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The Yasuní-ITT Initiative: Oil Development and Alternative Forms of Wealth Making in the Ecuadorian Amazon

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The design of economic instruments for the protection of ecological wealth in Latin American countries poor in financial capital, but rich in biological diversity poses very specific challenges. This article examines some of the interests, claims, discourses and values of a range of social actors (government officials, business leaders, international development planners, intellectuals, indigenous representatives, and activists) involved in defining the future economic use of the Yasuní National Park, a Biosphere Reserve for Humanity located in the Amazonian Region of Ecuador, a small oil-producing country in Latin America. Two alternative development projects for this region are currently being debated by the government, the oil industry and civil society. The first one involves the development of a large oil and gas field in the Yasuní National Park, while the second proposes a financial mechanism by which Ecuador would be compensated for not exploiting the vast reserves of heavy crude lying underneath the park. Researched over a two-year period by combining social anthropology, ecological economics and various political and economic approaches to development policy, this case study illustrates the unique problems posed by the incorporation of the natural capital of ecosystems in economic decisions. Negotiations of trade-offs between development and conservation, it is concluded, cannot be properly understood without reference to morally framed notions such as work, productivity, ownership, exchange, reward and responsibility.

KEY WORDS

State and governance of natural resources - oil development and conservation in Amazonia – Yasuní National Park – PetroEcuador - carbon values – payments for environmental services.

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1- INTRODUCTION

A growing number of policy makers, economic agents, and social and political actors in the Third World feel the need to consider ecosystem goods and services in their economic decisions, especially in Latin American countries poor in financial capital, but rich in biological diversity. The popularity of the Clean Development Mechanism (CDM), which allows industrial countries with a greenhouse reduction commitment to invest in emission reducing projects in developing countries and claim credit for the reductions achieved, increased exponentially when the Kyoto Protocol came into force in 2004 and the EU Emissions Trading Scheme came on line in 2005. The call for a comprehensive approach to mitigate climate change issued at the Bali Conference of the Parties in December 2007 mentions policy incentives relating to reducing emissions from deforestation and forest degradation. This has given greater visibility and political clout to a mechanism known as REDD (Reduced Emissions from Deforestation and Degradation), which has been discussed and developed over the last fifteen years by a wide range of conservation organizations anxious to generate sufficient funding for nature protection in tropical areas (Parker et al 2008, Funder 2009). Whether the generalization of 'carbon trading' (emissions trading and trading in project-based credits) is a satisfactory solution to the problems of climate change has become a hot issue in many developing countries (Lohman 2006, Lahsen 2009), including Ecuador (Oil Watch 2007, Vogel 2009, Martinez 2009), whose national income heavily depends on oil revenues (Acosta 1986, 1991, 1997, Kimerling 2006: 656). Although the reality of peak oil is still a matter of controversy, there is no doubt that official concern for the twin problem of oil scarcity and carbon dioxide atmospheric release is mounting. In the first half of 2008, oil prices skyrocketed in a way unimaginable only a few months earlier. Oil prices today hover around US\$ 72 a barrel on the New York Mercantile Exchange, reflecting the impact of the global economic crisis. However, prices are set to remain relatively high for the years to come, especially if policy makers start internalizing marginal external costs.

The design of economic instruments for the protection of ecological wealth, however, poses very specific challenges: What are the most efficient and equitable ways of converting natural capital into actual monetary flows? What measures are needed to ensure that natural capital becomes a driving force in development decisions? What are the social implications of new markets for environmental services, such as carbon capture, in terms of gender inequalities, property rights, access to natural resources, and poverty alleviation? To illustrate the complexity of the dilemmas such questions raise in practice, I discuss two alternative development proposals for the Yasuní National Park currently being considered by the government of Ecuador, the smallest and least developed of Latin American oil-producing countries (See Map 1). Data were collected through ethnographic methods over a long period of time, as part of on-going work with the Huaorani nation, and more systematically over various field trips conducted in Ecuador between 2005 and 2008, when I was able, sometimes along with Huaorani friends and co-researchers, to observe and participate in a number of meetings and workshops relating to natural resource management and payments for environmental services. During these three years, I conducted open-ended - and often informal - interviews with government officials, Ecuadorian academics, NGO activists, PetroEcuador employees, priests, military, and indigenous leaders. I also had conversations with: ordinary people of all ages in the towns of Coca (Francisco de Orellana) and Puyo; Huaorani and Quichua villagers; school teachers working in remote indigenous communities; and long-time

friends in Quito and other parts of Ecuador. This research was guided by an interest in the cultural and moral values framing economic and political arguments around the values of carbon and biodiversity. In these ethnographic encounters, I paid attention to the ways in which the presence of indigenous people, particularly the Huaorani people with whom I have worked for the past twenty years and their ‘non-contacted’ relatives has shaped and reconfigured the development futures that are being imagined in alternative proposals for the Yasuní. This open-ended, qualitative enquiry has obvious limits, especially when applied to a fast evolving public debate. [1] However, it offers unique insights, which may be used to guide new research questions.

In continuation, I examine the new geopolitics of oil exploitation in Ecuador, before offering a detailed account of the two alternative projects for the Yasuní, i.e. developing the oil reserves, or developing a new economy based on the services offered by nature. I then analyse the ways in which property rights and value issues enter the debate. I end with an exploratory discussion of the potential and realised values of carbon, which leads me to a more general reflection on the valuation of ‘nature’ in the context of climate change.

2- THE CHANGING RELATIONSHIP BETWEEN STATE AND OIL

Oil has been central to Ecuador’s national development for more than forty years. In 2005, Ecuador’s oil revenues totalled US\$ 5.4 billion, representing about 40% of all exports and financing about 43% of the budget. In 2008, oil represented 22% of the GDP, 63% of total exports, and 46% of the government’s general budget, while providing 47% of the country’s energy sources (Acosta 2009). For the 2010 budget, income from oil has been calculated at US\$ 3,213 million (US\$ 65.9 per barrel), representing 23% of the government budgetⁱⁱ [2]. Ecuador exports currently 70% of the oil it produces [3].ⁱⁱⁱ In 2008, all foreign companies operating in Ecuador lowered their production. Their aggregate output fell from 8 million barrels per month in 2007 to 7 million in June 2009 [4].^{iv} The Ecuadorian government invested US\$ 700 million in PetroEcuador in 2009 to boost the daily production to 510,000 barrels a day in fields nationally owned, and make up for the decrease in production in fields controlled by foreign companies [5].^v CEPAL calculates that as PetroEcuador’s 6,7% increase in production cannot compensate for the 15% decrease in private production, total oil production in Ecuador has fallen by 3.6% in 2009. Furthermore, a 6.9% rise in unemployment, a 51.7% rate of sub-employment, and a 12% decrease of remittances (due to the economic crisis affecting the USA and Spain, where many Ecuadorian migrants live and work) have resulted in a 0.4% contraction of GDP [6].^{vi}

The fifth largest oil producer in Latin America, Ecuador has been severely affected by neoliberal policies promoting export expansion and foreign indebtedness (Kimerling 2006: 654). According to Larrea (2006), not only have these policies resulted in underperformance in both per capita income and exports, but they have also worsened the country’s long-lasting economic stagnation. After the dollarization of the economy in 2000, the Ecuadorian government decided to promote the further expansion of oil exports through increased direct foreign investment. This policy led to the exploitation of new reserves of heavy oil in the central Amazon region, the construction of a new pipeline,^{vii} and the exploration of new areas of pristine forest in the Yasuní National Park (see Map 2). Rises in oil prices from US\$ 9.2 per barrel in 1998 to US\$ 41 in 2005 and the staggering US\$ 160 in 2008 have not provided the incentives needed to promote the diversification of the national economy,^{viii} or to develop an economic strategy based on the sustainable use of the country’s rich biological and cultural diversity. With a total foreign debt reaching US\$ 16.5 billion

in 2003 (equivalent to 61% of GDP), and pipelines operating only slightly above 50% of their capacity (Larrea 2006), the current government has found it difficult to resist the short term incentive of continuing to expand oil production, and this despite its full awareness of the very low quality of the oil being currently extracted, the proven limits of existing reserves (Ecuador will cease to be an oil producer in the next three decades), and the very serious ecological damage being caused by the expansion of the oil frontier.

The intensified exploitation of oil in a context of dwindling internal reserves and relatively high international oil prices has therefore led to contradictory government policies. Whereas some policies have been aimed at preserving national sovereignty over natural resources, others have promoted privatization and direct foreign investment. If the sharp rise in world oil prices has given the government new incentives to develop even the most marginal oil fields, it has also led the country to call for a renegotiation of benefit-sharing contracts with foreign oil companies. As North American and European oil companies are being replaced with Brazilian, Chinese, Argentine and Venezuelan state and non-state companies in the context of new regional integration politics, the evolving relationship between state and oil hydrocarbon industries is giving shape to changing economic development and territorial configurations, especially in the oil producing areas of the Ecuadorian Amazon. In 2007, less than a year after his election, President Correa expressed his intention to secure firm national ownership over all extracted oil.^{ix} He called all foreign companies operating in Ecuador to renegotiate their contracts and accept the new status of service provider, which entails a reduction in their share of oil wealth. This new contract policy led Oxy (Occidental Petroleum Corporation) to leave Ecuador in 2006 (Maldonado and Almeida 2006). Petrobras, Repsol-YPF, Perenco and Andes Petroleum are all currently renegotiating their contracts.

The two alternative proposals existing for the ITT (Ishpingo-Tambococha-Tiputini) Block in the Yasuní National Park (see Map 2) is an excellent example of the dilemmas created by this new geopolitical situation. Should Ecuador develop this major oil and gas field under firmer state control, or should it try to combat climate change and preserve biodiversity by keeping the oil underground, and find alternative ways of generating state revenues from the ecological wealth contained in the protected area? The public debate is raging.

3- THE COST OF OIL EXTRACTION IN THE BUSINESS-AS-USUAL MODEL:

On the 4th of April 2007, Rafael Correa signed a memorandum of understanding with the President of Brazil, Lula, regarding the participation of Petrobras^x in the development of ITT, an oil and gas field estimated to contain 20% of Ecuador's known oil reserves. It was thought at the time that three other state oil companies, PetroEcuador, SIPC (China), and PDVSA (Venezuela)^{xi} would cooperate in this major development project. A few days later, however, the then Minister of Energy and Mines, Alberto Acosta, led a counter-proposal for ITT, which would allow Ecuador to generate needed state revenues by keeping the Yasuní oil in the ground, as I describe in greater detail in the next section.

Economic and political pressures to develop the ITT fields according to the 'business as usual' model are great (I was only able to document the intentions and arguments of Petrobras and PetroEcuador staff members). I wish to argue, though, that between 2005 and 2007 Petrobras' interest in developing ITT entirely depended on its securing a firm control over Block 31, which it operated at the time; ITT on its

own was not perceived to bring sufficient economic rewards. 70% of Block 31 is located in the Yasuní National Park, the remaining 30% falling within the boundaries of the Huaorani territory (see Map 1). The block's reserves are estimated to be 230 million barrels of heavy crude (15 to 18 IPA grade).^{xii} A licence to operate in Block 31 was first allocated to the Argentine company Pérez Companc in 1996 under a benefit sharing contract (*contrato de participación*), and then to Petrobras,^{xiii} who acquired Pérez Companc after it went bankrupt at the height of Argentina's economic crisis (Maldonado and Almeida 2006: 92-105).

The development of Block 31 was controversial from the start, as it was made possible thanks to a highly contested presidential decree, which, *de facto*, annulled the law exempting protected areas from oil development. Petrobras's acquisition of Block 31 precipitated the launch of the 'Save the Yasuni' campaign by a coalition of concerned scientists, environmentalists and indigenous rights NGOs.^{xiv} Popular mobilization was sparked by the granting to Petrobras of an environmental licence to operate in Block 31 during Lula's visit to Ecuador in August 2004 (Fontaine 2007, Andrade 2007). It climaxed the following summer, when the courts supported a decision by the in-coming Minister for the Environment to de-authorize the licence against the company's appeal (Maldonado and Almeida 2006: 92-104). Huaorani people, who marched to Quito in July 2005 and organized various local and regional protests against the Brazilian oil company, played a key role in this environmental conflict (Andrade 2007). In a protest reminiscent of their action against Maxus (Rival 1998, 2000), they first forced Petrobras to double its funding for the 'Plan for Life' (Plan de Vida),^{xv} and then demanded the company's expulsion from their territory, as well as a full ban on oil development in the Yasuní. A range of organizations campaigning against the government's ambiguous consultation procedures supported the Huaorani mobilization.^{xvi} Despite mounting protests from civil society organizations, Petrobras' environmental licence was not fully revoked, but suspended on the grounds of irregularities.^{xvii} According to various oil engineers and campaigners I interviewed, the main irregularity concerned the company's decision to relocate its Central Processing Facility from the south bank of the Napo River to a location within the park's boundaries without previous consultation of the park's authorities.^{xviii} The Central Processing Facility is the plant where formation water is first separated from gas and crude, and then sent to waste injection wells. The ITT fields contain a high ratio of toxic water to oil. Some speak of 130 000 barrels of toxic water for every 30 000 barrels of crude (Maldonado and Almeida 2006: 92-100).

It is in the context of intense conflicts around the development of Block 31 that PetroEcuador gradually developed the ITT project with the backing of various governments before Rafael Correa's election. The initial design, however, goes back to the early 1990s, when Shell was tinkering with the idea of developing what it already knew to be a major field (Weigerther and Maldonado 2006: 108, Rival 1994).^{xix} Although it is difficult to get accurate figures, given PetroEcuador's determined effort to get the green light to develop ITT, estimated oil reserves are sizeable. A PetroEcuador engineer told me that the fields contain 900 million barrels of proven reserves, and up to 1,500 million barrels in total. PetroEcuador has estimated that oil production would stabilize at 108,000 barrels a day during the first 17 years of the project, before dropping to 58,000 barrels a day 29 years after the development's start date (Boedt and Martinez 2007: 21). However, given its viscosity, it is probable that only a fraction of the crude would actually be extractable (Boedt and Martinez 2007: 20).^{xx} With an IPA grade of 14, the crude contained in the various fields (Ishpingo, Tambococha, Tiputini, Wullia and Yasuní) are the heaviest found in

Ecuador, and their extraction will demand the largest and most ambitious infrastructure and technology ever implemented in the country, with an environmental impact said to be comparable to that of Texaco in northeast Ecuador (Kimerling 2006, 2007). An investment of more than US\$ 3 billion will be necessary to develop the four ITT fields, the pipelines, and the *in situ* electric plants and refineries that this project requires.^{xxi} Although figures range from 850 million to one billion barrels of crude, there seems to be a consensus on the 846 million figure, which is the one quoted in the official Yasuní-ITT documents. There seems also to be a consensus on the actual duration of the project, five years of preparation, followed by thirteen years of actual extraction. There is a possibility that the government would split the project, so that some fields would be exploited while other would not, trying to reach a compromise between the two main options.

Exploratory wells were perforated in the late 1990s by Pérez Companc, under a contract with PetroEcuador that many saw as highly controversial, if not illegal (Weigerther and Maldonado 2006: 108). According to Weigerther and Maldonado (2006: 108), the Gutiérrez government (2003-2005) chose to ignore the exploration work performed by Pérez Companc. The French company Beicip Franlab was contracted to carry out a new exploration and draw a new feasibility study.^{xxii} It may be that the Gutiérrez government sought another expert confirmation of the size and nature of the ITT fields. Two additional feasibility studies were prepared by PetroEcuador and Sinopec (Proyecto ITT – Opción 1 2007: 17-19), each calculating different production profiles and revenue prospects for the government. However, both feasibility studies support the conclusions of the French study regarding the major technical challenge and the additional production costs that developing these fields represents, as it would be necessary to build a thermo-electric plant to obtain a crude light enough to be sent to, and transported through, a pipeline.

While in Ecuador, I heard rumours about pressures exercised by giant state oil companies (Petrobras from Brazil, Sinopec and CNPC from China, PDVSA from Venezuela, Lukoil from Russia, Elf from France, and others) anxious to be selected for this major project. The reasons why ITT never became a block to be concessioned under a risk and participation contract similar to those signed throughout the Ecuadorian Amazon remain to be fully explored. However, one can speculate that the sheer size of the fields awakens nationalist feelings on the one hand, and that, on the other, the very poor quality of the crude calls for an entirely different model of foreign participation. One can also safely conclude that one of the main factors blocking the development of the ITT fields is the lack of agreement within the Ecuadorian government as to what kind of contract should be signed, and with whom. In any case, no one doubts that developing the ITT fields for oil and gas will put an end to the integrity of the Yasuní National Park. As Weigerther and Maldonado (2006: 111) correctly note, one cannot perforate 133 wells, build several hundred kms of pipelines and roads, and a major electric plant (42 MW), and still call the production area a ‘protected natural area.’ Moreover, as the Napo River is not navigable, there have also been talks of building a road from Manaus (in Brazil) to Rocafuerte, a sleepy town at the edge of the Yasuní National Park, right at the border between Ecuador and Peru. This road project is typical of the development model promoted by IIRSA (Integración de la Infraestructura Regional Suramericana), which Bebbington (2009) analyses as “a continent-wide push to open up frontiers for extracting hydrocarbons, mining, producing biofuels, harvesting timber and investing in agroindustry.”^{xxiii}

4- THE SHARED BENEFIT OF KEEPING THE OIL UNDERGROUND:

When President Correa announced on 5 June 2007 that the government's favoured proposal for the ITT fields was to keep the oil underground, he received the full backing of Ecuadorian and North American environmental NGOs campaigning for the preservation of the Yasuní National Park. This proposal had been formulated ten years earlier by civil society organizations such as Acción Ecológica and Oil Watch (Boedt and Martinez 2007: 65). The counter-proposal, now renamed Option One, was soon to be endorsed by most former Environment Ministers of Ecuador, the United Nations, and various universities around the world, as well as by the Paris Club and multilateral lending bodies, such as the Inter-American Development Bank. The alternative plan was officially presented to the General Assembly of the United Nations on 24 September 2007. 'ITT Option One,' as it was then called, proposed to leave permanently underground the country's largest untapped oil reserve and to design a compensatory financial mechanism covering 50% of government foregone revenue with the participation of the international community. In his speech to the UN, President Correa declared that "the Ecuadorian proposal seeks to transform old conceptions of the economy and the concept of value," adding that "Ecuador is open to great sacrifices and ready to act with creativity and a sense of justice to counteract the effects of Climate Change on our planet."

Alberto Acosta, who singlehandedly brought the ITT project to official circles while serving as Minister of Mines and Energy, and who subsequently continued to support it while President of the Constitutional Assembly, explained in a recent interview how difficult it had been to convince the Ecuadorian government of the project's merit and validity. On the one hand, very few officials understood the rationality of his decision: "For many of my colleagues, it was inconceivable that the very minister in charge of developing oil would campaign for its non-exploitation." On the other hand, the president of the state oil company, PetroEcuador, was doing all in his power to speed a decision for the extractive development of ITT, negotiating agreements with a range of foreign state companies, such as Enap, Sinopec, Petrobras, and PDVSA (Acosta 2009: 2-3). I similarly found during field research that the option of keeping the ITT oil in the ground was hampered by power imbalances between the Ministry for the Environment and the Ministry of Mines and Energy and by the fact that PetroEcuador was not willing to provide key information to the team in charge of developing Option One. Moreover, the latter was severely understaffed and underfunded.

However, the growing enthusiasm with which the counter-proposal (or Option One) was received internationally, and endorsed by many prominent figures and bodies^{xxiv}, especially during the Conference of the Parties in Bali in December 2007, moved the Ecuadorian government to postpone several times its decision on the ITT development. The alternative ITT project gained so much political legitimacy during 2008 and 2009 that the 'big idea from a small country' is being promoted by the Ecuadorian government today as 'one of its most important foreign policy initiatives.'^{xxv} Several European governments have offered their backing and technical aid, in particular Spain. Germany, following a decision voted in the Bundestag in June 2008, was reported to have pledged an annual sum of US\$ 50 million for thirteen years conditioned by the legal creation of the ITT Trust Fund.^{xxvi} European political support and Germany's promise of hard cash are good indicators of the relevance of the Yasuní-ITT Initiative in the context of international climate change negotiations. The initiative is seen by many as providing a creative solution to the threats to the Yasuní National Park, its people and its biodiversity, while

contributing to reducing climate change inducing carbon dioxide emissions by keeping oil in the ground and reducing deforestation.^{xxvii}

Rather than analysing these latest developments, or attempting to predict the future trajectory of the Yasuní Initiative, my purpose here is to examine in detail the initial proposal, as well as some of the reasons why Ecuadorians have found it difficult to accept the alternative ITT project as sound government policy. There are two main documents on the Yasuní Initiative, the initial 'ITT Project Option 1' document prepared by Oil Watch, and the 'Yasuní-ITT Initiative: A Big Idea from a Small Country' document currently available on the official Yasuní-ITT government website (see footnote 24). My research mainly concerns the former.

The document prepared by Oilwatch's technical team comprises four sections, of which only the last one deals explicitly with the financing mechanism (Oilwatch 2007). It starts by reviewing the scientific facts supporting the idea that the Yasuní is a reserve of great biological, ecological, and cultural wealth, and then moves on to examine the hidden costs of extracting heavy crude in a region of high biodiversity home to indigenous peoples, including groups living in voluntary isolation. The most critical issue from an environmental perspective is the relation of formation water to oil (according to some, 90 barrels of water for every 10 of crude, compared to an average of 80 to 20 in the rest of the Amazon region), and the high content of sulphur in the ITT fields. Formation waters contained in Blocks 31 and ITT are said to reach 1.375.052.616 cubic meters (p. 24 of the document). This poses extraordinary technological challenges, given that PetroEcuador cannot currently comply with its own re-injection directives (Boedt and Martinez 2007: 23). It follows that contamination of the water system and ensuing ecological destruction will be unavoidable. The document also mentions the unavoidable impact of the electric plant, refinery and related infrastructural developments. Waste disposal will represent another major environmental problem. In its feasibility study, PetroEcuador proposes to export the waste north of the Napo River to Shushufindi, but this is one of the most populated regions of the Ecuadorian Amazon. Such a 'solution' is particularly objectionable, given recent epidemiological studies showing the higher incidence of cancer in Ecuador's oil producing areas, and the increasing incidence of litigation and compensation cases (Kimerling 2006). Other negative human, social and cultural impacts are mentioned, to which it is added that the 'business-as-usual' oil development option would do nothing to prepare the country for the inevitable post-oil era.

The financial mechanism envisaged to compensate part of the foregone revenue is barely sketched in the 2007 version. The general idea is to leave oil underground and ask a 50% compensation of what the state would gain, if it were to exploit the oil. The document mentions annual losses of US\$ 720 million a year, and a yearly sum of US\$ 350 million over ten consecutive years as an acceptable compensation.^{xxviii} Two years on, the figures of US\$ 3 to 4 billion are common in official documents. The procedure would involve the emission of bonds for the underground oil, underwritten by the double commitment of never extracting it and ensuring the effective protection of the Yasuní National Park (Boedt and Martinez 2007: 6). Every 'shareholder' would receive a certificate or bond from the government for the crude oil left underground, stipulating the double guaranty that this crude will never be extracted, and that the Yasuní National Park will be effectively protected (Boedt and Martinez 2007: 7). Any world citizen or entity (government, non-governmental agency, private enterprise, etc) may contribute to financing this project, either through direct donations via the internet, or a range of

other types of donation, including multi- and bilateral governmental agreements, aid and cooperation agreements, or external debt cancellation. There would also be a complementary proposal, i.e. the creation of a permanent capitalization fund of between US\$ 800 – 1000 million at 2007 value, in order to produce a permanent income aimed at setting Ecuador on a post-oil economic path. The resources generated by this compensation fund would be managed for the long-term, in an account under international management.

The motion presented to and approved by the German Bundestag on 25 June 2008 (Krauder et al 2008) offers further thinking on how the Yasuní National Park, biological diversity and climate could all be protected through compensation payments for foregone oil revenues. The motion's authors specify that "Ecuador's proposal offers significant opportunities to preserve a globally unique biosphere reserve and protect indigenous peoples who live there," while making "a vital contribution to the necessary debate" about the role of developing countries in global climate protection. They explain that, as a precondition for implementing the ITT project, Ecuador asks the international community to contribute 50 % of the projected oil revenues (i.e. US\$ 350 million per year for thirteen years) into a fund. This would partly compensate the country for the forgone annual oil revenues, projected at around US\$ 700 million. The authors of the motion also mention other options currently under discussion, such as the capitalization of a fund of US\$ 4 billion, which could potentially generate an ongoing income equivalent to the annual figure requested by Ecuador. The motion ends with a call for an agreed methodology to determine the precise size of ITT oil reserves and to calculate the potential revenue from extraction, as well as a brief description of the issues that have yet to be clarified. These include the question of who would administer the fund, and what binding rules could be designed for the long-term protection of biodiversity in both the ITT Block and the Yasuní National Park as a whole.

5- PROPERTY AND USE RIGHTS IN THE YASUNÍ BIOSPHERE RESERVE:

From an economic point of view, the greatest difference between ITT Option One (Yasuní-ITT Initiative) and Two (business-as-usual development of the ITT oil fields) is that whereas the latter proposes to give value to a subsoil resource (oil) by extracting it, the former proposes to give value to its non-extraction, which in itself would be generative of a whole range of other values, lumped together as ecosystem services. However, there is a fundamental issue underlying both proposals, an issue never talked about as such: who owns the land, forest and subsoil, and who controls the use of these natural resources. The carbon values evoked here (carbon as oil extracted, separated from water, liquefied and transported, or spilled and causing harm; carbon stored in the ground, released in the atmosphere, or traded; carbon stored in trees and forests, which become along with other parts of protected nature providers of ecological services) can only be realized where property and use rights have been defined and can be enforced. As anthropologists have long argued (Hann 1998), property and ownership are social relations between human actors. They are bundles of rights, duties, obligations and responsibilities, rather than exclusive links between things and their owners. So who owns the Yasuní? This is a matter of great debate in Ecuador at the moment, as experts and activists are trying to take stock of the layers of overlapping and often contradictory legislation that articulate, covertly more often than overtly, the rights, duties, obligations and responsibilities of a number of social actors on the oil frontier.

On the basis of my own work (Rival 1993, 1996, 1998, ms) and various recent sources (Boedt and Martinez 2007, Fontaine and Narváez 2007, Narváez 2009), I reconstruct below the dynamic and fast evolving status of the Yasuní as a protected area. The picture obtained is staggeringly reminiscent of the 'shyzophrenia' described by Frederique Apffel-Marglin (2005), who argues that the current impasse and contradictory practice of conserving here to destroy there is a direct consequence of modern alienation from nature through economics. The land right and land use situation in the Yasuní is a perfect example of the 'shyzophrenic' push she identifies in many countries of the world today, by which many land areas are being subjected to environmentally destructive economic activities, while others are being transformed into biodiversity preserves. According to Apffel-Marglin, not only do governments apply protective measures unevenly, and, one may fear, only temporarily, but they do so for the wrong reasons. Conservation areas are created as enclaves protected from economic predation *today*, so that their potential economic wealth can be exploited *tomorrow* - in future markets. Therefore, the same utilitarian logic underlies biodiversity conservation and economic exploitation. This is reinforced by the fact that peak-oil is forcing exploration and extraction at the 'commodity frontiers.' As the renowned economist Joan Martinez-Alier pointed to me in a personal exchange, the extractive occupation of the Yasuní is driven by the growing energy and material metabolism of the world economy. As energy cannot be recycled, even a non-growing world economy would require fresh supplies of fossil fuels. It follows that areas such as the Yasuní are always under threat of becoming future frontiers of extraction, even when the intention to protect nature is initially genuine.

Before Shell's explorations in the early part of the 20th century and the 1941 war with Peru, there was no strong nationalist attachment to the Yasuní - or to any part of the Oriente (Ecuador's Amazon region) for that matter. And before the oil frontier moved south of the Napo River, the Yasuní was no more than one of these *tierras baldías* (empty lands) belonging to the state and awaiting for someone to purchase it or to lease it, and turn it into some form of profitable development. Shyzophrenia between oil development and biodiversity conservation on the one hand, and collaboration with and resistance to the oil industry on the other, started straight after PetroEcuador's allocation of Block 16 (see Map 1) to Conoco in 1985, which signalled the southern expansion of the oil frontier (Kimerling 1990, Rival 1993, 1996). Block 16 was located at the heart of what was then considered to be 'the Yasuní,' already recognised as 'Huaorani land,' but not yet a 'biodiversity hotspot.' The battle for the preservation of the Yasuní started when the boundaries of the Yasuní National Park (created between the Napo and the Curaray rivers by the Ecuadorian government in 1979, and with a surface of 1,476,000 hectares) were altered in 1990, due to pressures from the oil industry. The park's surface was reduced to 982,000 hectares, with the remainder of the land devolved to the newly titled 'Huaorani Territory.' The two main reasons behind this boundary redrawing were that (1) the law authorizes oil exploitation in indigenous territories (the state being the owner of the subsoil), but not in national parks; (2) the anomaly of Huaorani communities located within the park needed to be corrected, as conservation thinking at the time implied that national parks were to be without people. In the mean time, in 1989, the Yasuní National Park - with its original 1979 boundaries - was granted the title of 'biosphere reserve for humanity' under its programme 'Man and the Biosphere Programme'^{xxix} by UNESCO, which secured its international recognition as an area of

unique beauty and worth. This honorific title binds neither the Ecuadorian government, nor the international community, but creates symbolic value, awareness and a sense of moral obligation,^{xxx} *without defining rights, responsibilities or obligations.*

The formation and ever-evolving fate of the Huaorani Territory is even more complex than that of the Yasuní National Park, and inseparable from it. In 1969, the Ecuadorian government granted 16,000 hectares of land to the Huaorani communities that had been ‘pacified’ and sedentarized by the Summer Institute of Linguistics (SIL). In 1983, the Institute of Agrarian Reform (IERAC) enlarged the ‘protectorate’ to form a new ethnic territory of 66,570 hectares. On 10 April 1990, the Huaorani nation was legally granted the largest Indigenous territory in Ecuador (960 000 hectares over three provinces, Napo, Orellana and Pastaza), which comprised, in addition to the 1983 ethnic reserve, the 650,000 hectares devolved from the Yasuní National Park. This new land title was revised and modified in 2001, with some additional adjudications that are yet to be fully registered or legalised. Several conservation NGOs have claimed during interviews that the Huaorani Territory now comprises 809,339 hectares, and I am still trying to understand recent changes to the boundaries of this ethnic territory (Rival ms).

As the oil frontier continues to advance and new operational blocks are allocated both in the Huaorani Territory and in the Yasuní National Park - the latest being Block 31 and ITT - each land area gets more fragmented, as well as more interconnected. The recent creation of ITTZ (Intangible Tagaeri Taromenane Zone) by the current government to offer minimal spatial protection to isolated indigenous people has rendered this interconnection even more intricate. ITTZ originated from two different events, one pertaining to Huaorani history, the other to Ecuadorian legal history. Both help explain the changing nature and quasi-legal status of this peculiar land. Highly mobile and traditionally structured by warfare (Rival 2002), Huaorani society has adjusted to the changes brought about by the expanding oil frontier and its social actors (missionaries, oil companies, NGOs, and so forth) in diverse ways. For reasons that cannot be explored here (but see Rival 2002 and 2009), Tagae’s group refused to be relocated in the protectorate created by the Summer Institute of Linguistics (SIL), choosing to continue to raid oil camps in the Tiputiní and Yasuní areas. In July 1987, the Tagaeri killed Archbishop Labaca in Block 17 (see Map 1), which had been adjudicated to the French oil company Elf Aquitaine (with the participation of BrasPetro) the previous year. After this tragic event, the area was declared a sanctuary closed off to economic development. During the ensuing twelve years of moratorium (until 1999), it became home to new groups in voluntary isolation, such as the Taromenane and possibly other groups fleeing away from Peru’s oil frontier. However, the advance of the oil frontier in Ecuador could not be detained for very long. Two government decrees were passed in 1999, one changing the status of the sanctuary from protective no-man’s-land to that of *zona intangible* (intangible or untouchable zone), the other reversing the law preventing oil development in the National System of Protected Areas (SNAP), to which the Yasuní National Park belongs. These two decrees resulted in the *de facto* reform of the Yasuní National Park, without any further change to its boundaries, as it had been the case in 1990. If 71% of the park is now declared *zona intangible*, this leaves 29% of the park opened to extractive development, which is carried out by five oil companies (Repsol, EnCana, Petrobras, Occidental and PetroEcuador). By overturning constitutional law on the ground of superior national interests, this second government decree created a dangerous precedent, and weakened environmental policy and regulation in

Ecuador.^{xxxii} It took no less than seven years to pass the first decree. Whereas environmental and human rights activists campaigned for natural boundaries such as rivers, the oil companies whose blocks partly overlap with the *zona intangible* did everything in their power to ensure minimal encroachment to their allocated blocks. The boundaries of the *zona intangible* were finally agreed upon in January 2007. Although celebrated as a positive outcome signalling Ecuador's moral commitment to the protection of the rights of 'non-contacted' Indians, ITTZ offers, in practice, only minimal protection. ITTZ prevents neither the unfolding of tribal history, nor incursions by loggers and other illegal economic actors. A group of 'civilized' Huaorani men motivated by a mix of traditional grievances and external influences entered the *zona intangible* in May 2003 and killed a dozen or more 'Tagaeri' and 'Taromenane' (Rival 2009). It took the IACHR (Inter-American Court of Human Rights) three years to react to this raid and issue a precautionary order for the protection of the human rights of groups in voluntary isolation, in May 2006. The IACHR order moved the Ecuadorian government to finalize the official demarcation of ITTZ's 780,000 hectares the following year, in 2007.

Rather than being entirely new, the concept of 'intangible land' re-articulates the principle of absolute protection and non-intervention that initially characterised the whole of the Yasuní National Park, when it was still imagined in all its integrity as the non-intervened, off-limits nucleus of a region surrounded by oil development. In the late seventies and throughout the eighties, the Yasuní National Park was the sacred and untouchable biosphere reserve, while the Huaorani Territory was a buffer zone, where some oil activities were allowed. It is ironical that the ITTZ status of absolute protection and conservation has been obtained on the ground of cultural diversity (to protect "the last free humans on earth" as one informant put it), rather than biological diversity *per se*. Another irony is that there are at least three 'civilized' Huaorani settlements in ITTZ, which, under the new legislation, should be relocated outside ITTZ boundaries. Some human rights campaigners are advocating that the 'civilized' and 'contacted' Huaorani be allowed to remain in the park and recognised as the 'guardians' and 'protectors' of their 'non-contacted' brethren. In the meantime, conservation NGOs advising the government are re-imagining the 'biosphere reserve' in terms of three concentric circles: (1) ITTZ, the untouchable core; (2) the Huaorani Territory, a buffer zone with limited and traditional use of natural resources; and (3) the Yasuní National Park, an economic activity zone, where sustainable development is to be encouraged. As for Huaorani people, they claim use rights to the whole of the Yasuní, while trying to convey their own view of territoriality and good life in a changing world where cash income has become a necessity (Rival ms, Surrallés and Garcia Hierro 2005).

Despite fifteen years of biodiversity research and conservation activity, as well as the drafting of at least a dozen management plans, the problem remains that none of the areas making up the Yasuní Biosphere Reserve receives sufficient funding to give reality to its nominal official status of 'state property for the conservation of biodiversity for present and future generations of Ecuadorians.' Worse still, in response to chronic underfunding and understaffing, some researchers advocate 'market reform,' 'governance devolution' and the 'direct participation' of the oil industry in the management of the biosphere (Southgate 1998, Fontaine 2007: 76). Such authors argue that once liberated from state control, the Yasuní Biosphere Reserve can start becoming an economic space where environmental services, carbon trading, and many new and old ways of realizing carbon values can happily co-exist. Indigenous peoples who have lived with the oil industry for the last thirty years are

very clear and pragmatic about its costs and benefits, as well as the delusions of clean, sustainable oil development (Rival ms). Such attempts to reconcile oil industry and biodiversity conservation as fully compatible land use activities were tried many times throughout the 1990s, and found deeply flawed (Rival 1997, 2005, Escobar 2008).

The incompatibility of oil development and biodiversity conservation recalls Eric Wolf's (1972) seminal article on ownership and political ecology, in which he showed that ownership conflicts arise at the intersection of narrow interests and broader ones, that is, when short-term, productive decisions are opposed to collective decisions aimed at securing social reproduction in the long-term. Under capitalism, common property cannot exist along private property as a form of property *of a different nature*. What seems to be happening in the Yasuní today is the end of a highly unstable system of land use and ownership, in which a ghostly state claims exclusive ownership rights to the subsoil (which it leases to private, even foreign, companies) and more ambiguous rights to the uniquely biodiverse forested surface. An absentee owner of the 'national park,' the state has devolved land rights to indigenous communities, but only as long as the latter use their rights collectively; carry on a traditional way of life; and do nothing to obstruct oil development, which, although using an underground resource, occurs on the surface, and impacts its diversity. Fontaine's (2007) proposal for the Yasuní National Park illustrates how protected areas and communal land tenure regimes can be re-interpreted in terms of efficiency and transaction costs, and ideologically transformed into corporate ownership rights systems, the 'schizophrenic logic' that Frederique Apffel-Marglin (2005) sees lurking behind the massive land privatisation movement occurring in the world today.

6- OLD AND NEW CARBON VALUES:

I have examined here two alternative land use proposals for the ITT fields, as well as the wishful policy recommendation that biodiversity conservation be made compatible with oil development in the Yasuní National Park, and shown that development decisions in Latin American countries poor in financial capital but rich in biological diversity increasingly involve attempts to make the values of nature an integral part of decision-making. Not only is the Ecuadorian Amazon endowed with high levels of ecological wealth, but it also contains most of the country's oil reserves. The dilemma between relying on a known world commodity such as oil or taking the risk of developing a new economy based on the values of biodiversity is particularly salient in the Yasuní, where the tensions and conflicts embroiled in reflecting the values of nature in real economic transactions are still unfolding. What I find most anthropologically fascinating about this case is the fact that the values of oil and of biodiversity are intrinsically linked in the decision making process. It is the projected value of a barrel of oil which determines the value of the compensation fund (i.e. ITT Trust Fund). And it is because of the emergence of international carbon markets alongside oil markets that the Yasuní Guarantee Certificates^{xxxii} have been declared ineligible for the REDD strategy discussed at the fifteen Conference of the Parties in Copenhagen in December 2009. As a market consultant curiously remarked: "not pumping up the crude oil does not in itself constitute an activity that reduces greenhouse gases (Silvestrum 2009: 5)." The consultancy firm contracted by the German aid agency GTZ to explore the compatibility of the ITT project with REDD trading regimes has concluded that pursuing this project in view of obtaining funds for avoided emissions from avoided oil extraction (a financial mechanism not based

on market principles) is unlikely to generate “the entire magnitude of investment that has been calculated to be required to not exploit the oil field (Silvestrum 2009: 78).” The catch twenty-two is that if Ecuador pursues the Yasuní-ITT Initiative as a REDD programme, a course of action recommended by the consultancy firm, it will still not generate sufficient funds to make up even 50% of the foregone oil revenue. Despite all the hype around REDD, oil from remote tropical forests seems to continue to win economically over ecosystem services.^{xxxiii}

The notion of a country receiving payments for offsetting part of its foregone oil revenues and using these payments pro-actively to protect biodiversity is not easily thinkable under the current climate negotiation regime. A climate change specialist told me ‘this is not a technical, but a political issue,’ which is pretty much what President Correa also said in his London speech on 27 October 2009. The two proposals under study (developing the oil fields or keeping the oil in the ground) thus illustrate both the politics of negotiating trade-offs between conservation and economic development, and the great difficulties met by actors arguing for the economic recognition of the value of cultural and biological diversity. If the latter’s difficulties are partly due to a lack of accepted economic tools to carry out the calculations that such values call for, they are also due, I wish to argue, to a lack of moral acceptance, although this may be changing with the Yasuní-ITT Initiative’s greater official endorsement and international recognition.

When examining comparatively the interests, claims, discourses and values of government officials, business leaders, international development planners, intellectuals, indigenous representatives, and activists involved in defining the Yasuní’s future economic use I was able to talk to, I was struck by how important ideas of fairness, right and good was to them. Their support for the conservation of the Yasuní (Option One) or the development of the ITT oil and gas fields (Option Two) was morally framed. And although the government was already officially backing Option One at the time of my field inquiry, a majority of informants *who backed Option One* were really unsure about its legitimacy. Why, I began to wonder, is extracting oil seen by many as more legitimate (or realistic) than keeping it in the ground?

The dream of a transition from an economic model based on extraction (‘oil is not produced, it is extracted,’ as an informant put it) to one based on conservation and eco-logical use (as opposed to ‘il-logical’ use, as activists pointed out) is seen by many as just this: a dream. Few people I talked to between 2005 and 2007, even enthusiastic supporters of Option One, actually believed that such a dream could become reality in Ecuador or elsewhere, for that matter. People were aware of a change of consciousness in the world, and of the fact that what was seen as a hippy craze just a few years before was now receiving official endorsement. But official endorsement and public support was often perceived to be lukewarm, hesitant, or partial. When I distributed copies of the *New Internationalist* issue dedicated to the Yasuní in Quito, Coca and Puyo in July 2008,^{xxxiv} there was some amazement that a small corner of the Ecuadorian Amazon would make international news. Although more research is needed, ethnographic work began to reveal gaps between the diverse constructions of the Yasuní’s worth in the various places where I collected data.

The level of cynicism I encountered both in Ecuador and in the UK surprised me. A significant number of people I spoke with thought that Correa had nothing to lose in promoting ITT Option One, while continuing talks and negotiations with Petrobras and other oil companies. “When he will finally decide for Option Two,” I was told, “it is not the government of Ecuador who will be blamed, but the

international community, who will have failed to back up financially the government's favoured proposal." Scepticism was also widespread among the international Climate Change activists and CDM promoters I interviewed. Some told me that the Ecuadorian state is too corrupt, weak and unreliable to support such a long-term proposition. Others saw it as debt cancellation in disguise - which they disapproved of. As Eckersley (2004) points out, environmentalists often express a profound mistrust of governments. Several informants also pointed out that the Yasuní proposal cannot reduce the overall global CO₂ emissions, as demand is not affected by where CO₂ originates from. The need to burn oil will not go away, and CO₂ not produced by Ecuadorian oil will be produced by alternative sources. Unfortunately, I did not have the time to discuss with them the global need to reduce emissions. International development experts I interviewed found the proposal morally dubious on other grounds: money captured by Ecuador in this way will not be used for needed development efforts elsewhere.

Not every one agreed that to leave Yasuní oil in the ground is, as an interviewee told me, "an act that shows not only dignity, but, above all, solidarity." Some informants saw it as morally legitimate to develop by producing oil. The term 'sacrifice' was used in contested ways. Whereas some spoke of not sacrificing the ecological wealth pertaining to future generations, others mentioned the sacrifices needed to produce the revenues that will grant health and education for the benefit of poor, sacrificed citizens. "Dignity," I was told, "means that one should live from one's honest productive work. To leave oil in the ground and beg for subsidies is the same as choosing to remain unemployed and seek unemployment benefit." "Yasuní oil belongs to all the citizens of Ecuador; it is national wealth, the most precious good of the nation. Every one is aware of its role in the country's modernization and economic survival in the globalized world."

Seen as an essential good rather than a commodity, oil is priced politically as much as economically. Oil prices do not simply translate in money terms a value purely set by the workings of the market; they express political choices. For instance, if up to now Ecuadorians have tolerated rises in the price of petrol for cars (but violent protests have been organized by truck and bus drivers), they vehemently oppose the end of subsidies for liquefied bottled cooking gas, and the government had to back off on that particularly unpopular measure. The dominant moral frame seems to assert that oil extraction is real work, and tangible production. As long as oil is controlled by the state and not 'stolen' by private foreign companies, as it occurred in the past with Texaco and Oxy, then oil is an economic activity that creates the nation's wealth. I found among my Ecuadorian interviewees a renewed nationalist sentiment calling for extractive economic activities to be controlled by the state. This moral discourse was also present among indigenous leaders exploring models of co-management and co-participation for the oil extracted within their territories. There is no place here to discuss Huaorani understandings of the old and new carbon values or their responses to outsiders' projects. However, they too illustrate the continued force of indigenous cultural creativity and will to identity, and as such, constitute a central element of the region's development futures (Rival ms).

Opinions in Ecuador were also influenced by the fact that, despite its official backing, ITT Option One was still perceived to be a utopian project promoted, not by a broad civil society alliance, but by a radical NGO, Acción Ecológica. Nevertheless, its popularity seemed to be greater than any other campaigns launched by the environmental movement.^{xxxv} In 2007 and 2008, a rich and evolving debate within activist circles was feeding positive moral arguments to the Option One team. The

fact that Ecuador's external debt is five times the size of the capitalization fund being envisaged was widely discussed. Renegotiating only 30% of the external public debt could finance the project.^{xxxvi} The Norwegian model was also often discussed and compared with the Ecuadorian plight. An informant remarked: "Norway did not have an external debt," and another added: "We would be a different country if we had done what Norway did way back in the early 1970s."

All these discussions and reformulations illustrate the creativity sparked by ITT Option One, as people are re-imagining money owed by the country, possible earnings, and forgone income in a whirl of rethought economic models and forms of exchange (ecological debt, debt cancellation, debt swap, bonds, eco-taxes, loans, mortgages, capital, interest, payments for services, and so forth). Through these reworkings, activists and experts are careful to stress the fact that an international fund to keep oil underground is a novel mechanism, which should not be confused with the sale of reserves, or the sale of environmental services. It is a compensation payment for what Ecuador ceases to receive as a result of its commitment to a politics of global responsibility. Discussions around the term 'compensation' reveal diverging moral frames. As mentioned earlier, the motion voted by the German Bundestag states that Ecuador asks the international community to make compensation payments "in exchange for protecting the ITT and leaving the oil in the ground – with permanent safeguards to be enshrined in binding international agreements," thus implying that these payments are compensating a service of protection. In their interventions, Alberto Acosta and Rafael Correa reframe compensation as a contribution linked to the concept of international co-responsibility. This is very different from the perception that Ecuador is trying to rid itself from its external debt, or from the idea put to me by a British journalist that "the international community would pay Ecuador an annual *fee* (my emphasis) equal to about half of the total cash it would generate from selling the crude."

For those who support the ITT Project, preserving the Yasuní National Park from destruction is clearly in the national interest, but the proposal is nevertheless 'internationalist.' The international trust fund attached to the Yasuní Initiative would express international solidarity in combating climate change and protecting the earth's biodiversity (see Larrea and Warnars 2009). The internationalist intentions of the Yasuní proposal are reflected in the following quotes from Ecuadorian informants:

- 'We are creating a new public good for the world.'
- 'This is a south proposal, it has nothing to do with CDM.'
- 'We are not playing the market, this is prevention.'

The following remarks collected during interviews and meetings further illustrate the influence of 'global leaders' and 'global events' on people's views of internationalism, debt and co-responsibility:

- 'We could never have proposed this and be taken seriously before Al Gore's intervention, before he changed people's consciousness.'
- 'He (Nick Stern) made us see how serious Climate Change is, we need to go beyond Kyoto because the economic cost of climate change is serious; the crisis is as serious as what happened during the two world wars or the great depression.'
- 'We want Ecuador to be a leader in combating Climate Change, not to be – yet again – at the receiving end of mitigation aid.'
- 'We refuse the paternalism of international aid agencies and their "mitigation packages".'
- 'The World Bank has three funds amounting to US\$ 3 billion to mitigate global warming; other aid donors are following. What change will this money create?'

- 'What makes our proposal serious is the political will behind, the will to change our development model, to look for an alternative mode of developing a small southern economy, and base our future on sustainable resource use.'
- 'Our model is replicable in other south countries, they can adopt it.'

7- CONCLUSION:

The Yasuní-ITT proposal is still being developed, and the battle in Ecuador between Option One and Option Two acute. I offer these ethnographic reflections as a modest contribution to the complex reflection on wealth, capital, property and value that necessarily underpins the public debate. An anthropological study of ecosystems services in the Ecuadorian Amazon - and elsewhere - enriches political economy analyses, as we are dealing with values, and not mere technical solutions (Rival ms).

A first lesson to be gained from the Yasuní-ITT proposal, as I hope to have shown, is that the protection of ecological wealth brings economics and politics even closer than setting oil prices does. In the Yasuní, the expanding world of carbon and biodiversity commerce is speedily transforming local and national values. Public perception of the relative value of oil and biological and cultural diversity are changing. If oil as a strategic non-renewable natural resource is morally valued partly as a good and partly as a commodity, this is also true of biological diversity, although this form of wealth is seen as having a much more intangible value. Moreover, ecological value is made to exist in contrast to oil or other commodity values, for instance timber. In short, although both are perceived to be of a very different, indeed, contradictory nature, they are nevertheless equally treated in practice as part-goods/part-commodities. By granting too much value to oil as a commodity, the true value of natural wealth, it is feared, will not be fully realised. By recognising natural wealth at its just value, it is hoped, the real cost of oil, which is not reflected in its market price, will be made visible. If oil, as a commodity, can be measured in terms of standard economics (supply and demand in world markets that have evolved over the last 150 years or so), what is the just value of biodiversity? It is much more uncertain, and needs to be measured in terms of a new kind of economics. Ecotourism is often mentioned as a major 'environmental service' by the proponents of ITT Option One (Larrea 2006). However, ecotourism may be one of the ways in which the expanding world of commerce continues to transform the value of the Yasuní National Park. For indigenous leaders, defending the park and its biodiversity is inseparable from defending the good life (Sumac Kawsai, as recognized in Ecuador's new Constitution), that is, a form of development in which economic value is fully encompassed by social value.

If price setting for an essential commodity such as oil is highly political, price setting for biodiversity, which has not yet - and perhaps can never - be commoditized, is even more value-laden, hence political. Social actors involved in developing the Yasuní-ITT initiative challenge the validity of treating all living things as exchangeable. For many of those involved in promoting the conservation of the Yasuní, the relationship between humankind and nature should not be reduced to narrow self-interest or cost-benefit calculations. Placing a monetary value on biodiversity in order to ensure its protection through the production and trading of ecosystem services is problematic. These actors prefer to view the environment as a collective good that requires political democratic decisions. Some actors argue that using environmental standards is the most effective way of protecting the environment, while others stress that economic methods of regulation need to be supplemented with administrative and legal methods of control. For all actors

involved, however, in the current environmental crisis, conscious collective choices must be made, which cannot be left to the dictates of the market.

Although numerous theoretical issues have yet to be solved, social actors involved in the Yasuní-ITT initiative are actively applying new analyses of value formation and developing new methods for environmental valuation, which clearly demonstrate that reducing the emission of greenhouse gases - particularly carbon - and protecting and conserving the diversity of biological life in tropical rain forest areas is no more utopian than extracting heavy crude from protected areas. If making the values of nature an integral part of collective choice and decision-making and attempting to reflect them in real economic transactions are today part and parcel of development decisions in a developing country such as Ecuador, what makes such a decision-making process conflictive is that value can only be realized where property and use rights are clearly defined and enforceable. Many Ecuadorian researchers, analysts and commentators (Narváez 2009) point to the ambiguous role played by the state - some mention its powerlessness - as the real cause behind the indecision between relying on a known world commodity such as oil, or taking the risk of developing a new economy based on the value of biodiversity. As I hope to have shown here, broader shared moral values play an important role in shaping decision-making and trade-off politics.

Studies in economic and political anthropology have shown that the mapping of functions onto institutions occurs through complex historical processes structured by social values (Gudeman 1990, 2001, 2008, 2009, Gregory 1982, 1997, Graeber 2001). One of the most important insights resulting from these studies is the realization that short-term and long-term exchanges are of an entirely different nature. While short-term exchanges bear much resemblance with what we know as market transactions between unrelated individuals, long-term exchanges are embedded in norms, institutions and value systems that ensure the reproduction and continuity of society as a whole over time. In our society, these norms, institutions and values are distributed across a range of legal, political and religious entities, and particularly identified with the state. For those who see the environment as a collective good that requires democratic decisions, economic methods of regulation must be supplemented with administrative and legal methods of control. Social anthropology, based as it is on the ethnographic reporting of the minutiae of everyday life experiences and ordinary understandings of the world points to the inseparability of politics and economics, even in a complex, divided, and specialised modern societies. An anthropological outlook makes comprehensible the fact that the innovative models and calculations created by economists concerned with market failures and their negative impact on both the natural world and the welfare of societies not only need to win their place in the science of planning and policy, but also in the hearts of the people.

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[1] Between March 2005 and July 2008, public opinion on the idea of keeping the Yasuní oil in the ground evolved noticeably, as the idea became gradually more acceptable and less utopian. I also noted during my short visits to Coca over the same period of time a growing scepticism among the population about the benefits of oil, which struck me as a real departure from the pro-oil enthusiasm I had known in the late 1980s and early 1990s. One limitation of this research is that I was not able to follow systematically the evolution of thinking about the Yasuní Initiative among the people I interviewed and spoke to during my ethnographic research, which took place at the very beginning of its endorsement by the Correa government.

[2] Infolatam 11/11/09, available at http://www.infolatam.com/entrada_impression.jsp?id=17197, accessed on 14/11/09. Several interviewees told me that the economy of Ecuador suffers real setbacks when the price of a barrel of oil falls under US\$ 100 a barrel, and that, ideally, a barrel of oil should cost US\$ 110-120.

[3] *El Universo*, 09.09.08.

<http://www.eluniverso.com/2008/09/09/0001/9/745478B006D4476EB1968AFE316274BD.html> accessed on 19/09/08.

[4] Infolatam (AFP)12/07/08, 14/10/09.

[5] OPEP has assigned a quota of 520,000 barrels a day for Ecuador. *El Universo*, 09.09.08.

<http://www.eluniverso.com/2008/09/09/0001/9/745478B006D4476EB1968AFE316274BD.html> accessed on 19/09/08.

[6] Infolatam, 11/12/2009, accessed at http://www.infolatam.com/entrada_impression.jsp?id=17821, on 11/12/09.

[7] OCP, built between 2001 and 2003 and operated by a private consortium.

[8] Primary products represent 90% of exports, mostly composed of oil, bananas, shrimps, coffee, cacao and flowers (Larrea 2006).

[9] In 2008, 60% of the 508,000 barrels produced every day in Ecuador were owned by PretoEcuador, who also owns 2.055 million out of the estimated four billion barrels of crude oil reserves. *El Universo* (AFP) Tuesday 12/12/08.

[10] Petrobras had already won the right to exploit the neighbouring Block 31 (see Map 2), although its environmental licence had yet to be approved. This agreement was said to be worth at least US\$ 1 billion.

[11] It is said that Correa's administration has opted for political reasons to partner with state oil companies, rather than private sector companies. See <http://www.gasandoil.com/goc/news/ntl73090.htm> accessed on 7 July 2008.

[12] By comparison, the light oil extracted by Texaco in Lago Agrio in the 1970s was of 28 IPA grade (C. Larrea, Personal Communication, 17 April 2008).

[13] Created in 1953, the Brazilian state company Petrobras is today the third most important Latin American industrial company. It also operates Block 18, and is part of the consortium operating the OCP pipeline.

[14] See <http://www.saveamericasforests.org/> <http://www.sosyasuni.org/en/index.php> and <http://www.amazonwatch.org/amazon/EC/yasuni/> accessed on 7 July 2008.

[15] This agreement was signed between Petrobras and ONHAE (Organization of the Huaorani nationality of Amazonian Ecuador) in 2005. The fund went from 300,000 US\$ to 600,000 US\$.

[16] On Ecuadorian and international legislation regarding EIAs, the right to information and participation in projects occurring in one's land, and the right of free, prior and informed consent for indigenous peoples, see Kimerling (2002: 542-544, 588-596) and Rival (1997). The 2002 *Reglamento de Consulta y Participación para la Realización de Actividades Hidrocarburíferas* establishes a mandatory consultation process before the signing of new leases and before the approval of Environmental Impact Assessments (EIAs), but the problem with this regulation is that it does not make consent *mandatory*. A lack of consensus does not translate into the suspension of the consultation process, and there is no right of veto.

[17] See <http://www.saveamericasforests.org/Yasuni/Petrobras/index.html> accessed on 7 July 2008. An environmental licence was finally granted to Petrobras for Block 31 in October 2007. Finer et al (2009: 12) report that Block 31 is now operated by PetroAmazonas, a subsidiary of PetroEcuador.

[18] For studies of oil field formation waters and their toxic levels, see Kimerling (2002: 538, 596). For a different version of the conflict between Petrobras and the park's authorities, see Fontaine (2007) and Narváez (2009).

[19] Shell actually perforated the first ITT well in the late 1930s (C. Larrea, Personal Communication, April 2008).

[20] The fact that two fields are located in the area inhabited by indigenous people in voluntary isolation (see below) is another reason why it will not be possible to exploit the reserves to their full capacity (Finer et al 2009: 11).

[21] Carlos Larrea, Personal Communication, 17 April 2008. For a slightly different calculation of projected costs and benefits, see the summary given by Julio Cardenas from PetroEcuador during the workshop held in Quito on 21-23 November 2007, available at <http://www.eartheconomics.org/yasuni2007/index.html>, accessed on 10/11/09.

[22] Weigerther and Maldonado (2006: 108) conjecture that Gutiérrez's intention was to circumvent PetroEcuador (who claimed a 30% participation in the project), and present ITT as a new concession fully opened to direct foreign investment. PetroEcuador would thus be forced to create a block to be leased to multinational and foreign energy companies.

[23] See also Alberto Acosta's interview by Yásser Gómez, in which he declares that IRRSA corresponds to the logic of 'development' offered by the extractivist model of transnational capitalist accumulation. These new transcontinental channels of communication and transport "do not try to integrate our societies, but, instead, seek to integrate our economies to the world market." The interview, published on 10/09/09, is available at <http://www.ecoport.net/content/view/full/88404>, accessed on 23/09/09.

[24] The list can be found at <http://www.yasuni-itt.gov.ec/>.

[25] http://www.yasuni-itt.gov.ec/imprimir_contenido.asp?id_page=77

[26] I was told that in late 2009 UNDP was helping the Ecuadorian government to set up the Trust Fund. See <http://www.elciudadano.gov.ec>, accessed on 14/10/2009, and http://www.dw-world.com/popups/popup_printcontent/0,,4431992,00.html accessed on 14/10/2009.

[27] According to Larrea (2006), carbon dioxide emissions went up by 55% between 1980 and 1999 in Latin America. He estimates that ITT reserves will emit 375 million tons of carbon dioxide, a figure that does not include the CO₂ released through deforestation, which, when added, would bring the total to at least 500 million tons (these figures were given during a seminar in Oxford on 24/4/07). In his speech on 27 October 2009 at Chatham House, London, President Correa mentioned the figure of 410 million tons.

[28] These calculations are based on a marginal cost of extraction for each barrel of crude (US\$ 2-7 according to BP) and of cost of one ton of CO₂ of US\$ 20 (using the World Bank's figure), which gives an estimated value of US\$ 5 for each barrel left in the ground.

[29] The Yasuni National Park was also declared a world centre for plant diversity and endemism under the Joint IUCN-WWF Plants Conservation Programme and the IUCN Threatened Plants Unit, and classed scientifically as a Pleistocene refuge (Rival 1993).

[30] See <http://www.unesco.org/mab/mabProg.shtml> accessed on 7 July 2008.

[31] Finer et al (2009: 12) similarly note that "the new Ecuadorian Constitution, approved by voters in September 2008, initiated a prohibition on oil extraction in protected areas such as Yasuni National Park. An exception was built-in, however, that would allow such drilling to proceed if petitioned for by the President and declared of national interest by Congress."

[32] Or CGY. One CGY has been calculated to equal 1 metric ton of carbon dioxide.

[33] The seemingly unavoidable link between carbon and biodiversity values is also illustrated by the fact that Norway is able to finance major conservation activities thanks to its Petroleum Fund, such as, for instance, its International Climate and Forest Initiative, which benefits from an annual budget of close to US\$ 3 billion. Oil royalties have also allowed Norway to take the initiative of funding UN-REDD's first three years of activity single-handedly. See <http://www.regjeringen.no/en/dep/md/Selected-topics/climate/the-government-of-norways-international-.html?id=548491>, accessed on 10/12/09.

[34] *New Internationalist* 413, July 2008.

[35] An opinion survey conducted in Guayaquil and Quito showed that 58% of respondents were favourable to ITT Option One, thus reflecting a large popular consensus in Ecuador. Carlos Larrea, Personal Communication, 17 April 2008.

[36] In 2008, the Ecuadorian government launched an inquiry in the legality of the *bonos Global* and of loans contracted with the Brazilian development bank BNDES. The external debt was reduced to less than 20% of the GDP. See Alberto Acosta's interview by Yásser Gómez published on 10/09/09 at <http://www.ecoport.net/content/view/full/88404>, accessed on 23/09/09.