for *demarcation*, placing any monetary value on biodiversity conservation in a specific area is highly problematic since this service is intimately intertwined with other services provided by the ecosystem, with beneficiaries located only locally or regionally. This makes it difficult to design a purely environmentally motivated global PES for biodiversity conservation. The demarcation problem will be lessened if *development aid* is included as motivation behind the PES system (aid for the provision of other local ecosystem services as well).

Regarding the need to ensure that transactions are actually completed, a global scheme must balance simplicity (avoiding a forbiddingly high number of transactions by reducing the number of sellers – creating intermediaries) against ensuring that intermediaries actually provide the payments back to those holding the real and legal management rights. Moreover, negotiating with national governments instead of thousands of individual rights-holders would reduce transaction costs but might decrease the legitimacy and environmental efficiency of the scheme if the governments should defect on remunerating the rights-holders (service

providers). National governments could be given parts of the remuneration in cases where national policies have been directed at capacity development among the people who provide ecosystem services. In view of the conditionality principle, a global scheme must ensure proper monitoring of transactions and environmental impacts.

## 2.5 The Case of Yasuní National Park, Ecuador

The feasibility of the specific case of Yasuní National Park can be evaluated according to the PES criteria.

The government of Ecuador is demanding US\$350 million yearly to compensate for the revenue losses of not exploiting the oil in the ITT oilfield, located in Yasuní National Park. The idea is for the fund to compensate about 50 per cent of the net profits that the State could have received by exploiting the oil. The government proposes to set up a fund from which permanent income will provide funding for food production, social development, conservation and alternative energy supply (Larrea, 2007).

*Concerning criterion 1:* Is the government the eligible ‘seller’ of ecosystem services? Who has the real and legal rights to utilize the resources of the area, according to national law and to international law entered into by Ecuador? The area is defined as a national park. What does this entail for real and legal rights to use the resources in the area, including its oil resources? This is a crucial point, and will depend on whether the announced amendments to the Ecuadorian constitution (see section 4 on indigenous peoples’ rights) are actually made, so that in the future a new government cannot simply reverse course and determine different protection standards for the national park.

*Concerning criterion 2:* What ecosystem services are offered on the global market? How could these be demarcated? Are specific resource-management practices included in the offer, and how do these comply with the provision for biodiversity conservation? Would global funding of the magnitude proposed be too high, if the value of strictly local and national ecosystem services is subtracted from the total loss of income from leaving the oil unexploited? What environmental evaluation methods have been used to calculate such local ecosystem services? Yasuní National Park encompasses one of the most diverse ecosystems in the world, with high levels of species diversity. In addition, there are important cultural values to be upheld, and a need for strengthening indigenous peoples’ rights in this area.

*Concerning criterion 3:* Ecuador seeks to attract both private and public buyers (payers to the fund).

*Concerning criterion 4:* Will the government act only as an intermediary between buyers and ‘real’ rights-holders at the local level? What arrangements are made to ensure actual transfer of payments from the government to local people? Would payments be in cash, or as other forms of compensation? These questions need to be explored in greater detail, but most important of all is the question of the announced amendments to the Ecuadorian constitution, noted above.

*Concerning criterion 5:* What kind of monitoring will ensure the actual transfer of payments, and that ecosystem degradation does not occur due to other types of economic activities in the area? This question also remains to be explored in more detail for any given case. Appendix 1 indicates the great urgency and the impending threat to the ITT block and adjacent areas of Yasuní National Park.

### 3 Biodiversity Conservation

This section provides insights into the major international commitments within the Convention on Biological Diversity (CBD) relating to forest conservation. The major focus is on various implementation challenges relating to these principles and obligations. Central to fulfilling the commitments under the CBD is the international financial mechanism, the Global Environment Facility (GEF). We will briefly examine the role of the GEF in forest and biodiversity conservation, as well as look into new financial options emerging in international forest conservation policies.

The CBD is central to issues within the forest sector, as between 50 to 80% of the world's biological diversity is found in the various types of forests.<sup>6</sup> Not only are the forests home to this large number of species and species variation. The variety within and among tree species, and among different forest-ecosystems, is biodiversity in itself. This represents one of the major reasons for treating questions concerning forest management under the same heading as conservation and use of biodiversity.

The Convention on Biological Diversity sets out obligations and objectives for nations to combat the destruction of plant and animal species and ecosystems. For this purpose, the Contracting Parties are to develop national strategies, plans and programmes for conservation and sustainable use, and integrate conservation and sustainable use of biological diversity into relevant sector plans and policies, and develop systems of protected areas (art. 6). The parties shall identify components of biological diversity important for its conservation and sustainable use; monitor the components through sampling and other techniques; identify activities which have or are likely to have significant adverse impacts on conservation and sustainable use of biodiversity and introduce environmental impact assessments with a view to avoiding or minimizing such effects; and establish a system of protected areas (in-situ conservation).

The international community is given responsibility for conserving biodiversity in developing countries (art. 8m) through new and additional financial resources (preamble and art. 20.2). The CBD provides that developing country parties must implement their obligations on conservation and sustainable use to the extent that developed country parties meet their commitments related to financial resources and transfer of technology (art. 20.4). Let us first look into the obligations concerning the financial mechanism and burden sharing.

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<sup>6</sup> This is under the assumption that about 80% of all species are terrestrial. If the marine biota should prove much greater than previously assumed, this figure may have to be adjusted accordingly (Ray, in Wilson, 1988).



### 3.1 Financial Mechanism GEF

The GEF is by far the most important international environmental institution in terms of economic and operational clout.<sup>7</sup> It was established as the financial mechanism for four international environmental conventions or areas: the Convention on Biological Diversity (CBD), the Convention on Climate Change (UNFCCC), International Waters<sup>8</sup> and Ozone depletion<sup>9</sup>. These four were followed in 2001 by land degradation, in terms of desertification and deforestation, and persistent organic pollutants (Stockholm POPs Convention). The GEF operates through its implementing agencies (IAs), the World Bank, UNEP and UNDP (and executive agencies). The aim is for the GEF to help fund initiatives that assist developing countries in meeting the objectives of these conventions.

According to its homepage, 'the GEF helps developing countries fund projects and programs that protect the global environment. This is to be done by providing *'new and additional funding to meet the incremental costs of measures to achieve agreed global environmental benefits'* according to the GEF mission. 'Incremental costs' are intended as an incentive for developing countries to include in projects a global conservation benefit, which may not be in their immediate national interest. At first glance this may seem like a straightforward goal. However, local and national environmental benefits are not necessarily easy to distinguish from 'global benefits'. This makes it difficult to operationalize the mission concepts of 'incremental costs' and 'global environmental benefits' as opposed to local and national ones. Another problem is the lack of sufficient funding to address global environmental problems, especially those of biodiversity conservation. Let us start with a brief look at the scope of GEF funding for forest conservation.

*Scope of funding:* From 1991 to 2006, the Global Environment Facility provided US\$7.7 billion in grants and generated over \$28 billion in co-financing from other sources, supporting over 1,950 projects in 160 developing countries and countries with economies in transition.<sup>10</sup> The bulk of current projects as well as funding is divided equally between biodiversity and climate change issues, with more than 5 of the 7.7 billion going to climate and biodiversity. According to the third overall performance study (OPS3, 2005:3), 'the GEF Biodiversity Programme has had a notable *impact* on slowing or reducing the loss of biodiversity'. For climate change, OPS3 concludes that the GEF portfolio has performed satisfactorily, not least by playing an important catalytic role in energy efficiency (OPS3, 2005:4).

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<sup>7</sup> See Cléménçon (2006) and Werksman (2004).

<sup>8</sup> For international waters there is no global convention but a cluster of international, regional and sub-regional ones.

<sup>9</sup> This involves countries with economies in transition that are not covered by the Montreal Protocol's financial mechanism.

<sup>10</sup> [www.gefweb.org/interior.aspx?id=44](http://www.gefweb.org/interior.aspx?id=44) accessed July 2007.

However, when co-financing is added to the budget, the vast difference between climate and biodiversity is revealed: more than twice as much co-financing is achieved for climate change (Pearce, 2004). GEF reports and evaluations do not consider these effects of co-financing. This large discrepancy between climate and biodiversity adds to the higher score of climate compared to biodiversity at the project level. In part, this may be due to the fact that the direct effects of climate-related projects are more easily measured than with biodiversity projects. It is difficult to measure the corresponding impact of projects related to biodiversity conservation as they involve more complex issues, ranging from species protection to human livelihoods. Moreover, the World Bank is primarily responsible for climate and energy projects, while the UNDP and UNEP manage biodiversity. As a result, climate projects tend to attract co-financing more readily, through the well-established project loads of the World Bank. Insights from program studies and overall performance studies, however, indicate that the GEF is of more critical importance in the biodiversity area than in climate in relation to strengthening capacity building in developing countries (Clémenton, 2006). In summary, the above overview has provided a picture of the difficulties involved in allocating sufficient international funding for biodiversity projects, including forest conservation.

*Content of funding:* When the GEF was established as the financial mechanism for the CBD, some of the G-77 governments complained that what were termed 'global' benefits were in fact *Northern* benefits. They held that global benefits in biodiversity projects should be defined as national benefits. This option would, however, erase any semblance of conditionality – and was thus obviously out of the question for the governments of the North (Rosendal, 2000). The central dilemma remains today: How to define global benefits in biodiversity conservation in line with the precautionary principle (i.e. without risking a bias towards biological hotspots), at the expense of biodiversity of less immediate and easily recognized, global economic value? The CBD itself points to high diversity and high numbers of endemic and threatened species, as well as species or habitats of social, economic, cultural or scientific importance. This may come closer than the notion of 'global benefits' with regard to guaranteeing a broad range of projects in the GEF portfolio.

How to understand global benefits in the forest sector? First, we may distinguish between global goods connected to forest output, and national or local interests connected to forest output (Sedjo, 1992). The global benefits are primarily linked to the value of the forests in terms of carbon sequestration and biological diversity. The national interests can be identified in relation to commodities like timber, and services such as tourism. Local benefits are linked to the role of the forests in providing watershed protection, game and firewood, among other things. The 'global good' perspective gives rise to the need for some kind of international cooperation for forest management, while the national interest may speak for viewing forest resources in terms of national sovereignty. In addition, there may be discrepancies between national interests in utilizing forest resources for timber or tourism, and local needs connected to the forests' function in terms of watershed protection, food and firewood (Rosendal, 1995). Presumably, a global forest finan-

cial instrument must go some way towards striking a balance between these interests, if its implementation is to succeed. An example may illustrate how it may be difficult to separate global from national or local benefits:

- By establishing a wildlife reserve to conserve threatened or endemic species, a country may lose revenues from timber extraction, and also contract extra costs in terms of resettlement of the local populations originally living in the area. On the positive side, the country may gain revenues through increased tourism. The deficit in this budget (the difference between lost revenues from timber & resettlement and the revenues gained from tourism) constitutes the incremental costs, and will most likely be accepted as a global benefit component, for which compensation may be granted. What is not clear is how this may affect local communities.

### 3.2 Yasuní National Park and Biodiversity Conservation

What is the funding situation for Ecuador's Yasuní National Park, which was declared a UNESCO Biosphere Reserve in 1989? According to UNESCO,

Designation of a site as a biosphere reserve can raise awareness among local people, citizens and government authorities on environmental and development issues. It can help attract additional funding from various sources. At the national level, biosphere reserves can serve as pilot sites or 'learning places' to explore and demonstrate approaches to conservation and sustainable development, providing lessons which can be applied elsewhere.

Hence, the establishment of a UNESCO biosphere does not itself raise the money to protect an area. UNESCO makes it furthermore clear that

In the case of a perceived problem, e.g. plans to construct an oil refinery within the site, the biosphere reserve status should be used as a platform for dialogue to arrive at an optimal solution.

Against this backdrop, the plea from Ecuador to the international community to help conserve Yasuní National Park can be seen as creating a less 'problematic' precedence.

The objectives of the Yasuní National Park & Biosphere Reserve are

to conserve natural ecosystems, to provide protective legislation, in situ conservation, encourage regional planning and rural development, and encourage local participation in land use and environmental education.

Regardless of whether this can be reconciled with the GEF mission statement, there would seem to be a need for funding to accomplish these goals. (For more on the local dimension and community benefits, see section 4.)

Moreover, in the case of the Yasuní National Park & Biosphere Reserve, the 'global benefits' are easily understood and conceptualized. The reserve is part of the Napo Moist Forest Region, considered by many sci-

entists to be the most biodiverse forest on earth, with its vast numbers of insects, birds, monkeys and other mammals such as tapir, giant armadillo and giant anteater, as well as amphibians, trees and plants.<sup>11</sup>

### 3.3 Next Generation of Financial Foci: Adaptation to Climate Change

We have seen that GEF ‘incremental costs’ and ‘global environmental benefits’ are relatively easy to estimate for climate and energy projects, but more difficult to estimate for biodiversity and land degradation. This problem is even more pronounced for the next hot theme on the global environmental horizon: Adaptation to climate change.<sup>12</sup> Adaptation may bring out much-needed synergies between biodiversity and climate projects, but is also likely to encounter various hurdles.

A typical problem that has already been aggravated by the new resources allocation framework (RAF) in the GEF relates to carbon sequestration and synergies between climate and biodiversity. This may be simply because of the lack of competence on such issues (Andresen & Rosendal, forthcoming). RAF support is by definition channelled to areas where the IAs already have a *comparative advantage*, i.e. special qualifications. It has been argued that the GEF and its IAs lack a comparative advantage to implement such projects, and hence, that there will be little incentive to build this up through RAF. This may hamper efforts with a view to reaping biodiversity–climate synergies. On the other hand, it is hard to imagine any other international organization or agency that can be said to enjoy a ‘comparative advantage’ in this relatively new and evolving field. Hence, the argument against the GEF developing such competence and knowledge may turn out to be less persuasive within an RAF perspective.

Adaptation is the new catchword in international negotiations, but it may prove difficult to interpret in terms of global environmental benefits. This represents another potential stumbling block with a view to the GEF mandate on global environmental benefits. As adaptation is, by nature, more of a local issue, it has been speculated that this issue might be channelled outside the GEF altogether (Andresen & Rosendal, forthcoming). This will bring up the usual international conflict between donors and recipients with regard to organization, sovereignty and accountability. Consequently, a pertinent question at the Bali UNFCCC Conference was who could administer an Adaptation Fund. In its decision (FCCC/SBI/2007/L.30), the Bali COP/MOP invited the GEF to provide secretariat services to the Adaptation Fund Board on an interim basis, along with an invitation to the World Bank to serve as a trustee on an interim basis.<sup>13</sup> The lengthy GEF project cycle of about 60 months is cause for concern, but the goal is to bring it down to 22 months (Andresen & Rosendal, forthcoming).

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<sup>11</sup> Yasuni rainforest campaign, news section  
[www.saveamericasforests.org/Yasuni/News/index.html](http://www.saveamericasforests.org/Yasuni/News/index.html)

<sup>12</sup> We turn to other issues pertaining to climate change in section five; here we discuss synergies and linkages between climate and biodiversity.

<sup>13</sup> There is provision in the COP decision for a review of institutional arrangements after three years.

Still, adaptation may bring much-needed synergies between the issues of climate change and biodiversity. Climate is likely to dominate the environmental agenda for the next years, but adaptation will also be important, and this could mean biodiversity and more focus on land degradation, land management and conservation. Also within the GEF this could mean an additional chance to tap into climate funding for added synergies. Interviews with major NGOs show that they are positive as to the possibilities of overcoming the problem of defining adaptation as a global environmental benefit (Andresen & Rosendal, forthcoming). At the next replenishment, it is argued, the GEF will need to double its biodiversity portfolio in order to compensate for climate co-funding money. But where will the big money for adaptation come from? The challenge is to create markets for this, for instance by following the CDM model, or using tax credits to generate funding. This may become possible as it dawns on people that this is needed to build up natural resilience in the face of climate change.

Again according to the larger NGOs, the most negative trend from the climate change debate is the focus on biofuels and other short-term measures, now shown to jeopardise biodiversity and protected areas. On the positive side, a greater focus on adaptation and on emissions from deforestation might help re-focus awareness of forests – this time without negative incentives. Now forests have become central to the Kyoto process and the World Bank is seen to have a strong interest in establishing for itself a role in deforestation issues (Andresen & Rosendal, forthcoming). The World Bank initiative known as the Forest Carbon Partnership Facility (FCPF) is designed for a carbon trading system. The pilot programme has received more than US\$160 million in funding from donor governments. Despite its potential as a source of revenue for governments and companies, the FCPF has been criticized for lacking credibility with regard to protecting forest resources, to providing equitable benefits for the poor and to yielding real reductions in carbon emissions.<sup>14</sup> A similar critique has recently been raised concerning a large World Bank–Brazilian agreement to stop deforestation in the Amazon. This project has been criticized, because deforestation in the Amazon has increased for the first time since 2004. A major actor behind this increase has been the World Bank itself, which has reportedly been central in funding the expansion of cattle ranches.<sup>15</sup>

With the 2002 Johannesburg Conference came a further push for sustainable development, and the GEF had to strengthen the links between poverty and the environment. The UN Millennium Development Goals also stress the need to address environmental concerns from the perspective of the developing world. Similarly, the Millennium Ecosystem Assessment (MA, 2005) brought a focus on livelihoods – by far the major interest in developing countries. This points up the importance of stakeholder participation and developing projects that take into consideration the livelihoods of local people. The focus on livelihoods brings up the complex

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<sup>14</sup> [www.bicusa.org/en/Article.3510.aspx](http://www.bicusa.org/en/Article.3510.aspx) 25 september 2007.

<sup>15</sup> [www.enn.com/ecosystems/article/29402](http://www.enn.com/ecosystems/article/29402). Environmental news network, (accessed 21 January 2008).

issues of the rights of local and indigenous populations, a complex issue to which we now turn.

#### 4 Securing Rights and Livelihoods for Local and Indigenous Peoples

In this section, we briefly comment on obligations emanating from the CBD and ILO relating to local and indigenous communities.

ILO Convention 169 on Indigenous and Tribal Peoples was adopted in 1989. Although it has been ratified by only 18 countries (as of January 2008), these include both Norway and Ecuador.<sup>16</sup> The Convention is directed to governments only, and obligates them to protect the rights of indigenous and tribal peoples, including the rights to natural resources and the right to participate in the use, management and conservation of resources. Where the state retains ownership of mineral and sub-surface resources, indigenous and tribal peoples are to be consulted prior to exploitation of the resources, to participate in benefits of exploitation and to receive compensation for damage resulting from exploitation. These are national obligations that are not tied to international obligations to supply funding for goal achievement.

In Article 8(j), the Contracting Parties to the CBD agree to respect, preserve and maintain the knowledge and practices of indigenous and local communities relevant for the conservation and sustainable use of biological diversity, and to encourage the equitable sharing of the benefits arising from utilization of such knowledge and practices. A probable interpretation of the CBD is that governments may regulate the activities of their citizens, for instance regarding the export of genetic material. Enforcement is less clear, as this brings up the tricky questions of interference in domestic affairs and how to identify who should be rewarded. One approach to ensuring the interests of local and indigenous communities may be to include and elaborate the FAO principle of *farmers' rights*. This principle applies to collectivities and not individuals, but it could be expanded outside the area of plant genetic resources and agriculture to include the forestry sector, among others. A more general approach could be to link the concept of compensation to capacity-building at the local level. In recognition of the value of the traditional knowledge of indigenous and local communities, COP4 of the CBD established an ad hoc open-ended inter-session working group to address the implementation of Article 8(j).

A major link between rights of local and indigenous communities and forest conservation is found in the concept of *traditional forest-related knowledge* (TFRK), as debated within the UN Forum of Forests (established by Intergovernmental Forum on Forests (IFF) in New York, 2000). The take on this debate paralleled that of the CBD regarding bioprospecting and knowledge pertaining to genetic resources (Rosendal, 2001). While

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<sup>16</sup> There are 13 from Latin America including Ecuador; the others are Denmark, Fiji, the Netherlands, Norway and Spain.

issues of domestic sharing largely remain outside the scope of the CBD, there are also considerable problems relating to equitable sharing at the international level. Third World governments face many problems in connection with enforcing catch quotas for foreign fisheries under UNCLOS – but the problems regarding regulation of genes are greater. This example can illuminate how genetic resources differ from biodiversity in more general terms. For instance, the 200-mile exclusive zones, which include the fish stocks within them, are generally regarded as state property, so rights to control access and levels of exploitation of fish are usually vested exclusively in government. Genetic resources, by contrast, may have been developed through the work of local communities of farmers, or their valuable medicinal traits may be known only to certain indigenous or local communities. Government authority over their utilization may thus be questioned.

Local communities of people have often been victimized as global and national interest has been spurred in the resources on which they depend for their livelihoods. The more traditional Western ideology of wildlife management views man as an alien element in preservation areas, and central governments might increase their control over natural resources and groups within the population by employing the ideology, legitimacy and technology of preservation. A World Bank technical paper (Kiss, 1990) described the issue as follows: ‘The establishments of national parks and reserves, which may attract tourists and foreign exchange for the government, exclude and have often directly displaced rural communities from land they have traditionally considered to be their own. Anti-poaching laws turn the centuries’ old practice of subsistence hunting into a crime, and people are often even prevented from eliminating ‘problem’ animals to protect their crops, their livestock and themselves. In the simplest terms, rural people bear the significant costs of living with wildlife but have progressively been excluded from obtaining any benefit from them.’ The failure to heed the link between development and the environment is reiterated 15 years later in the World Bank report (2005) ‘Where is the Wealth of Nations?’ The World Bank concludes that current indicators ignore depletion of natural resources, and emphasizes that ‘managing natural resources must be a key part of development strategies’ (2005: vii). The uncertainties and conflicts within the domestic sharing dimension are closely linked to activities and regulations at the international level.

The GEF ‘incremental costs’ and ‘global benefits’ may also tend to exclude projects dealing with utilization of forest resources as these may be assumed to have local and national benefits, as well as a direct global component. With regard to local needs linked to biodiversity projects, it is important that the ‘incremental costs’-standard is interpreted very carefully. Incorporation of the local component is of utmost importance in biodiversity projects, not least because most knowledge and expertise about biodiversity conservation and sustainable use lies with the local people (Mittermeier & Bowles, 1993).

The possible conflict between national and local interests is addressed in the principle that national authorities shall recognize and support the identity, knowledge, culture and rights of indigenous people, their com-

munities and other communities and forest dwellers. Likewise, local interests are sought protected by the principle that advantages resulting from utilization of indigenous knowledge should be shared with the providers of that knowledge. Another controversial theme reflecting the potential conflict between global and national interests is the provision that states shall have the sovereign right to utilize forest resources, *and* that new and additional resources and the transfer of environmentally sound technologies on favourable terms is to be provided to developing countries to enable them to manage their forests sustainably. This is added to the requirement that access to biological resources from the forests shall take place with due regard to national sovereignty and to the sharing, on mutually agreed terms, of technology and profits from biotechnology products derived from these resources.

The forestry sector is seen as an important capital in many developing countries, making it hard to reorient policies in the sector. Moreover, large numbers of people in these countries depend on the utilization of forest resources for their immediate survival. In most industrialized countries the forestry sector has had a historically important role, playing a major part in the industrialization process itself in covering the need for large quantities of firewood and building materials. Even today forestry has a central position in several industrialized countries. A recent example from Norway is the rural-based outcry over the compromise (halfway between local offer of 100 km<sup>2</sup> and the Norwegian Institute for Nature Research's scientific advice of 200 km<sup>2</sup>) to give some level of protection (not including timber extraction, hunting and fishing) to Trillemarka.

#### **4.1 The Special Case of Yasuní National Park and Indigenous Rights**

The Ecuadorian case brings up related aspects with regard to both national and local interests. With world prices of US\$100 a barrel, the authorities of a poor country like Ecuador (47% of the population living below the poverty level, according to Larrea, 2007) can hardly be expected to abstain readily from extracting much-needed revenue from their natural oil resources. These oil reserves are estimated at 100 billion barrels, and the demand is for a yearly US\$ 350 million for twenty years in compensation (Dow Jones reports the claimed time-frame to be thirty years<sup>17</sup>). Twenty (or thirty) years down the line, however, the oil would still be in the ground, but the incentive for it to remain there might be gone. Here one might ask whether it would be possible to conceive of non-timber forest resources that could compete with such revenues in a sustainable manner that would not represent a threat to the forest ecosystem, the environment and human livelihoods of Yasuní.

The Yasuní National Park & Biosphere Reserve includes ethnic areas for four indigenous tribes. This includes the Huaorani (or Waorani) Ethnic

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<sup>17</sup> [www.lloyds.com/dj/DowJonesArticle.aspx?id=348059](http://www.lloyds.com/dj/DowJonesArticle.aspx?id=348059) 23 May 2007. There are many sources reporting on this case and this is an example of the many diverging statements about the Yasuní case.



Reserve, established in 1968 and expanded in 1990.<sup>18</sup> Moreover, a certain part was created in 1999 to protect the Tagaeri and Taromenane, two groups of indigenous peoples (both belong to the Huaorani group) living in voluntary isolation in Ecuador.<sup>19</sup> However, the borders of this zone were never defined: one consequence is that illegal logging has since escalated, leading to fatal confrontations between loggers and the Tagaeri-Taromenane. Moreover, the current text establishing the Ethnic Reserve places restrictions but does not directly prohibit oil activities in the buffer zone of this reserve. The Ecuadorian government declaration that granted the Huaorani 'ownership' of the land that was set aside as a reserve specifically stipulated that this ownership did not extend to the subsoil, which would still be administered by the government. This means that the Huaorani are prohibited from

'impeding or obstructing mining or hydrocarbon exploration and/or exploitation activities undertaken by the national government and/or legally authorized individuals or companies.'<sup>20</sup>

On 18 April 2007, President Rafael Correa announced the adoption of a governmental policy to safeguard the lives of these peoples, assuming responsibility for protecting their basic rights and pledging to make efforts aimed at confronting the threat of extermination and guaranteeing the defence of the collective and individual human rights of peoples who live in voluntary isolation.<sup>21</sup>

In addition to the threats of illegal logging and oil extraction, there is also a threat in the form of a 'contract' signed with American Company EcoGenesis. This deal includes logging rights, possibly oil extraction rights and also patent rights for any genetic discoveries. The Attorney General of Ecuador is working to annul the EcoGenesis contract. This also brings in the additional elements of the access and benefit-sharing debate within the CBD, including the traditional knowledge relating to genetic resources and bioprospecting. The government of Ecuador has been able to stave off some of the external pressure to exploit the oil resources, most recently by banning Brazilian company Petrobras from building a forest road in Yasuní. Still, the authorities may need help from the international community to stem further pressures.

One relevant approach would be to link potential international compensation to the recent efforts by the Ecuadorian government to provide national parks with constitutional protection against mining and similar activities. Today, there is no such protection in the Constitution, and this means that a new government may at any time retract earlier promises concerning protected areas and national parks. Constitutional protection

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<sup>18</sup> [http://rawstory.com/news/dpa/Ecuador\\_wants\\_money\\_to\\_leave\\_oil\\_re\\_05222007.html](http://rawstory.com/news/dpa/Ecuador_wants_money_to_leave_oil_re_05222007.html)

<sup>19</sup> Yasuni rainforest campaign, news section [www.saveamericasforests.org/Yasuni/News/index.html](http://www.saveamericasforests.org/Yasuni/News/index.html)

<sup>20</sup> [www.sosyasuni.org/en/index.php?option=com\\_content&task=view&id=37&Itemid=26](http://www.sosyasuni.org/en/index.php?option=com_content&task=view&id=37&Itemid=26)

<sup>21</sup> [www.sosyasuni.org/en/index.php?option=com\\_content&task=view&id=37&Itemid=26](http://www.sosyasuni.org/en/index.php?option=com_content&task=view&id=37&Itemid=26)

would be a necessary step for dealing with the problematic issue of permanence, although those of leakage and baselines would remain from a climate perspective. To these issues we now turn.

## 5 The ‘Climate change’ Challenge

### 5.1 Avoided Deforestation

Forests are recognized as important CO<sub>2</sub> reservoirs – or sinks. Forest loss and degradation is responsible for about 20% of global greenhouse gas (GHG) emissions. According to the Intergovernmental Panel on Climate Change (IPCC), more than 4200 billion tonnes of CO<sub>2</sub> is sequestered in forest ecosystems, of which 70% is stored in the soil. The IPCC has calculated that global forest loss and degradation result in annual emissions of 5.8 billion tonnes of CO<sub>2</sub>.

The Clean Development Mechanism (CDM) of the Kyoto Protocol allows emission credits for *afforestation* (planting of new forests) and *reforestation* (planting of forests on lands that have contained forests) projects during the first commitment period (2008 – 2012). So called *avoided deforestation* or *reduced emissions from deforestation and degradation* (REDD) projects are not recognized under the CDM during the first commitment period. However, there is a growing international consensus that a post-2012 UN climate change treaty should include incentives to reduce GHG emissions from forests. At COP 13, held at Bali in December 2007, the parties to the UN Framework Convention on Climate Change (UNFCCC) agreed to consider:

Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forest and enhancement of forest carbon stocks in developing countries (Bali Action Plan, Decision 1(b)(iii)).

There are several challenges related to payments for avoided deforestation. A first challenge is to ensure that payments for reducing deforestation and degradation in one place do not result in displacement to other locations (*leakage*). A second challenge is to ensure *permanence*, i.e. that forest carbon stores are not reduced because of disease, fire or illegal logging. A third challenge is to ensure that areas protected as forest carbon stores are of high conservation value, rich in biodiversity and other environmental qualities. A fourth challenge is to secure rights and livelihoods for local and indigenous peoples and to ensure that, as far as possible, payments for forest protection and forest carbon stores also benefit them. A final challenge is to design appropriate international mechanisms to finance measures for avoided deforestation and to agree on measures for monitoring, verifying, facilitating and enforcing compliance so that leakage is avoided and permanence ensured.

### 5.2 Promises and Pitfalls

Viewing forests primarily as sinks – or carbon reservoirs – is different from appreciating their value in terms of the full range of plant and animal species they accommodate. From a climate-change perspective, deforestation is the main problem. From the perspective of biodiversity

conservation, it is equally dangerous to replace old-growth forests with plantations. This realization has important implications for international negotiations and the conflict lines here.

Afforestation and reforestation projects could benefit the timber industry. It is not surprising, therefore, that those advocating the economic interests of the timber industry have endorsed the forestry regulations in the Kyoto Protocol. These regulations seem to fit into a position where timber production ranks as a more important concern than protection of wildlife or the rights of indigenous and local people. Timber production is more readily reconciled with national-level concerns – hence more easily accepted in negotiations between states – while concern for biodiversity and indigenous people is associated with global and local levels. It is hardly far-fetched to envision an unholy alliance between the timber industries and the central public authorities aimed at reaping increased revenues from plantations, rather than supporting costly conservation projects with few immediate economic returns.

Similarly, there is a danger that payments for avoided deforestation will primarily benefit the timber industry. Based on experience with Payment for Ecosystem Services (PES), we can expect that effective targeting is likely to be difficult. What should be avoided is that large timber companies receive financial incentives to refrain from logging in certain areas while local communities using traditional forestry practices, and not causing emissions, receive no payments whatsoever (Skutsch, 2006).

The cost of paying for avoided deforestation also needs careful consideration. Most studies of payments for avoided deforestation have estimated project-level costs and focused on the break-even price of carbon compared to other land-use practices (see Peskett, Brown and Luttrell, 2006), while some also consider administrative costs on top of this (e.g. Gran-Grieg 2006). The benefits of other land use than forest protection must also be considered. Soybean production and palm oil production are two examples. A study of Bolivia, for example, concluded that payments for avoided deforestation have greater financial value than soybean production (Silva-Chavez, 2005). With the current interest in biofuels in the EU and the USA, however, the value of forest-land conversion is likely to increase in coming years.

## **6 General Conclusions**

The problem of forum choice for an international forest instrument is partly related to the wide range of functions, goods and services that forests provide for various needs at the local, national and international levels. Forest goods range from local provision of food, fodder, firewood and building materials, to timber extraction for domestic and international markets, and genetic resources of medicinal use for local and domestic consumption and of economic interest to multinational pharmaceutical industries. Forest services include local and global climate and water regulations, large repositories of the world's biological diversity with potential and actual economic value, as well as recreation and tourism. In addition, there are the intrinsic values linked to forest species and ecosystems. A complicating factor is that the optimal utilization of these

forest functions, goods and services are not necessarily compatible. Massive timber extraction and increased introduction of plantations, for instance, may impoverish local people as well as represent a threat to biodiversity.

Let us briefly revisit the main benefits associated with choosing the GEF as a primary vehicle for this type of funding. First, it would be in line with Norwegian principles of strengthening the multilateral system and existing multilateral bodies, as well as the priorities of the government's Action Plan for the Environment in Development Cooperation.<sup>22</sup> Second, the GEF has strong links to the CBD, which implies that the commitments undertaken here will follow project implementation. This will allow for the most comprehensive take on including biodiversity conservation, for maintenance and balance of other ecosystem services, and for safeguarding the livelihood of local and indigenous people. The GEF/CBD arena also states that the funding shall be in the form of new and additional money, which means that other development aid budgets will not suffer. Furthermore, the GEF Secretariat has upheld biodiversity and livelihood competence while the trend for private sector co-funding and World Bank project portfolios is to be redirected at the more economically tempting, but less comprehensive, climate change and energy sector. Against this backdrop, it can be argued that building on GEF competence along with the Implementing Agencies, UNEP and UNDP, may allow for a more comprehensive and broader approach to forest conservation projects. The major drawback of the GEF institution is its lengthy project cycle, but this is currently being addressed by the CEO as a central issue in GEF.

## 6.1 Conclusions on the Case of Yasuní National Park

We have identified several international conditions and circumstances concerning payment for forest protection which would also seem to cover the situation in Yasuní National Park. At present, there is no international compensation for protecting this forestland. The legal situation for the area is somewhat unclear, regarding both the rights of indigenous peoples and biodiversity conservation. For example a clause in the Constitution of Ecuador states that 'state economic interests' take precedence over conservation issues in protected areas. Oil resources clearly represent such interests. Therefore, no international payment should take place before this legal situation is clarified, and a legal basis provided for ensuring the conservation of the forest. There is at present a Constitutional Assembly working on the Constitution of Ecuador, and this legal 'loophole' situation is one of the issues being considered. The Assembly is to finish its work well before September, which is the deadline for establishing the mechanisms and economic pledges necessary. The President of the Assembly, Alberto Acosta, was instrumental in creating the Yasuní initiative, and is also positive towards establishing the necessary legal basis.

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<sup>22</sup> *Regjeringens handlingsplan for miljørettet utviklingssamarbeid*. Utenriksdepartementet, June 2006.

In addition to the need for ensuring the long-term future protection of the forest in Yasuní, it is also important to make sure that relieving the pressures in this area does not increase them in another! Ecuador is now heavily dependent on oil resources, and there is extensive pressure on the president for increased exploitation. If Norway were to enter into compensation for leaving ITT oil in the ground and contribute to the conservation of the Yasuní Biosphere Reserve, then Norwegian Oil for Development support to the Ecuadorian oil sector would need to be aligned to this policy. The political situation is also far from stable, so NGOs in Ecuador have recognized that a Presidential Decree is not sufficient to guarantee the continued protection of the relevant forest. It is necessary to have the guarantee incorporated in the Constitution, or in special legislation. There is an important distinction between ‘State Policy’ and ‘Government Policy’ in Ecuador.

A secretariat for the initiative has been established in the Ecuadorian Ministry of Foreign Affairs, and the government will request the Andean Development Bank to administer the Trust Fund that is to be established. Whether this is good enough is still an open question. It would probably be advantageous to involve UNEP and the GEF in this administration. While the short time-limit for the Ecuadorian proposal excludes the GEF as the operational agency (with its cumbersome project cycle), the think-tank roles of both organizations could be utilized. Additionally, the UNDP might be helpful through its professional land-offices. As this initiative, if it succeeds, is likely to become a model for duplication elsewhere, solid international participation would be important. The legal basis for the Trust Fund should also be grounded in a specific law.

#### *6.1.1 Considerations Against Funding the Ecuadorian ITT Initiative*

- From the donor-country perspective, this might entail problematic precedence for other areas that have already been demarcated as protected areas (not least Brazil)
- Uncertainties might remain regarding monitoring and control of leakage and permanence, with regard to the rights of indigenous peoples and the strength of the protected area
- A complex property rights situation
- Uncertainties regarding the financial mechanism to be applied for this initiative

The outlook for these uncertainties depends largely on whether a guarantee for protection can be ensured through the Ecuadorian Constitution.

#### *6.1.2 Considerations in Favour of Support to the Ecuadorian ITT Initiative*

- The concerns raised by case of Yasuní National Park are in line with Norway’s international obligations under the CBD and the ILO Convention,
- as well as Norwegian domestic policy goals as specified in the Action Plan on the Environment in Development Cooperation

- The Yasuní area is extremely rich in biodiversity, including a high number of species and unique ecosystems, all of which are under severe threat
- Protection of ecosystem services with very high value for local, national and global levels (described in section 2):
  - avoid 547 million MT of CO<sub>2</sub> emissions (oil: 375 million, deforestation: 172 million (Larrea, 2007))
  - country ranks among the world's top ten in absolute numbers of amphibians, birds and butterflies
  - the great and imminent threats to these ecosystems and people, as set out in Appendix 1
- Protecting the livelihoods (and lives) of threatened indigenous people in the area (section 4):
  - the project promises social development, alternative energy sources and conservation projects, with social accountability (Larrea, 2007)
- Monitoring and property rights problems can be ameliorated if national parks achieve greater protection with the proposed amendments to the Ecuadorian Constitution
- The oil reserves will last only 20 to 30 years (Larrea, 2007); hence, in the long term it will be more productive to protect the genetic resources of the region (potential for bioprospecting) and promote tourism that can generate steady income
- While the short time-limit set by the Ecuadorian proposal excludes the GEF (with its lengthy project cycle), an international compensation fund administered by the Andean Development Bank is envisaged by the Ecuadorian authorities. Additional support from GEF/UNEP/UNDP may be requested
- This can serve as a model case with a wide range of important elements for sustainable development and a learning potential with regard to win-win situations, not least relating to adaptation

The final decision must depend largely on whether a guarantee for protection will be incorporated into the Constitution of Ecuador.

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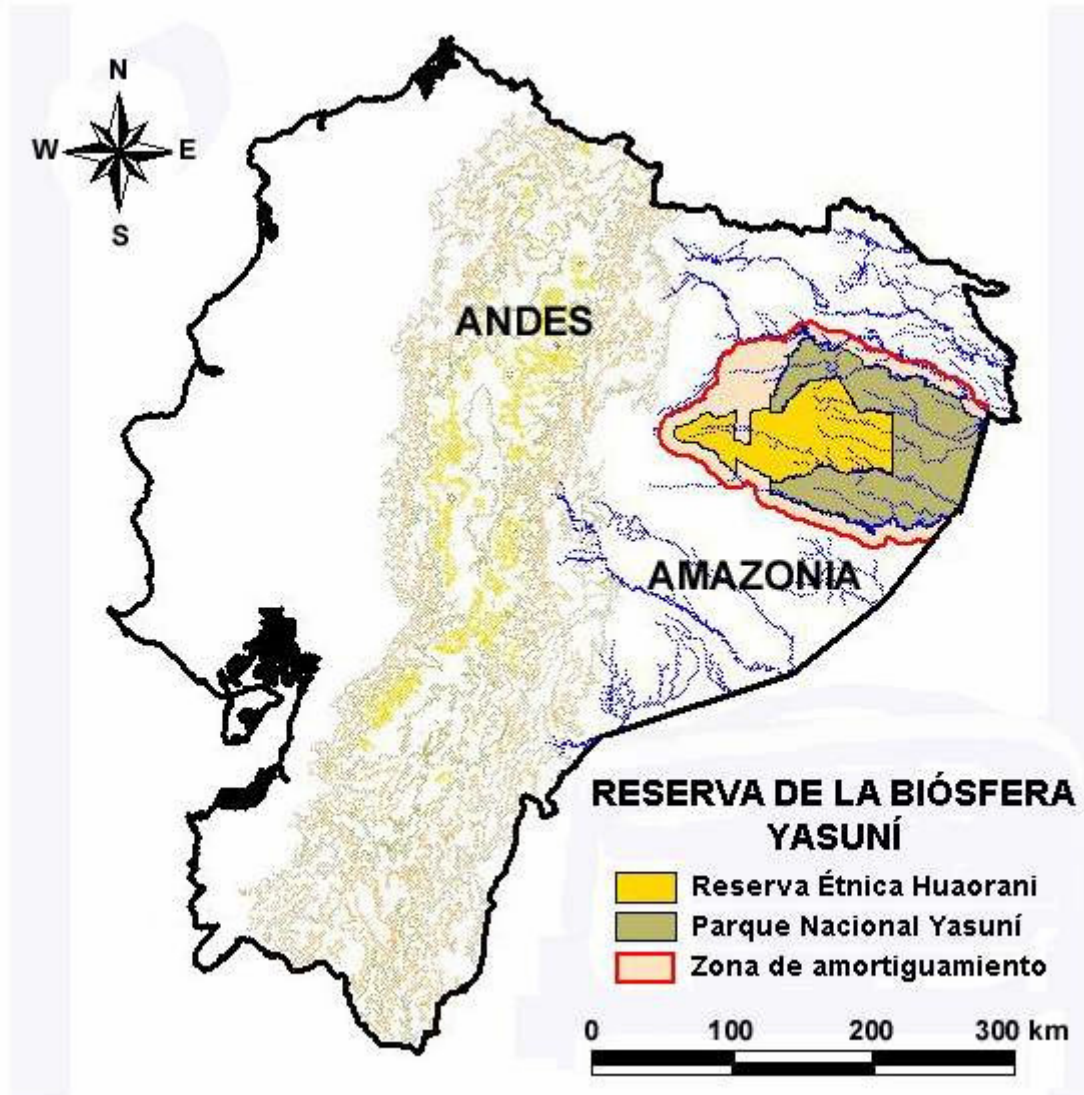
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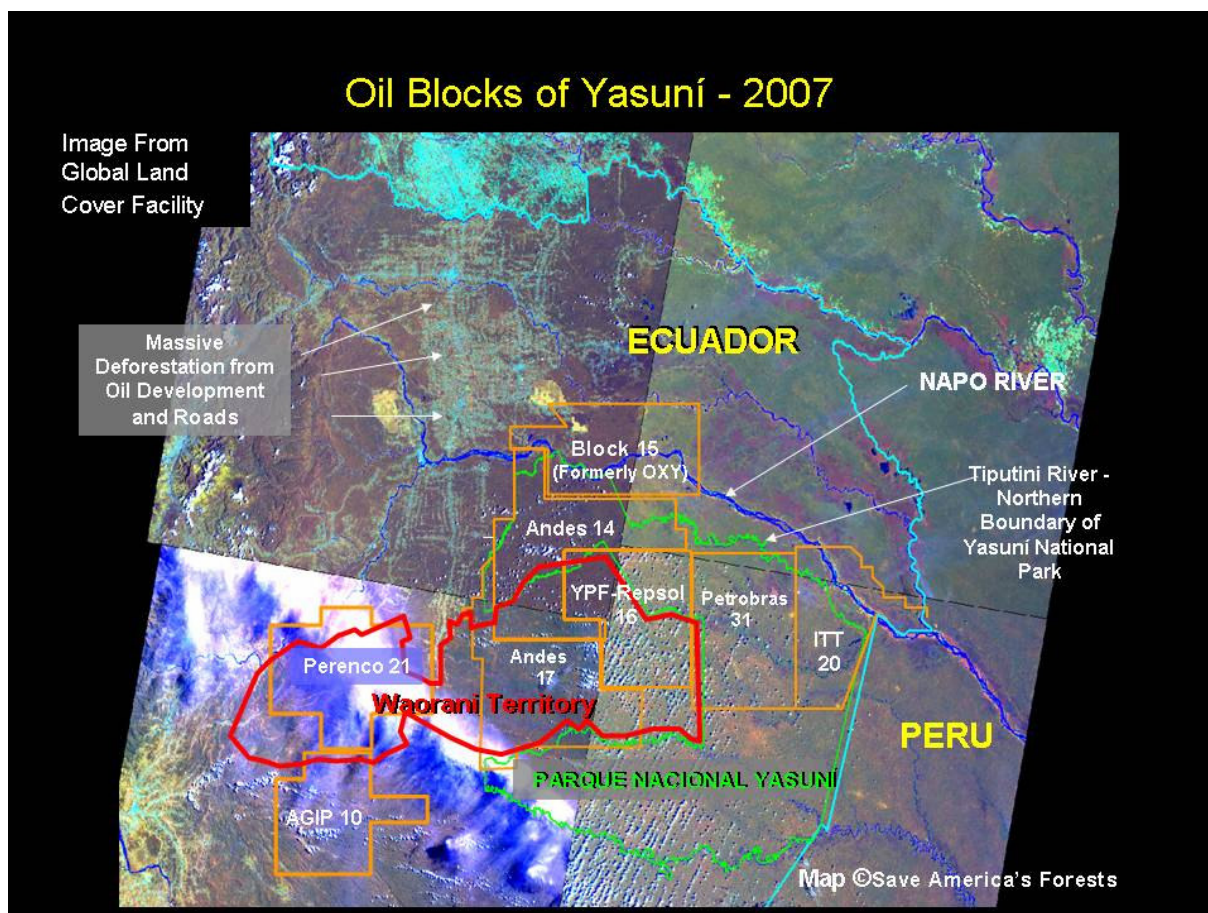
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## Appendix 1

### Maps and Indication of Oil Exploitation in Yasuní





### The State of Oil Exploitation in Yasuní National Park<sup>23</sup>

The Peruvian government has recently approved the environmental impact studies for Blocks 67 and 39, belonging to Barrett Resources (USA) and Repsol (Spain) respectively, and the Ecuadorian government has granted an environmental license for Petrobras (Brazil) to drill for oil in Block 31 located in Yasuní National Park. All three blocks are located within the core of the Napo Moist Forest.

In Ecuador, environmental groups have been battling against the Petrobras project in Yasuní National Park for four years. In 2005, the Ecuadorian Environment Ministry prevented the company from building an access road into the park. In 2006, Petrobras submitted a design utilizing helicopters to access the drilling platforms that did not require an access road entering the Park, although there would be a road connecting the two well sites. In December 2007, this new design received the green light from the Environment Ministry in the form of a new environmental license.

<sup>23</sup> [www.saveamericasforests.org/Yasuni/](http://www.saveamericasforests.org/Yasuni/) Accessed 6 February 2008, article from 1. January 2008.

The only bright spot in the region is the innovative Ecuadorian initiative to leave the country's largest untapped oil reserves, the Ishpingo-Tiputini-Tambococha (ITT) fields, permanently underground, in exchange for compensation from the international community.

Several major problems loom, however. First and foremost is the fact that Ecuador has granted a license to Petrobras in the same region of Yasuní as ITT, casting doubt on government claims to protect indigenous peoples and biodiversity. Secondly, large donations have not yet been forthcoming from the international community. Several governments, including those of Spain and Italy, have expressed a desire to contribute, but there are yet no prospects for the tens and hundreds of millions of dollars that would be required.



## Appendix 2

### Approaches to Estimating Values of Ecosystem Services, Including Methods

#### 1 *Market Prices – Revealed Willingness to Pay*

The values of some ecosystem goods or services can be measured using market prices. Some ecosystem products, such as fish or wood, are traded in markets, so their values can be assessed by estimating consumer and producer surplus, as with any other market good. Other ecosystem services, such as clean water, are used as inputs in production, and their value may be measured by their contribution to the profits made from the final good.

Some ecosystem or environmental services, like aesthetic views or many recreational experiences, may not be directly bought and sold in markets. However, the prices that people are willing to pay in markets for related goods can be used to estimate their values. For example, people often pay a higher price for a home with a view of the ocean, or will take the time to travel to a special spot for fishing or bird watching. These kinds of expenditures can be used to place a lower bound on the value of the view or the recreational experience.

Revealed willingness to pay methods include: the market price method, the productivity method, the hedonic pricing method and the travel cost method.

*The market price method* estimates the economic value of ecosystem products or services that are bought and sold in commercial markets. This method can be used to value changes in either the quantity or quality of a good or service. It uses standard economic techniques for measuring the economic benefits from marketed goods, based on the quantity that people purchase at different prices, and the quantity supplied at different prices.

*The productivity method*, also referred to as the ‘net factor income’ or ‘derived value’ method, is used to estimate the economic value of ecosystem products or services that contribute to the production of commercially marketed goods. It is applied in cases where the products or services of an ecosystem are used, along with other inputs, to produce a marketed good.

*The hedonic pricing method* is used to estimate economic values for ecosystem or environmental services that directly affect market prices. It is most commonly applied to variations in housing prices that reflect the value of local environmental attributes. It can be used to estimate the economic benefits or costs associated with: i) environmental quality, including air pollution, water pollution, or noise; and ii) environmental amenities, such as aesthetic views or proximity to recreational sites. The basic premise of the hedonic pricing method is that the price of a marketed good is related to its characteristics, or the services it provides. The hedonic

pricing method is most often used to value environmental amenities that affect the price of residential properties.

*The travel cost method* is used to estimate economic use values associated with ecosystems or sites that are used for recreation. The method can be used to estimate the economic benefits or costs resulting from:

- changes in access costs for a recreational site
- elimination of an existing recreational site
- addition of a new recreational site
- changes in environmental quality at a recreational site

The basic premise of the travel cost method is that the time and travel cost expenses that people incur to visit a site represent the ‘price’ of access to the site. Thus, people’s willingness to pay to visit the site can be estimated on the basis of the number of trips that they make at different travel costs. This is analogous to estimating people’s willingness to pay for a marketed good on the basis of on the quantity demanded at various prices.

## 2 *Circumstantial Evidence – Imputed Willingness to Pay*

The value of some ecosystem services can be measured by estimating what people are willing to pay, or the cost of actions they are willing to take, to avoid the adverse effects that would occur if these services were lost, or to replace the lost services. For example, wetlands often provide protection from floodwaters. The amount that people pay to avoid flood damage in areas similar to those protected by the wetlands can be used to estimate willingness to pay for the flood protection services of the wetland.

Imputed willingness to pay methods include the related *damage cost avoided, replacement cost, and substitute cost methods*. These estimate values of ecosystem services based on either the costs of avoiding damages due to services lost, the cost of replacing ecosystem services, or the cost of providing substitute services. They do not provide strict measures of economic values, which are based on people’s willingness to pay for a product or service. Instead, they assume that the costs of avoiding damages or replacing ecosystems or their services provide useful estimates of the value of these ecosystems or services. This is based on the assumption that, if people incur costs to avoid damages caused by lost ecosystem services, or to replace the services of ecosystems, then those services must be worth at least what people paid to replace them. Thus, the methods are most appropriately applied in cases where damage avoidance or replacement expenditures have actually been, or will be, made.

## 3 *Surveys – Expressed Willingness to Pay*

Many ecosystem services are not traded in markets, and are not closely related to any marketed goods. Thus, people cannot ‘reveal’ what they are willing to pay for them through their market purchases or actions. In such

cases, surveys can be used to ask people directly what they would be willing to pay based on a hypothetical scenario. Alternatively, people can be asked to make tradeoffs among a range of alternatives, from which their willingness to pay can be estimated. Expressed willingness to pay methods include the contingent valuation method and the contingent choice method.

*The contingent valuation (CV) method* is used to estimate economic values for all kinds of ecosystem and environmental services, both use and non-use values. It involves directly asking people, in a survey, how much they would be willing to pay for specific environmental services. In some cases, people are asked the amount of compensation they would be willing to accept in order to give up specific environmental services. It is called ‘contingent’ valuation, because people are asked to state their willingness to pay, *contingent* on a specific hypothetical scenario and description of the environmental service in question.

The contingent valuation method is referred to as a ‘stated preference’ method, because it asks people to state their values directly, rather than inferring values from actual choices, as the ‘revealed preference’ methods do. The fact that CV is based on what people say they would do, as opposed to what people are observed to do, is the source of its greatest strengths and its greatest weaknesses.

Contingent valuation is one of the only ways to assign monetary values to non-use values of the environment – values that do not involve market purchases and may not involve direct participation. These values are sometimes termed ‘passive use’ values. They include everything from the basic life-support functions associated with ecosystem health or biodiversity, to the enjoyment of a scenic vista or a wilderness experience, to appreciating the option to fish or bird-watch in the future, or the right to bequest those options to the next generation. They also include the value that people place on simply knowing that giant pandas or whales exist.

It is clear that people are willing to pay for non-use, or passive use, environmental benefits. However, these benefits are likely to be implicitly treated as zero unless their monetary value can somehow be estimated. How much are they worth? Since people do not reveal their willingness to pay for them through their purchases or by their behaviour, the only way to go about estimating a value is by asking. However, the fact that the contingent valuation method is based on asking people questions, as opposed to observing their actual behaviour, is the source of major controversy. The conceptual, empirical, and practical problems associated with developing monetary estimates of economic value on the basis of how people respond to hypothetical questions about hypothetical market situations are debated constantly in the economics literature. CV researchers are attempting to address these problems, but they are far from finished. Meanwhile, for various reasons, many economists, psychologists and sociologists do not believe that the monetary estimates that result from CV are valid. More importantly, many lawyers and policy-makers will not accept these results either.

*The contingent choice method* is similar to contingent valuation, in that it can be used to estimate economic values for virtually any ecosystem or environmental service, and can be used to estimate non-use as well as use values. Like contingent valuation, it is a hypothetical method – it asks people to make choices on the basis of a hypothetical scenario. However, it differs from contingent valuation in not directly asking people to state their values in monetary terms. Instead, values are inferred from the hypothetical choices or trade-offs that people make.



## Appendix 3

### Proposal from Ecuador Concerning Yasuni and the ITT



#### CONCEPT DOCUMENT

#### GOVERNMENT INITIATIVE

#### KEEPING ITT CRUDE UNDERGROUND

#### RAFAEL CORREA DELGADO

Constitutional President

#### LENIN MORENO

Vice-president

### THE PROPOSAL

The initiative of the Ecuadorian Government to keep the crude of the ITT oil project - the Yasuni -ITT Model located in the Yasuni National Park- underground was officially launched on June 5, 2007. The model, which would prevent the release of huge quantities of CO<sub>2</sub> to the atmosphere, is a pioneer initiative in the history of an oil producing country.

The model proposes keeping close to one billion barrels of heavy crude of the ITT (Ishpingo, Tambococho, Tiputini) oil project underground, in exchange for an international compensation that would amount to at least 50% of what Ecuador would earn if these reserves were exploited.

Ecuador offers industrialized countries the opportunity to reduce their carbon emissions and to contribute at the same time to the preservation of one of the most biodiverse regions of the world. The Yasuni-ITT Model has the potential to reduce worldwide emissions, identifying opportunities of cooperation with other countries, international organisms and the civil society. If the model is implemented, this small piece of the planet will become the symbol of the need for a global energy transition.

The proposal is accompanied by the creation of the Yasuni-ITT Environmental Fund, aimed at developing alternatives to the exploitation of oil and the reduction of the impacts of climate change: diversification of energy sources, promotion of new energy sources such as sun, wind, and geothermal energy, which have the potential to lower emission. The Yasuni-ITT Environmental Fund is committed to build capacities and invest in ecotourism; and in applying an agenda for the comprehensive repair of environmental damages that includes health, education and environmental remediation itself.

## AN INCONVENIENT TRUTH

The issue of climate change was recognized by the world scientific community several decades ago already, however; its analysis by the political spheres began only in the 80s, materializing in a first effort with the adoption of the United Nations Framework Convention on Climate Change in Rio de Janeiro in 1992 and in the Kyoto Protocol of 1997.

According to the Fourth Evaluation Report of the International Climate Change Panel of 2007, temperature increases since the mid 20<sup>th</sup> century are due to emissions of greenhouse gases (GHG) generated mostly by industrialized countries. In the case of carbon dioxide, emissions are produced mostly by the burning of fossil fuel and changes in the use of land. According to the same document, annual accumulated emissions of CO<sub>2</sub> from fossil combustion totaled approximately 26.4 million tons of CO<sub>2</sub> equivalent in 2004(26.4 GtCO<sub>2</sub>eq) or 7.2 Gt of carbon.

As a consequence, average temperatures increased 0.74 degrees Celsius during the last 100 years. It is worth stressing that the last 12 years (1995-2006) were the hottest since 1850.

Continued emissions at current levels or an increase thereof will generate greater warming and will induce many changes in the weather system during the 21<sup>st</sup> century. In consequence, in terms of end-century previsions, the IPCC indicates an increase in average temperatures of around 1.8 to 4.0 degrees Celsius, significant variations in the spatial and temporal distribution of rainfall, retreat of glaciers, increase of sea levels between 19 and 58 cm.

Among one of the most relevant impacts for Latin America during this century, the IPCC points to a gradual change of tropical forests into savannas on the eastern part of the Amazon region, replacing semiarid with arid vegetation, risk of significant loss of biodiversity caused by the extinction of species in several areas of the tropical region, glacier retreat and changes in rainfall regimes with potential impacts on the availability of water for human consumption, agriculture and electric generation.

Ecuador, a very marginal country in terms of GHG emissions (less than 1% of the world total), is a direct recipient of the impacts of global warming. Average temperature maintains a constant positive trend and in some areas has increased 1 degree Celsius during the last decades, glacier retreat has been significant especially in the last 20 years, the beginning and end of the rainy season has changed dramatically, extreme events such as floods, droughts, heat and cold waves are increasingly more frequent.

## THE YASUNI BIOSPHERE RESERVE

The Yasuni is considered as one of the areas with the greatest biodiversity in the world. In 1989 it was declared by UNESCO as a World Biosphere Reserve. On February 2, 1999 the land of inhabitation and development of the Huaorani groups known as Tagaeri-Taromenani and other eventual non-contacted groups, located south of the land awarded to the Huaorani nationality in 1990 and of the Yasuni National Park was declared as an Untouchable Conservation Zone where all kinds of extraction activities are banned for perpetuity.



The Amazon environmental reserve covers more than 980,000 hectares of rainforest. Its forests house 4,000 species of plants, 173 species of mammals and 610 species of birds. In one single hectare of the Yasuni there are almost as many species of trees and shrubs as there are native trees in all of North America (estimated in 680 species)<sup>1</sup>. Likewise, the Yasuni protects close to 40% of all the species of mammals of the Amazon basin<sup>2</sup>. Moreover, a large part of the flora and fauna of its territory is still unknown.

This magical and incomparable biological diversity finds its explanation on a historical event that dates back to the Quaternary Period - the last great geological period, which is subdivided in two parts: the *Holocene*, which corresponds to the last 10,000 years of our history, and the *Pleistocene*, which began approximately two million years ago and ended 10,000 years ago. During the Pleistocene several recurring periods of cooling of the Earth took place, known as glaciations, during which the polar icecaps grew considerably, leaving most of the Earth covered with ice. The few places of the globe that maintained tolerable climate conditions became the locus of plant diversity and poles for animal immigration, keeping inside the natural wealth of millions of years that the harshness of the climate did not allow elsewhere in the world. These few and privileged points of the planet were called "*Refuges of Life of the Pleistocene*", one of which would have been located, precisely, where we now have the Yasuni National Park.

<sup>1</sup> Scientists Concerned for Yasuni National Park. 2004. Technical advisory report on: the biodiversity of Yasuni National Park, its conservation significance, the impacts of roads and our position statement.

<sup>2</sup> Ibid.

## HOW DOES ECUADOR ASSUME THIS CHALLENGE?

The Ecuadorian economy is strongly dependent on oil. This product has contributed 48% of the country's exports between 1972 and 2006 and a third of all State revenues between 1995 and 2004. In 2006, oil dependence reached 60% of our exports. Although the contribution of oil to national development was significant between 1972 and 1982, the panorama has changed in the last 25 years. Currently the country produces more than twice the amount of oil produced during the 70s, during the oil "boom". However, per capita income growth between 1981 and 2006 has been negligible (0.6% per annum on average); poverty did not decrease between 1995 and 2006<sup>3</sup>.

The ITT oil project contains crude of 14.7 degrees API approximately. Its proven and probable reserves total 920 million barrels<sup>4</sup> - a figure that corresponds to more than 20% of the total oil reserves of Ecuador.

Exploiting the oil of the ITT would imply producing approximately 100,000 barrels of extra-heavy crude per day, with annual profits of 720 million dollars<sup>5</sup>. This production would not start in any significant way before 5 years and would last, with a stabilized production of 107,000 bpd approximately 13 years, after which it would enter into a declining phase for an additional 12 years.<sup>6</sup>

The initiative of the Ecuadorian Government, pioneer in the history of an oil producing country, is to keep underground close to one billion barrels of heavy crude of the ITT (Ishpingo, Tambococha, Tiputini) oil project, located in the Yasuni National Park, in exchange for an international compensation that would total at least 50% of what Ecuador would earn if these reserves were exploited.

With the implementation of the Yasuni-ITT Model, Ecuador would fail to earn 350 million dollars per annum as its contribution to reach the global objectives of lowering greenhouse gases and preserving the biodiversity of world importance contained in the YBR. This is hardly a negligible amount for a country with less than 14 million inhabitants, a per capita income slightly over 3,000 dollars and where almost 40% of its population lives in poverty. The socioeconomic conditions of 290,000 people living in the Yasuni Reserve are those of populations found in a situation of poverty and extreme poverty.

<sup>3</sup> According to INEC, poverty has not changed significantly between the living conditions surveys of 1995 and 2006. Its current rate is 38.3%.

<sup>4</sup> Estimates of the French Oil Institute Beicip Franlab, 2004.

<sup>5</sup> If the ITT comprehensive exploitation model is implemented (linking oil extraction to refining, for instance) annual profits would be substantially higher.

<sup>6</sup> Estimates of the French Oil Institute Beicip Franlab, 2004.

## CLIMATE CHANGE - EVERYONE'S RESPONSIBILITY

This initiative is supported by the concept of *shared but differentiated responsibilities*, which is the basis for all United Nations international legal instruments on climate change currently in force<sup>7</sup>. In this context, Ecuador renounces to exploit its oil reserves and requires an international compensation in favor of global interests, such as climate change, conservation of biological diversity and protection of indigenous populations living in voluntary isolation.

### WHY A COMPENSATION?

As stated in the fourth assessment report of the Intergovernmental Panel on Climate Change of 2007, continued emissions at current or higher levels will generate greater warming and would induce many changes in the weather system during the 21<sup>st</sup> century of greater magnitude than in the previous century.



Carbon dioxide emissions due to the use of fossil fuels increased from 6.4 GTC in the 90s to 7.2 GTC between 2000 and 2005, that is, emissions increased 11% and this trend continues, instead of decreasing. Currently world average carbon emissions per capita are close to 1.3 tons per year, with huge distribution asymmetries: while the average US citizen generates 6 tons/year of carbon and a Western European citizen generates close to 3 tons/year; a resident of India has yet to reach 0.5 tons. This asymmetry considered in per capita terms<sup>8</sup> is not intended to disregard the increasing emissions of some developing countries like China or India, but to show that the current growth model based on the intensive use of fossil fuels cannot be reproduced or imitated; that in itself it is unsustainable. Therefore, our societies must raise the need for a world energy transition.

The world must take drastic and urgent measures to reduce the current trend of increased CO<sub>2</sub> emissions. Industrialized countries, as the main responsible for the problem, and the societies that maintain living standards highly demanding of fossil energy use have an environmental debt with developing countries; with the impoverished societies of the world that have contributed almost nothing to global warming, but that are largely exposed to its effects.

<sup>7</sup> Framework UN Convention on Climate Change and its Kyoto Protocol.

<sup>8</sup> Estimates based on AR4 IPCC III WG Technical summary: countries in Annex I: 4.2 tCO<sub>2</sub> eq/cap; countries Annex I: 16.1 tCO<sub>2</sub> eq; USA; more than 25 tCO<sub>2</sub> eq/cap; European Union: approx. 14 tCO<sub>2</sub> eq/cap; Latin America and The Caribbean (on average): approx. 7-8 tCO<sub>2</sub> eq/cap; Southern Asia (including India): 2-3 tCO<sub>2</sub> eq/cap).

Oil production has entailed a high environmental and social cost for the country. According to the Stern Report, the costs of climate change in the next few decades would be equivalent to the great disasters of the 20<sup>th</sup> century, like the two world wars and the Great Depression.<sup>9</sup> In economic terms, the polluter pays principle with respect to crude means that the person responsible for the emissions is the consumer of the oil - the person who creates the demand for the good.

With this initiative, Ecuador will prevent the emission of some 111 million tons of carbon (120 kg of carbon per barrel) from oil combustion.

It is estimated that the cost of neutralizing the ITT emissions for the planet could reach a total net value (TNV) of almost 4 billion dollars.

#### THE YASUNI-ITT TRUST FUND

International compensation will be used to establish a Yasuni-ITT Trust Fund, which will allow the State to obtain an indefinite flow of funds destined, among other things, to lower impacts and achieve an adaptation to climate change, diversify energy sources, promote new energy sources such as sun, wind, and geothermal energy, build capacities and invest in eco-tourism, as well as to foster an agenda of comprehensive repair of environmental damages that includes attention to health and education requirements and environmental remediation. Thus, the Ecuadorian proposal will boost an economy of services and added value based on the conservation of biodiversity.

The Yasuni-ITT model reflects the commitment of a small country to join world efforts to address climate change. Ecuador will lay the foundations for a post-oil energy period, responding to local requirements of comprehensive remediation of environmental damages and changing the way in which the State intervenes in the management of its natural resources.

The Yasuni-ITT Trust Fund could be capitalized from different sources: donations of Governments, foreign debt swap for conservation mechanisms, contributions of international conservation organizations and donations of companies and citizens from all over the world. To ensure transparency in its administration and compliance with its objectives, an International Surveillance committee would be established.

<sup>9</sup> Stern, Nicholas. The Economics of Climate Change: The Stern Review. Cambridge: Cambridge University Press, 2007. (Available in .pdf at: [http://www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/stern\\_review\\_report.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm)).

### WHAT STEPS HAS THE GOVERNMENT OF ECUADOR TAKEN TO MAKE THIS PROPOSAL VIABLE?

- The Government of Ecuador has taken several steps to make the proposal viable. The Government has established the Yasuni Biological Reserve, which is a large area of primary forest in the Yasuni region of Ecuador. The Government has also established the Yasuni-ITT initiative, which is a joint venture between the Government and the International Tropical Timber Organization (ITTO). The Government has also established the Yasuni-ITT initiative, which is a joint venture between the Government and the International Tropical Timber Organization (ITTO). The Government has also established the Yasuni-ITT initiative, which is a joint venture between the Government and the International Tropical Timber Organization (ITTO).
- The Government's Multisectorial Environmental Agenda 2007 privileges the conservation of the Yasuni Biological Reserve;
- The Government has established the Yasuni-ITT initiative, which is a joint venture between the Government and the International Tropical Timber Organization (ITTO).
- The National Government has entrusted the Vice-presidency of the Republic with the political leadership of the government's initiative and the Foreign Ministry of Ecuador with the coordination, planning and execution of the initiative.



### WHY DOES ECUADOR WANT TO LEAD THIS PROCESS?

With the Yasuni-ITT initiative, Ecuador will lead a unique position regarding climate change. For the first time in the history of the world, a small country with an economy highly dependent on oil revenues will give up 50% of these revenues, challenging industrialized countries to lay the foundations for a global energy transition through cooperating efforts.



The Ecuadorian proposal is an opportunity to shift the current debate on climate change. Until now, the Kyoto Protocol and the Voluntary Carbon Market have been two scenarios insufficient to address the huge challenges imposed by atmospheric changes. Therefore, creative, responsible and most of all efficient policies and actions are needed, as well as the implementation of mechanisms and commitments that ensure that CO<sub>2</sub> emissions at world level are significantly reduced.

The carbon debt of countries that have historically generated and continue to generate the greatest quantities of CO<sub>2</sub> shows that the pattern of consumption of materials and energy of developed countries is only possible with the unsustainable use of the environmental space of future generations. The initiative of Ecuador calls attention on this issue and places the issue of environmental and distributive justice in the international debate on climate change.

Contributions to the Yasuni-ITT Environmental Fund could be the solution of a worldwide commitment with the development of new forms of production and consumption that are environmentally fair, equitable, and democratic. The conservation of the Yasuni will be the symbol of this commitment at international level and it will go down in history as the beginning of a radical change in the political conservation practices and actions at international level.

Through the Yasuni-ITT Environmental Fund, Ecuador will lay the foundations for a post-oil energy period, responding to local requirements of comprehensive remediation of environmental damages and changing the way in which the State intervenes in the management of its natural resources.

At regional level, Ecuador will articulate the concern of several Latin American countries against the impacts that climate change would have on their economies in the near future. Ecuador is capable of expressing and conveying the concern for the future of Latin America against the progressive melting of their glaciers and the risks that higher sea levels can entail for several states. The leadership of Ecuador will be the expression of social and politically effective of Nature conservation forms in Latin America.

Ecuador is laying the foundations for a new worldwide environmental agenda on climate change. Ecuador is not only the Light of America for its revolutionary spirit during independence and the great indigenous, peasant and mestizo rebellions of the past. Today, Ecuador is committed to lay the foundations of a world revolution for climate change. Through the Yasuni-ITT model, Ecuador will go down in history as the leader of the post-Kyoto agenda and this Government as the promoter of this change.

The eyes of the world follow with enthusiasm the initiative of a country small in size but large in aspirations. Al Gore spoke of an "Inconvenient Truth" for industrialized countries: climate change. Clinton leads a global initiative that seeks to channel international funds to alleviate its effects; Rafael Correa offers a unique, innovative and creative solution. Will we live up to the challenge?



**The Fridtjof Nansen Institute is a non-profit, independent research institute focusing on international environmental, energy, and resource management. The institute has a multi-disciplinary approach, with main emphasis on political science, economics, and international law. It collaborates extensively with other research institutions in Norway and abroad.**



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