Global Carbon-and-Conservation Models, Global Eco-States?
Ecuador's Yasuní-ITT Initiative and Governance Implications

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Abstract

The "global carbon age" marks a structural change far beyond the economic realms of implementing carbon trade, affecting the fabric of global environmental governance and its actors. Carbon trade and conservation in the Global South have taken on various forms, and climate change mitigation efforts in light of continued rainforest deforestation are scrambling to establish effective approaches. Ecuador's Yasuní-ITT Initiative proposes a new global carbon-and-conservation model in the Ecuadorian Amazon that leaves oil reserves of the Yasuní Ishpingo Tambococha Tiputini (ITT) oil fields underground, in exchange for international compensation payments that would be based on voluntary contributions of governments and non-governmental actors in an international conservation partnership and trust fund under the auspices of the United Nations Development Programme. This model suggests far-reaching consequences, as it introduces new global scales for the sharing and management of environmental costs within a framework of neoliberal cost internalization. The analysis in this paper uses the concept of the "ecological state" (Duit, 2008) as a theoretical point of departure to examine the trans-scalar implications of such a carbon-and-conservation model on global governance structures toward a "global ecological state" (or global eco-state).

Introduction: Globalization of Environmental Services, 'Carbon Colonies', and the State

The twenty-first century marks a beginning of new globalized conservation approaches between multi-national actors and the state, in an attempt to mitigate the alarming levels of land degradation and deforestation that have created considerable environmental problems from local to global (Turner, Lambin, & Reenberg, 2007; Pan, Carr, Barbieri, Bilsborrow, & Suchindran, 2007; Carr, Suter & Barbieri, 2006) . These new globalized approaches introduce political forms of engagement that intensify trans-scalar relationships not only between actors but also in terms of the roles of the state within the overall fabric of conservation governance.

Ecuador's Yasuní-ITT Initiative represents one such new type of global carbon-and-conservation arrangement, with a novel involvement of the state in search of conservation and carbon emission reductions. Ecuador faces one of the highest rates of deforestation in South America, and the Ecuadorian Amazon, in particular, has become an epicenter of clashes between conservation and extraction pressures due to a recent petroleum boom and large unexploited oil reserves in the region. The region boasts some of the highest endemic biodiversities in the world and has become a global focus of concern due to its tropical deforestation (Mosandl, Günter, Stimm, & Weber, 2008), indigenous land rights (Bebbington, 1997; Yashar, 1998; Valdivia, 2007; Madrid, 2008), forest livelihoods and poverty reduction (Wunder & Alban, 2007), plantations and monocultures (Gerber, Veuthey, & Martínez-Alier, 2009), socio-ecological impacts of oil and gas drilling (San Sebastian & Hurtig, 2004; Sawyer, 2007; Finer, Vijay, Ponce, Jenkins, & Kahn, 2009; Southgate, Wasserstrom, 2010; Suarez *et al.*, 2009; Warnars, 2010), and economic dependencies on hydrocarbon extraction (Sawyer, 2004).

The Yasuní-ITT initiative was launched in an attempt to prevent further direct and indirect deforestation pressures on the region from the extraction of oil (Mosandl *et al.*, 2008). The initiative was announced in 2007 by President Rafael Correa as a plea for international help in order to forgo extractive activities and preserve the cultural and biological diversity of the Ecuadorian Amazon. The Ishpingo-Tambococha-Tiputini (ITT) oil fields within Yasuní National Park on the border with Peru carry an estimated 900 million barrels of heavy crude oil, representing as much as approximately 20% of the entire country's oil reserves (Holly, 2007). For comparison, this tremendous reserve could provide supply for as many as ten days of the entire global oil consumption based on current rates (Rival, 2010). The economic value of the area's untapped petroleum is estimated at more than 7 billion US dollars, assuming an oil price of above $61per barrel (Larrea & Warnars, 2009). Although the area is a National Park, active oil extraction continues due to oil concessions that had been granted prior to its protection. The Yasuní-ITT initiative now offers to halt extractive development within this partial area in exchange for 3.6 billion dollars, half the estimated value of the oil in the ITT block (La Iniciativa ITT, 2010).

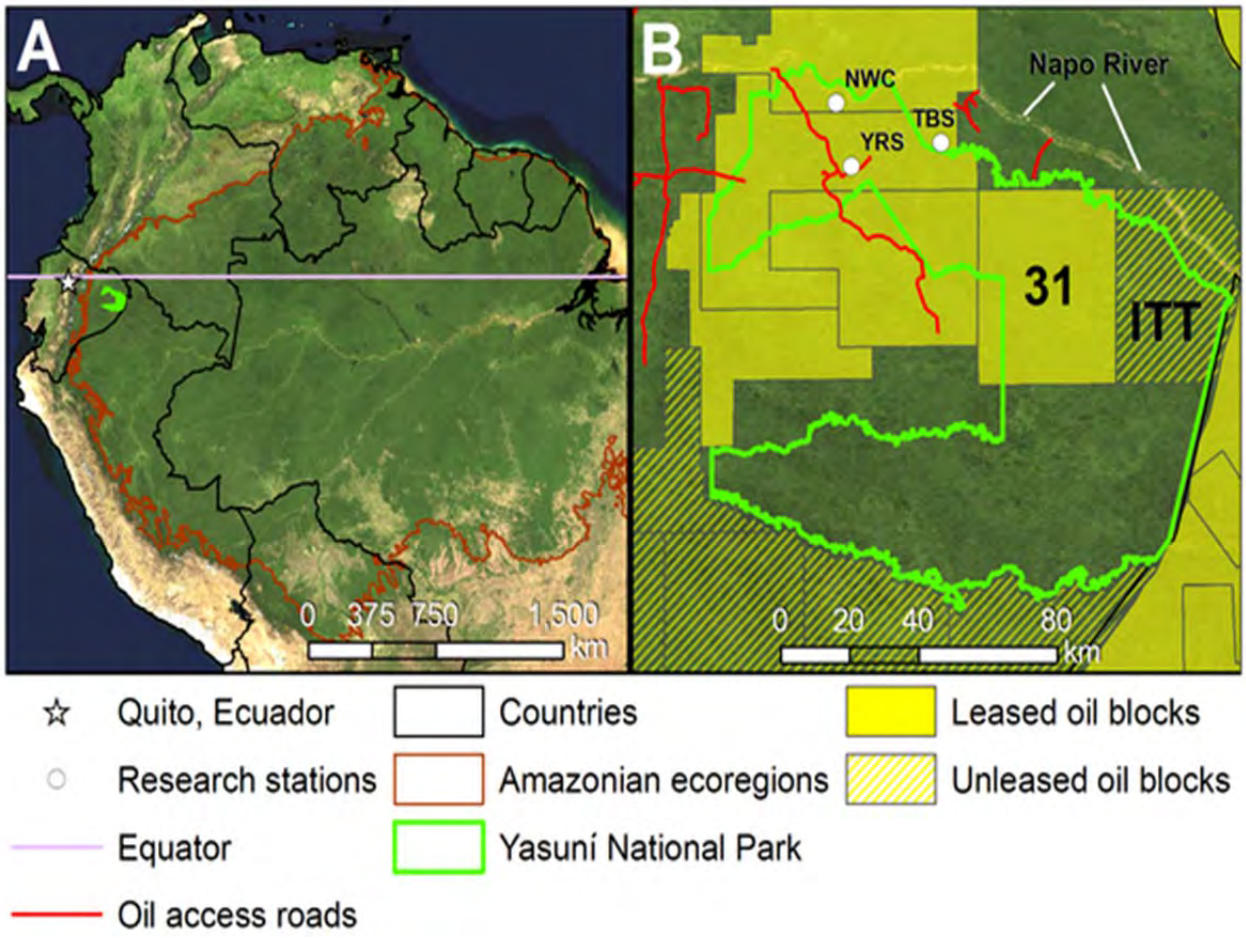

Figure: Yasuní National Park and the relative location of the ITT oil block. Source: Bass et al. 2010.

The initiative has received the widespread attention of multiple international actors from governmental and non-governmental realms. As a carbon and conservation cooperation model (CCCM), it encapsulates several conservation-related mechanisms: a climate change measure, by the fostering of carbon sinks with a combined estimated storage capacity of 410 metric tons of carbon; a financial measure to foster new and more comprehensive strategies of sustainable development in Ecuador; and a new protection mechanism fostering biological and cultural diversity within Ecuador (Larrea & Warnars, 2009).

The global approach of the Yasuní-ITT initiative and its new type of engagement with multi-national actors transcends the economic aspects of carbon trade and affects the actors and scales of environmental cooperation, political cultures, and governance structures, including a shift of the roles of the state. Environmental degradation and land use change have already been found to be increasingly exacerbated by global influences and dependencies (Lambin, Turner, Geist, et al. 2001). The commodification of carbon permeates this process on several levels as it shapes new international scales of interest and leads to adverse effects, especially in the Global South. Lohmann (2005, p. 204), for example, identifies a new economic value of a “carbon dump commodity,” which represents not only a new category of valoration related to the environment but also introduces a new globalization mechanism by offshoring carbon problems. Carbon emitting and carbon sequestering regions logically continue the long-standing globalization of

outsourcing and allocating carbon funds where they offer the biggest investment return. Commodity chains are dissembled into elements of different cost intensities, and lead to an outsourcing of carbon sequestering to the Global South, where forest offsets and environmental performance improvements in industrial processes are less cost-intensive and provide higher rates of emission benefits (Bumpus & Liverman, 2008). From a postcolonial standpoint, this represents a rather ironic transformation—Ecuador has gone from a former resource colony to a modern carbon colony, specializing in yet another environmental commodity that is in economic demand from the Global North.

Ecuador's President Correa fittingly advertised the Yasuní Initiative as part of a strategy which would shift Ecuador "from an extractive type of economy to a service economy," in which the country "would be selling services to the rest of the world" (Correa, 2009). As such, Correa may have tried to portray Ecuador as a carbon superpower that can draw on enormous new-found wealth that can be marketed according to the rules of a new global economy.

The power relationships behind carbon exchange, however, also lead to a concern about modern "carbon colonies," explored further, for example, by Bachram (2004) and Bridge (2010). They highlight the underlying power implications of an unresolved and growing "carbon divide" between the Global North and the Global South. Bebbington and Bebbington (2011) critique the enclosure and commodification of subterranean resources in Ecuador—as well as in Peru and Bolivia—as part of a broader power struggle and reordering of Latin America's position in the global political economy. The process, they argue, bears signs of reproducing a classic core-periphery relationship. Bridge (2010, p. 6) similarly identifies "strikingly uneven geographies of fossil fuels and carbon offsetting"[1] that show "tendencies to reproduce a North/South geography of core-periphery." In this way, carbon offsetting mirrors the same form of "unequal ecological exchange" through which oil is extracted from the global periphery and becomes inserted into the infrastructures in the core, where they reinforce the industrialized countries' superior levels of productivity (Hornborg, 2006). Beyond material carbon flows, Bridge (2010) further identifies "carbon control," "carbon conduct," and "carbon mobilization" as commodified aspects in carbon economies, which also opens up larger questions of governance and social constructions surrounding the commodification of carbon, and, ultimately, carbon's "social metabolism" (Clark & York, 2005; Prudham, 2009) as it affects global relationships of resources, states, and their interests.

Even as new conservation models expand and illustrate the challenges of global environmental cooperation, climate change has created a sense of urgency that pressures governments toward pragmatic, timely, and effective action, especially where environmental exploitation and changing land use policies immediately threaten to turn further "carbon forests" into "carbon bombs" (Staddon, 2009). Carbon trade may represent a country's strategic direction in search of economic alternatives to natural resource extraction and ecological depletion, but the urgency of the issue in the context of the Yasuní has also led to critiques that Ecuador would be using its carbon sinks for political leverage. In February 2012, for example, the Chicago Tribune featured an article called "Ransoming Paradise – Should the world bribe Ecuador to protect that country's rainforest?" (Chicago Tribune, 5 Feb 2012). Time Magazine also published a report about the Yasuní in December 2011 that was bluntly titled "Rain Forest for Ransom." It argued that "the Yasuní plan would be a first for global environmental policy: recognition that the international community has a financial responsibility to help developing nations preserve nature . . . . Of course, from another perspective, the Yasuni initiative might look like environmental blackmail: Pay us or the forest gets it" (Time Magazine, 19 Dec 2011). Overall, however, both

articles agree to some extent that the Yasuní plan is a risky proposal with difficult potential outcomes, yet both ultimately conclude that global conservation interests speak in the plan's favor.

Overall, the ecological urgency of slowing biodiversity loss and climate change—among many other environmental concerns—feeds the pragmatic argument that to be fast and effective, environmental approaches will need to develop strategies that work with, rather than against, the economic interest mechanisms of a neoliberal framework. Accordingly, global carbon trade introduces an internalization of environmental costs as a new economic recognition of ecological processes. Another argument in favor of global carbon deals is that of scale itself: climate change requires global approaches in order to address the problem on the scale at which it occurs. From this perspective, a global-level internalization of environmental costs offers the sort of potential that smaller approaches desperately lack. These new arrangements often center on the state as a facilitator, beneficiary, solicitor, and regulator, to an extent that exceeds prior roles of the sovereign state and ventures into complex terrain that has yet to be defined, the implications of which are yet to be explored.

The Yasuní proposal has similarities with debt-for-nature swaps, which emerged in the 1980s as a financial mechanism for the Global South to reduce their foreign debt while protecting the environment. Ecuador has entered such debt-for-nature swaps in the past, such as when The Nature Conservancy and World Wildlife Fund agreed in 1987 to take over USD 10 million of Ecuador's foreign debt (Lewis, 2007). At the same time, however, the Yasuní Initiative takes the idea to a different level. President Correa's initial proposal in 2007 envisioned a compensation package (USD 350 million per year for 10 years) in direct proportion to the relinquished oil revenues (around USD 7 billion, based on current market prices). Several deadlines have come and gone since that time, as the initiative is waiting to gain sufficient support to commence. As such, since its initial announcement, the proposal has evolved into an international brainstorming and negotiation of possible arrangements covering types of compensation, carbon trade channels, local community benefits, financial controls, performance assessment, and enforcement mechanisms.

If a globally embedded pilot project like the Yasuní-ITT agreement goes forward, it raises questions about the political implications for global relationships of carbon, power, economic interests, the roles of the state within global carbon-and-conservation deals, and emerging global scales of cost internalization. The proposed agreement suggests an internalization of environmental costs, but instead of remaining within the national economy, the proposal extends the internalization of costs to a global scale between different international entities. This has profound implications on governance, power, sovereignty, and the neocolonial dependence of states in the face of carbon globalization. The Yasuní-ITT initiative is embedded in a larger political shift in which Ecuador's ecological conservation has already become highly internationalized and simultaneously gained strong traction on the national agenda. The Yasuní agreement creates a political action space, the success of which depends on the implementation of its environmental governance across the scales, pending the dangers of "carbon colonies" and the prospects of effective carbon initiatives among equal international partners.

In order to understand these implications in practice, this article examines the Yasuní-ITT case as a political project that exemplifies new relationships between conservation, multi-national interests, and the state in the global carbon era. The data is based on a literature review of government documents and reports from local to global policy actors, academic literature, interview and media data collected from key policy actors, international news services, and

national radio broadcasts between 2007 and 2012. The analysis uses the "ecological state" (Duit, 2008) as a theoretical point of departure for the changing roles of the state vis-à-vis global carbon-and-conservation models. The idea of the ecological state is based on a neoliberal framing of cost internalization, which argues that translating ecological processes and "costs" into the capitalist economy would help to counteract the market's environmentally destructive forces by assigning values to processes that would otherwise remain unaccounted for. The ecological state, therefore, falls in line with the current arguments for global carbon trade and payments for environmental services. At the same time, however, the ecological state calls for a system outside neoliberal deregulation because it assigns a central role to the state—as that of a strong regulator as opposed to a weak market enabler—and places the state itself in the business of producing and sustaining public environmental goods (Duit, 2008). These characteristics make the ecological state an interesting theoretical concept for analysis for several reasons. It views the roles of states within global carbon deals in a similar fashion, as they were conceived by their own neoliberal arrangements, which then allows us to examine their implications for the state over time as global carbon-and-conservation models take shape. The concept's emphasis on the state as the central authority for cost internalization also mirrors the strong position of the government in the Yasuní-ITT initiative and allows for a particular focus on the state in the analysis.

Even more importantly for the focus of this analysis, the basic concept offers a particularly interesting point of entry for the globalization element of carbon-and-conservation arrangements in global environmental governance: trans-national scales of cost internalization. Using the context of the Yasuní-ITT initiative, this article therefore explores applications of the ecological state beyond the basic concept into trans-national scales and discusses the dynamics and implications of a possible "global ecological state," in short, a "global eco-state," with regard to the roles of the state vis-à-vis trans-national interests and conservation.

The article starts with an introduction of the concept of the ecological state (section 2) and discusses how the concept applies to carbon-and-conservation approaches and Ecuador's political context (section 3). The analysis then presents the significance of and threats to the Ecuadorian Amazon and the Yasuní region in particular, including conflict within the region (section 4), and examines the global driving factors of the Yasuní-ITT initiative and political momentum surrounding it (section 5). The analysis then introduces global modifications of the concept of the ecological state to discuss Ecuador's conservation dynamics in light of new global carbon-and-conservation agreements such as the Yasuní-ITT initiative (section 6). The article then transfers these larger observations into a review of the conservation model and its potential indications about new global networks and the global eco-state, and concludes with a short summary of the challenges surrounding the initiative and emerging dynamics (section 7).

The Ecological State – Basic Concept and 'Going Global'

The "ecological state" emphasizes the efforts and capacities of the state in creating proactive policies for a cost internalization of environmental externalities. On the surface, the notion of an ecological state seems to mirror current neoliberal trends of the commodification of elements of nature, but it shares deeper conceptual and historical roots with the political notion of the welfare state. The ecological state and the welfare state share basic functions for the public, as they both attempt to mitigate negative market externalities and, more specifically, social and environmental costs. Environmental externalities are created when the market does

not accurately account for the environmental impacts that result from the lifecycle of goods from production to disposal (Christoff, 2005). In the larger terms of welfare state research, the state could be understood as a an institutional mechanism that ensures market functionality by counterbalancing the cost-externalizing pressures of capitalist economies (Therborn, 1987; Duit, 2008), or even as a politically motivated buffer against these forces (Pierson, 2000).

Duit (2008) suggests four major categories of ecological states that are distinguished based on the power and involvement of government and governance systems: thick, civic, centralized, and thin ecological states. Thick and civic eco-states are characterized by high levels of influence from international and national governance systems. They differ in the level of government influence (from high in thick states to low in civic states). Thin and centralized ecological states have low levels of influence by governance systems (with low levels of government involvement in thin states and high levels in centralized eco-states).

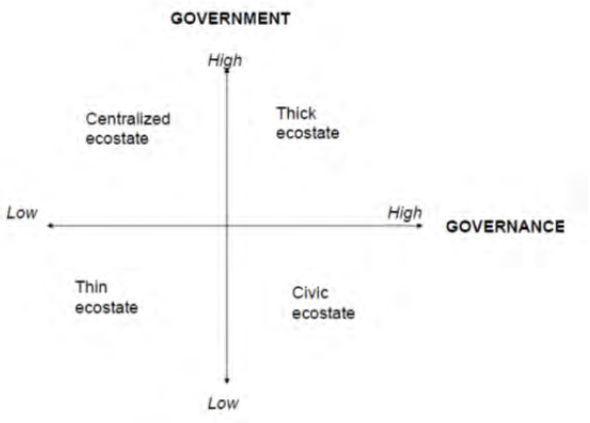

Figure 1: Categorization of Ecological States based on Government and Governance. Source: Duit (2008)

The state itself—with its formal political structure—is the most important actor in creating an ecological state. This is for two reasons: First, the government is the ultimate entity of decision-making power and implementation. It has legislative and jurisdictive power over the policies and practices of natural resource use (Duit, 2008). Second, the government is the central entity in drawing market regulations away from inherently destructive dynamics of the profit-seeking private sector. A neoliberal economic framework would therefore—if at all—favor a thin eco-state, since government intervention and governance controls would be more restrictive in the other three systems. Christoff (2005) even suggests the degree of neoliberalism in a state as a mechanism by which to classify ecological states, with thick and civic eco-states having low levels of neoliberal structures.

Ecological states are those that successfully manage to mitigate environmental externalities through the establishment of projects and public services, usually through legislative and fiscal mechanisms through the state (Duit, 2008) and by establishing environmental regulations that force the private sector to internalize environmental costs into their economic processes. This view clashes with environmental skepticism, which identifies adverse mechanisms of the state driven by lobbyism, political economies of resource dependence, and an inherent interest of the government in economic growth, regardless of external costs. The ecological state, however, assumes that there are functioning mechanisms already in place. Consequently, Duit (2008) argues that a thick eco-state would be the most stable form of ecological state, since it ensures high levels of involvement by government and governance systems as a regulatory authority against the exploitation interests of the private sector. His

examples of thick eco-states include Denmark, Germany, and Sweden, representing some of the most renowned emerging eco-states of the twenty-first century.

The ecological state requires a broader examination of "external" environmental obligations and interests, which pushes the paradigms of scope surrounding national economies, state roles, and responsibilities across broader spatial and temporal scales. In addition, eco-states are ideally supported by institutions and international agreements, which are beneficial in creating new ideas and pressuring other institutions and governments to adopt these ideas. This stresses the need for complementary political engagement within the ecological state to ensure functioning discursive and regulatory control mechanisms that are open to spheres of interaction between responsible government, citizen participation, grassroots movements, international cooperation, and other global actors.

This is where trans-national scales become relevant. Given the global realities of contemporary governance, states often do not have much of a choice whether they want to "go global." State-level processes are embedded in a larger political environment in which the state needs to adapt to emerging trans-national forms of engagement in economic and environmental governance amongst a rise of a "globalized" civil society with newly recognized global scales of environmental interests and problems. Transboundary and global scales of ecological degradation challenge the ability of states to address the problem successfully. They created a new interest of the state in the environment as an issue of national and geopolitical importance (i.e. as one of national security) (McCarthy, 2007) or as a foundation of national identities (Radcliffe, 2001). This shift changes previous assumptions of the sovereign state as it moves away from formalized decision-making structures to an emerging pluralism and political relativity from a plethora of influences. Trans-national forms of engagement open up new political spaces of discourse and agency for a mutual development of agendas, as opposed to *a priori* decisions on their content and modes of engagement (Radcliffe, 2001).

Global agreements for environmental goods and services are not far from the conceptual assumptions of the ecological state; such agreements take the premises of the ecological state further beyond the sovereign state. Ecosystem service payments represent a contractual exchange of the economic value of a commodified good or service such as conservation, albeit in a simplified economic approximation, which cannot translate the full complexity of ecological processes, though they may at least try to capture key elements of concern. This makes ecosystem service payments a typical mechanism of an ecological state, but only if the payments are actually *internalizing* environmental costs, and not selling them to "external" actors considered outside the scope of their own economy. Consequently, a global sale of ecosystem services *from* Ecuador does not make Ecuador itself an ecological state as long as the national economy is considered the only relevant unit. It would rather represent an outsourcing process toward a global division of environmental services between countries with high conservation and those with high pollution, thus encouraging business as usual in the latter. This could go as far as entire regions or countries repositioning themselves as ecological service areas, thus superficially suggesting a marketable "eco-state" label without any internal mechanisms in place.

On a global level, however, ecosystem service payments between countries could be regarded as a mechanism of cost internalization because they consider the larger scale of the entire planet. This is in line with new scalar perspectives on ecological connectivity, which increasingly point out that negative environmental effects do not vanish but simply reappear in other spatial or temporal scales, pushing boundaries on the political grasp of internal vs. external costs. Environmental public goods have an inherently global connotation—that of global

ecosystems—which resonates with a larger global idea of the ecological state in that the ecological state seeks to internalize socio-environmental costs in the unit that matters the most: the planet. The analysis uses a globalized form of the concept of the ecological state in order to examine these inter-scalar dependencies of environmental costs, here presented as the *global eco-state.* This approach does not regard international involvement as add-on elements to the state, but rather views these connectivities on global scales as inherent elements that root the motivation and goals of a new, emerging type of ecological state in the twenty-first century.

Ecuador vis-a-vis Ideas of an Eco-State

Ecuador's economic history is deeply intertwined with petroleum due to the fact that its national interests were typically closer to those of an environmentally destructive "petro-state" than to those of an environmentally protective "eco-state" (Valdivia, 2008; Finer & Martin, 2010). Since the 1970s, Ecuador has seen oil extraction become a strong driver of its economic growth, and its Amazon region is under particularly strong pressure as a revenue source for the national economy. The region is home to abundant petroleum reserves under existing extraction concessions as well as in yet undeveloped reserves. So far, more than 65% of the Ecuadorian Amazon has already been divided into licensed blocks (Finer, Jenkins, Pimm, Keane, & Ross, 2008) for hydrocarbon extraction. The first oil extraction in the Ecuadorian Amazon started in 1967 by Texaco, and oil exports followed in 1972 (San Sebastian & Hurtig, 2004; Larrea & Warnars, 2009). The petroleum industry has been the largest contributor to economic growth in Ecuador since the 1970s (San Sebastian & Hurtig, 2004). The GDP per capita rose drastically between 1972 and 2008 from 312 dollars to 3,856 US Dollars (United Nations Statistics Division, 2012), which was largely attributed to the growing oil industry (San Sebastian & Hurtig, 2004; US Department of State, 2010).

The amount of deforestation in the Ecuadorian Amazon has created a variety of detrimental ecological impacts by reducing the connectivity of ecosystems and habitats, through fragmentation caused by a network of industrial operations, connecting roads, and pipelines. Forests hold important ecological functions as "sinks" for carbon dioxide, the preservation of which is part of a regional conservation and reforestation focus through a variety of national and international campaigns such as the Socio Bosque Programme in Ecuador, the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD), and the Dutch initiated Forests Absorbing Carbon-dioxide Emissions Forestation Programme (Wunder & Alban, 2007; United Nations REDD Programme, 2009). Habitat loss and fragmentation reduce the populations of species, and, ultimately, reduce the biological diversity in the area (Bass *et al.*, 2010).

Over the last few decades, there has been increased recognition of the environmental importance of Ecuador's biodiversity, boosted by the 1992 Rio Summit and ensuing international funding for environment-development projects in the Global South. As a result, Ecuador has seen tremendous change as new international environmental interests entered the scene. Since the 1992 Rio Earth Summit, Ecuador has witnessed an immense boom of environmental non-governmental organizations, international political engagement, and conservation initiatives. Its ecosystems became the target of multiple global interests of environment and climate change politics, media, and science, through which it entered a new level of global attention (Bass *et al.*, 2010). Waves of scientific interest, international funding, conservation projects, media coverage,

ecotourism, and the rise of tourism in general contributed to an increased awareness of the ecosystemic wealth associated with the country's natural environment.

Conflicts and Threats in Ecuador's Amazon Region and Yasuní

The ecological significance of the Yasuní has been recognized for years and is gaining increasing attention due to growing threats and conflicts in the region, ranging from biodiversity loss and habitat fragmentation to conflicts over resource extraction, land ownership, and cultural traditions. Part of the region was already put under protection as a National Park in 1979. The area represents "one of the world's last high-biodiversity wilderness areas," with world-record levels of species richness, global diversity maxima for amphibians, birds, mammals, and tree communities, and field data that even surpassed the IUCN database total number of species known (Bass *et al.*, 2010). Most scientific attention and research in the region has accelerated only recently but nonetheless potentially consolidates a new interest and recognition of the ecological importance of the region. In 1989, the entire transition zone surrounding the protected areas became a UNESCO Biosphere Reserve (INEFAN, 1989). Nearly a decade later, in 2007, the government of Ecuador declared an "Intangible Zone" within the National Park, an area of 7,580 square kilometers in the south and center of the protected area. It specifically declared resource extraction off-limits in order to maintain the area's ecological and cultural integrity for remaining indigenous groups that live in voluntary isolation from the outside world.

Despite the region's formally declared protection and recognized significance, petroleum extraction continues in the Yasuní. Concessions had already been approved in the region in the 1970s, long before the area's declaration as a National Park, due to which the concessions were legally able to continue. In 2008, the government of Ecuador and President Correa further declared that there would be no new approvals granted for extractive activities within any protected areas in Ecuador. However, previously authorized activities, such as Block 15 in the Northwest corner of Yasuní National Park, continue to be legal because they had been active before the declaration. Block 15 is one of the most productive concessions in Ecuador, representing as much as 1/5 of Ecuador's oil production in 2005 (Save America's Forests, 2005).

Further oil exploration and road development is feared because it could lead to a domino effect in the region. Approximately 20-30% of the ITT oil fields reserves of the current Yasuní conservation initiative are located in the "Intangible Zone" (Larrea & Warnars, 2009). Numerous studies indicate that deforestation is significantly facilitated by road access, with significant deforestation impacts consistently found in close proximity to paved roads (De Luca, 2007). Furthermore, if the ITT oil fields were to be developed with infrastructure and extraction facilities, there would be new economic pressures and opportunities to proceed with development in the adjacent Block 31 in Yasuní National Park, which, without a road, is currently not economically viable (Finer, Moncel, & Jenkins, 2010).

Global Perspectives: The Yasuní-ITT Model and Concerns

The Yasuní-ITT initiative received substantial recent coverage in Ecuadorian newspapers from the beginning, fueled by its political implications and growing international interest since it was publicly announced by President Rafael Correa in November 2007. Using the political momentum of the growing environmental awareness at the time, President Rafael Correa changed a variety of policies at the interface of conservation and petroleum development, which

raised further concern among national actors (Fontaine, 2007, Acosta, Gudynas, Martínez, & Vogel, 2009). One was a 2008 declaration that no new extractive activities were to be developed in protected areas unless granted special permission from the Ecuadorian Government if the project was deemed to be in the interest of the nation. Another was the proposed creation of a trust fund administered by the United Nations Development Programme (UNDP), which would be used to finance projects that promote sustainable development, conservation, and social-development programs. This was part of the larger strategic restructuring in which the Yasuní-ITT conservation initiative, announced in 2007, was embedded.

The proposal has been subject to numerous concerns ranging from its conceptual design to implementation. Within the proposal is presented a new role for the state itself: that of a provider of environmental services, which it does not only for fellow governments (creating, in other words, a state-managed global internalization of costs) but also for a heterogeneous, voluntary group of international supporters comprised of governmental and non-governmental actors. In other words, under the proposal, a state offers its environmental services to a voluntary marketplace of heterogeneous actors, which marks an important shift in the fabric of global governance and the economic relationships through which environmental services may be conducted.

The initiative has grown alongside increasing inertia in the last couple of years over failing climate conferences in Copenhagen and Cancun, which raised interest in alternative paths of climate change action outside a global consensus. As a result, the initiative has increasingly shifted toward a combination of implementation mechanisms and a stronger focus on carbon markets. It moves the focus of the idea away from government aid and development-conservation collaboration toward a more commodified treatment of carbon as a tradable economic value on the global scale. New proposed versions include not only debt-for-conservation swaps and donations of specific projects promoting sustainable social and environmental development, but also the sale of "Yasuní Guarantee Certificates" for carbon credits, which have gained interest within Kyoto's Clean Development Mechanism, considering the estimated 407 million tons of carbon dioxide that would be avoided by leaving the oil reserves untouched (Rival, 2010).

The initiative's carbon aspects could become synchronized with the requirements and operational practices of the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD) and be marketable, for example, in the European Trading System (Finer *et al.*, 2010). The certificate sales would build a trust fund with the interest re-invested in sustainable development projects in Ecuador (Finer *et al.*, 2010). The initiative is also in accordance with the Convention for Biological Diversity in 1992 and the Indigenous and Tribal Peoples Convention of 1989, providing a gateway for countries that signed these conventions to support the Yasuní-ITT initiative as an embodiment of the fundamental values of these international agreements.

Ecuador's governance and infrastructure have raised significant questions about its financial and project-related implementation mechanisms, control and governance accountability, performance indicators, planning and assessment approaches, long-term implications for Yasuní, and beyond. Unresolved questions remain about the specific mechanisms and procedures to be implemented regarding carbon measurement and quantification, monitoring and enforcement, ecological uncertainties, and the cost-bearing responsibilities for all these in practice. Similarly, these have become issues of growing concern in the recent REDD literature on adverse implementation impacts from environmental integrity

to socio-economic incentives, livelihood security, as well as power and governance issues (Huettner, 2012; Karsenty & Ongolo, 2012; Pettenella & Brotto, 2012; Lederer, 2012). Economic measures of the values of the ITT oil reserves are another example. The Yasuní-ITT Initiative strategically emphasized the value of the ITT oil reserves in stored carbon (in metric tons) as opposed to the extractable oil (in barrels) because the latter would be subject to strong fluctuations over time due to world market prices (Warnars, 2010), and there was a need for relatively steady values for the project's long-term valorization and negotiation. Especially the ecological and economic measurement of actual "avoidance" itself in environmental degradation remains unclear, mirroring a central concern of REDD mechanisms (Rival, 2009).

Key questions also emerge at the interface between environmental service payments and local forest livelihoods, such as whether the Yasuní agreement would become a top-down arrangement and what forms of effective local engagement can be employed to implement institutionally sustainable implementation practices that benefit Amazon forest dwellers. Further, Ecuador's future orientation of government practices between petro-state and eco-state remains uncertain, and the extent of the Yasuní contribution in the country's overall picture may be overestimated. Lastly, the Yasuní Initiative's shift toward carbon trade introduces new views of environmental services as a global commodity, and raises questions on changing paradigms surrounding the linkages of environmental values and their geographical boundedness to land or territory.

One important concern is that Yasuní Guarantee Certificates may not actually lead to the reduction of global carbon emissions but instead simply relocate emissions through "leakage" (Finer *et al.* 2010), which has been studied in numerous REDD projects (Atmadja & Verchot, 2012). The likelihood of future oil drilling in Block 31, adjacent to Yasuní National Park, remains unknown and will depend on economic viability in the long run, determined by the future cost of access paired with global oil prices. In general, concern exists regarding global oil demand and the future value of Ecuador's oil as it remains untapped until times of even more lucrative oil markets. The desires of future administrations and future markets are unknown, and it is a concern to those investing in Ecuador that the trust fund will be used responsibly in the future.

As long as the trust fund is under UNDP administration, this may not be an issue, but it remains a point that interested contributors must consider (Finer *et al.* 2010). As a precautionary mechanism, the money raised by the ITT initiative is channelled into a UNDP-administered trust fund, which may withhold payments to Ecuador if requirements for projects, funds management, and government accountability toward the contributing international actors are not met. The capital generated from the interest of this trust fund is to be used to finance programs in conservation, sustainable technologies, and social development that are supported by the National Development Plan (Larrea & Warnars, 2009).

Yasuní and Beyond: Global Networks and the Global Eco-State

The international debate surrounding the Yasuní-ITT Initiative has challenged old and new notions of state responsibilities within the ambitions of an eco-state with globally connected governance regimes, the diversification of a commodity based economy, and the internalization of environmental costs on larger scales. This process has opened new discussions toward a re-valuation of political options, including conservation as an economic strategy for the state,

national identity elements of nature, and even an international positioning as an eco-state with services to the global community.

In an attempt to promote the cause and urgency of the Yasuní-ITT Initiative further in the public, the Ecuadorian government described the consequences of the rapid development of their petroleum reserves quite openly and warned that they would be unable to break their reliance on the petroleum industry without international assistance. The funds generated by the Yasuní-ITT international trust fund could be used to finance programs that promote economic growth in new-areas, such as the development of renewable energy, and reduce the reliance on petroleum extraction within Ecuador (UNDP, 2012). These implementation mechanisms have been thought to potentially stimulate increased entrepreneurship in the Ecuadorian economy, and they would offer a shift away from the weak levels of entrepreneurship and innovation that are typical for petro-states (Karl, 1999).

More importantly, a public declaration of an "eco-state" also resonates with a political strategy to attract environmental funding from international actors, paired with an ecological branding strategy to foster stronger investment and economic growth in conservation and ecotourism. Through the Yasuní-ITT proposal, Ecuador signalled an attempt to exchange their reliance on petroleum extraction with something new, embedded in international assistance to compensate for it. Clarification is needed on the extent to which the requested international support could go beyond the immediate economic contribution on which the initiative was centered. This could potentially include aspects of international influence, control, and decision-making into the Yasuní arrangement toward a strengthening of Ecuador's environmental governance system, either through formally acknowledged roles or the indirect network influences of the international community. Under President Correa, Ecuador's policies have generally moved towards centralized policies, with higher levels of government involvement yet relatively low levels of international governance and cooperation.

The initiative has gained traction through declared political commitment of international actors, which boosted the level of interaction and influence between the Ecuadorian state and emerging global networks of environmental interests. The Yasuní-ITT agreement would not only facilitate but would actually require an increased opening of Ecuador's government structures toward the international community for collaborative decision-making, financial management, and local implementation of the conservation agreement. Such a process could (1) facilitate the country's shift toward ecological governance based on resource and knowledge support from the international community during the transition, (2) provide support for carbon measurement, monitoring, enforcement, local implementation, and benefit strategies, and (3) serve as an external control mechanism to aid Ecuador's struggle against a history of corruption and lack of transparency (Seelke, 2008).

It remains to be seen whether and to what extent the Yasuní Initiative would indeed provide a doorway for an environmental shift and implemented features of a global eco-state from theory to practice. Since the proposed ecological strategy is primarily based on international support and funding, it would be an externally driven transition with strong dependencies on global political agendas and markets. More importantly, beyond the concrete project, the Yasuní Initiative raises more general questions over old and new paradigms in environment-related collaborative action and new carbon initiatives on a global scale. This is where the notion of a global eco-state becomes interesting as a new, connected way of approaching governance and international environment-development dependencies in a globalized world. The global eco-state can only be as strong as its international networks make

it. Only these global networks are able to create an ecological state whose goals and actions transcend national boundaries determined by jurisdiction, economy, and territory. As such, the global eco-state is constituted less by the entity itself and more by its network linkages, as they form a new overarching unit that allows for new ways to internalize environmental costs beyond the national realms. This attributes key importance to international governance relationships, collaboration dynamics, political agency, and changing initiatives over time. As Bakker and Bridge (2006, p. 19) observed, "agency becomes an emergent property of network associations rather than a property inherent in discrete entities." The strength of a global eco-state is determined by the quality of its collaborative ties more so than the quality of its delineated unit. This resonates with some recent conceptual shifts away from the singular importance of the sovereign state, toward more connected ideas of state networks and multi-scale governance dynamics at work.

Conclusion

The Yasuní-ITT Initiative represents a critical conservation area due to its sensitive ecological and cultural significance at a time of strong economic pressures for hydrocarbon extraction in the Ecuadorian Amazon. The proposal of the Yasuní-ITT Conservation Initiative, its international arrangements, national implementation bodies, and possible local implementation strategies have raised many questions and concerns, highlighting the untested grounds of the initiative and potentially far-reaching implications as a pilot project for further global conservation arrangements.

This analysis examines the Yasuní-ITT Initiative as a global carbon-and-conservation project that may situate Ecuador's roles of the state, its political positioning, and interests precariously between environmental governance on one hand and neoliberal interests on the other. The Yasuní case study is further used for an exploration of the concept of the global eco-state as a globalized extension of Duit's (2008) "ecological state." While the ecological state is based on the national internalization of environmental costs, the global eco-state represents a globally connected form of the ecological state in which international support networks are crucial for the internalization of environmental costs on a trans-national scale.

If the Yasuní-ITT Initiative reaches an agreement between the Ecuadorian government and international sponsors, it could introduce a new trans-national generation of carbon-and-conservation agreements that not only attempt an internalization of environmental costs but do so through states as central market actors themselves. This could affect the ways in which states engage with global markets and plan their economic strategies. As a positive effect, positioning Ecuador as a global environmental service provider could create economic alternatives beyond its strong petroleum dependency (Rival, 2010), and it may provide both momentum and funding for an internal transition toward a more sustainable governance and economy. As important concerns to address, such an agreement may create new dependencies, including global carbon pricing and globalized financing structures in the emerging carbon economy, underlying shifts of carbon and power between a "Carbon South" and a "Carbon North," scalar challenges of trans-national agreements and their local implementation on the ground, and—as a larger democratic process—the necessary national public support for an ecological restructuring of the state.

Notwithstanding the future of the Yasuní-ITT Initiative itself, the international interest surrounding it calls for closer examination of the global community of environment-development practitioners, policy researchers, and nature-society theorists alike. Taking an idea such as the ecological state to a trans-national level for global carbon-and-conservation arrangements would

take the requirements of connectivity, exchange, and control to a global level, including those of governmental transparency and direct accountability (Duit, 2008). Ultimately, this raises questions about future conceptualizations not only of national economies but of the sovereign state as it becomes increasingly interwoven into a global fabric of dependencies. The implications are multifold and include complex arrays of problems, including changing ecological and economic valorization paradigms in globalized environmental services, the commodification of carbon, the globalized outsourcing of carbon sequestration and emerging global power imbalances, and the rethinking of international support networks as they become increasingly crucial in internalizing environmental costs on global scales. The resulting changes may mark the beginning of an era of global eco-states if carbon trade, payments for environmental services, and a general commodity-based approach to environmental degradation and climate change under a neoliberal paradigm continue.

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[1] Carbon offsetting refers to the reduction in emissions of carbon dioxide in a particular location or by a particular entity in order to compensate for (or offset) the emissions made elsewhere.

References

Acosta, A., Gudynas, E., Martínez, E., & Vogel, J. (2009). Dejar el crudo en tierra o la búsqueda del paraíso perdido: Elementos para un propuesta política y económica para la Iniciativa de no explotación del crudo del ITT. Mayo 2009. Retrieved from at www.ambiental.net, last accessed on March 10, 2012

Atmadja, S., & Verchot, L. (2012). A review of the state of research, policies and strategies in addressing leakage from reducing emissions from deforestation and forest degradation (REDD plus). *Mitigation and Adaptation Strategies for Global Change 17(3),* 311-336.

Bass, M.S., Finer, M., Jenkins, C.N., Kreft, H., Cisneros-Heredia, D.F., McCracken, S.F., Pitman, N.C.A., English, P.H., Swing, K., Villa, G., Di Fiore, A., Voigt, C.C., & Kunz, T.H. (2010). Global conservation significance of Ecuador's Yasuní National Park. *PLoS ONE 5(1),* e8767

Bachram, H. (2004). Climate fraud and carbon colonialism: The new trade in greenhouse gases. *Capitalism Nature Socialism 15(4),* 5–20.

Bakker, K., & Bridge, G. (2006). Material worlds? Resource geographies and the 'matter of nature'. *Progress in Human Geography 30(1),* 5–27.

Bass, M., Finer, M., Kreft, H., Cisneros-Heredia, F., McCracken, S., Pitman, N., & English, P. (2010). Global conservation significance of Ecuador's Yasuní National Park. *PLoS ONE, 5(1*), 1–22.

Bebbington, A. (1997). New States, New NGOs? Crises and transitions among rural development NGOs in the Andean Region. *World Development 25(11*), 1755–1765.

Bebbington, D., & Bebbington, A. (2010). Anatomy of a regional conflict: Tarija and resource grievances in Morales' Bolivia. *Latin American Perspectives 37(4),* 140–160.

Bridge, G. (2010). Resource geographies I: Making carbon economies, old and new. *Progress in Human Geography*, published online 5 November 2010.

Bucki, M., Cuypers, D., Mayaux, P., Archard, F., Estreguil, C., & Grassi, G. (2012). Assessing REDD plus performance of countries with low monitoring capacities: The matrix approach. *Environmental Research Letters 7(1)*:014031

Bumpus, A., & Liverman, D. (2008). Accumulation by decarbonisation and the governance of carbon offsets. *Economic Geography 84,* 127–155.

Carr, D., Suter, L., & Barbieri, A. (2006). Population dynamics and tropical deforestation: State of the debate and conceptual challenges. *Population and Environment 27(1*), 89 –113.

Chicago Tribune. (5 Feb 2012). Ransoming Paradise – Should the world bribe Ecuador to protect that country's rainforest? Retrieved from http://articles.chicagotribune.com/2012-02-05/news/ct-edit-ecuador-0205-20120205_1_yasuni-national-park-rain-forests-ecuador Last accessed Oct 28, 2012

Christoff, P. (2005). Out of Chaos, a Shining Star? Towards a Typology of Green States. *The State and the Global Ecological Crisis*. John Barry and Robyn Eckersley. Cambridge, MA: MIT Press.

Clark, B., & R. York. (2005). Carbon metabolism: Global capitalism, climate change, and the biospheric rift. *Theory and Society 34(4),* 391–428.

Correa, R. (2009). Environmental Policies in Latin America. Transcript of a lecture given at Chatham House on Tuesday 29 October 2009. Retrieved from http://www.chathamhouse.org.uk. Last accessed on April 07, 2011.

De Luca, G.D. (2007). Roads, Development and Deforestation: A Review. *Development Research Group Paper*, World Bank, Washington DC

Duit, A. (2008). The ecological State: Cross-national patterns of environmental governance regimes. *Environmental Policy Integration and Multi-level Governance (EPICGOV) Papers 29*, 1–21.

Finer, M., & Martin, P. (2010). The 'dark side' of the Yasuní-ITT Initiative (Part II). The Globalist. www.theglobalist.com/storyid.aspx?StoryId=8534. Last accessed on April 07, 2011.

Finer, M., Jenkins, C., Pimm, S., Keane, B., & Ross, C. (2008). Oil and gas projects in the Western Amazon: Threats to wilderness, biodiversity, and indigenous peoples. *PLoS ONE 3(8)*, 1–9.

Finer, M., Moncel, R., & Jenkins, C. (2010). Commentary. Leaving the oil under the Amazon: Ecuador's Yasuni-ITT Initiative. *Biotropica 42(1)*, 63–66.

Finer, M., Vijay, V., Ponce, F., Jenkins, C., & Kahn, T. (2009). Ecuador's Yasuní biosphere reserve: A brief modern history and conservation challenges. *Environmental Research Letters 4*, 1–15.

Fontaine, G. (2007). Entre ecologismo utópico y nacionalismo pragmático: el proyecto Ishpingo, Tambococha y Tiputini (ITT) y la gobernanza energética en el Ecuador. Observatorio Socioambiental, FLACSO, Documento de Trabajo No 1, diciembre 2007, Quito.

Gerber, J.F., S. Veuthey, & J. Martínez-Alier. (2009). Linking political ecology with ecological economics in tree plantation conflicts in Cameroon and Ecuador. *Ecological Economics 68(12)*, 2885–2880.

Holly, C. (2007). Ecuador to forgo oil in stunning climate proposal. Article in *Energy Daily*, published on Oct 9, 2007. Retrieved from http://www.theenergydaily.com/oil/Ecuador-To-Forgo-Oil-In-Stunning-Climate-Proposal_259.html. Last accessed on April 6, 2011.

Hornborg A. (2006). Footprints in the cotton fields: The industrial revolution as time–space appropriation and environmental load displacement. *Ecological Economics 59(1)*, 74–81.

Huettner, M. (2012). Risks and opportunities of REDD plus implementation for environmental integrity and socio-economic compatibility. *Environmental Science & Policy 15(1)*, 4-12.

INEFAN (La Institución Ecuatoriana Forestal y Áreas Naturales) (1998). Plan de Manejo del Parque Nacional Yasuní. Retrieved from www.ambiente.gob.ec/paginas_espanol/4ecuador/docs/Planes/Yasuni.pdf. Last accessed on May 07, 2012.

Karl, T. (1999). The perils of the petro-State: Reflections on the paradox of plenty. *Journal of International Affairs 53(1)*, 31–48.

Karsenty, A., & Ongolo, S. (2012). Can "fragile states" decide to reduce their deforestation? The inappropriate use of the theory of incentives with respect to the REDD mechanism. *Forest Policy and Economics 18*, 38-45.

La Iniciativa Yasuní-ITT. (2010). Yasuní-ITT, Una iniciativa por la vida. http://yasuni-itt.gob.ec/. Last accessed on April 07, 2011.

Lambin, E.F., Turner, B.L., Geist, H.J., Agbola, S.B., Angelsen, A., Bruce, J.W., Coomes, O.T., Dirzo, R., Fischer, G., Folke, C., George, P.S., Homewood, K., Imbernon, J., Leemans, R., Li, X., Moran, E.F., Mortimore, M., Ramakrishnan, P.S., Richards, J.F., Skånes, H., Steffen, W., Stone, G.D., Svedin, U., Veldkamp, T.A, Vogel, C., & Xu, J. (2001). The causes of land-use and land-cover change: Moving beyond the myths. *Global Environmental Change 11*, 261-269

Larrea, C., & Warnars, L. (2009). Ecuador's Yasuní-ITT Initiative: Avoiding emissions by keeping petroleum underground. *Energy for Sustainable Development 13*, 219–223.

Lederer, M. (2012). REDD+ governance. *Wiley Interdisciplinary Reviews: Climate Change 3(1),* 107-113.

Lewis, A. (1999). The evolving process of swapping debt for nature. *Journal of Environmental Law and Policy 431,* 432–435.

Lohmann, L. (2005). Marketing and making carbon dumps: Commodification, calculation and counterfactuals in climate change mitigation. *Capitalism Nature Socialism 14(3),* 203–235.

Madrid, R. (2008). Indigenous parties and democracy in Latin America. *Latin American Politics and Society 47(4),* 161–179.

McCarthy, J. (2007). States of nature: Theorizing the state in environmental governance. *Review of International Political Economy 14(1),* 176–194.

Mosandl, R., Günter, S., Stimm, B., & Weber, M. (2008). Ecuador suffers the highest deforestation rate in South America. In: Beck, E., Bendix, J., Kottke, I., Makeschin, F., and Mosandl, R. (Eds.): *Gradients in a tropical mountain ecosystem of Ecuador*. Ecological Studies Series *198(1),* 37-40. Berlin, Germany: Springer Verlag.

Pan, WK, Carr, D.L., Barbieri, A., Bilsborrow, R.E., & Suchindran, C. (2007). Forest clearing in the Ecuadorian Amazon: A study of patterns over space and time. Population Research and Policy Review *26(56),* 635-659.

Pettenella, D., & Brotto. L. (2012). Governance features for successful REDD plus projects organization. *Forest Policy and Economics 18,* 46-52.

Pierson, P. (2000). Increasing returns, path dependence, and the study of politics. *American Political Science Review 94,* 251-268

Prudham, S. (2009). Pimping climate change: Richard Branson, global warming and the performance of green capitalism. *Environment and Planning A 41,* 1594–1613.

Radcliffe, S. (2001). Development, the state and transnational political connections: State and subject formations in Latin America. *Global Networks 1(1),* 19–36.

Rival, L. (2009). Planning development futures in the Ecuadorian Amazon: The expanding oil frontier and the Yasuní-ITT Initiative. Retrieved from http://www.sosyasuni.org/en/index.php?option=com_content&view=article&id=148&catid=1&Itemid=34. Last accessed on February 02, 2011.

Rival, L. (2010). Ecuador's Yasuni-ITT Initiative: The old and new values of petroleum. *Ecological Economics 70,* 358–365.

San Sebastian, M., & Hurtig, A. (2004). Oil exploitation in the Amazon Basin of Ecuador: A public health emergency. *Revista Panamericana de Salud Pública 15(3),* 205–211.

Save America's Forests. (2005). The new oil reality for Yasuní. ENGO web article. Retrieved from http://www.sosyasuni.org/en/index.php?option=com_content&view=article&id=44:the-new-oil-reality-for-yasun&catid=14:yasunational-park&Itemid=26. Last accessed on January 04, 2011.

Sawyer, S. (2007). Empire/multitude- state/civil society. Rethinking topographies of power through transnational connectivity in Ecuador and beyond. *Social Analysis 51(2),* 64-85.

Seelke, C. (2008). Ecuador: Political and economic situation and US relations. CRS Report for Congress. Retrieved from http://www.fas.org/sgp/crs/row/RS21687.pdf. Last accessed on April 07, 2011.

SOS Yasuní. (2012). Ecuador invites world to save its forest. Written by Amy E. Robertson. Retrieved from

http://www.sosyasuni.org/en/index.php?option=com_content&view=article&id=75:ecuador-invites-world-to-save-its-forest&catid=1:news&Itemid=34. Last accessed Nov 1, 2012

Southgate, D., Wasserstrom, R., & Reider, S. (2009). Oil development, indigenous populations and deforestation in Ecuador's Amazon. Paper presented at the Latin American Studies Association, Rio de Janeiro, June 2009. Retrieved from http://www.terra-group.net/pdfs/LASA.pdf. Last accessed on April 6, 2011.

Staddon, S. (2009). Carbon financing and community forestry: A review of the questions, challenges and the case of Nepal. *Journal of Forest and Livelihood 8(1),* 25-32.

Suarez, E., Morales, M., Cueva, R.,Utreras Bucheli, V., Zapata-Rios, G., Toral, E., & Torres J. (2009). Oil industry, wild meat trade and roads: Indirect effects of oil extraction activities in a protected area in North-Eastern Ecuador. *Animal Conservation 12(4),* 364–373.

Therborn, G. (1987). Welfare states and capitalist markets. *Acta Sociologica 30(3-4),* 237-254.

Time Magazine. (19 Dec 2011). Rain Forest for Ransom. Retrieved from http://www.time.com/time/magazine/article/0,9171,2101884,00.html Last accessed Nov 4, 2012

Turner II, B.L., Lambin, E.F., & Reenberg, A. (2007). The emergence of land change science for global environmental change and sustainability. Proceedings of the National Academy of Sciences of the United States of America. *104(52),* 20666-20671

United Nations Development Programme. (2012). Ecuador Yasuni ITT Trust Fund, Multi-Partner Trust Fund Gateway Website. mptf.undp.org/yasuni. Last accessed on April 5, 2012

United Nations REDD Programme. (2009). The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries. http://www.un-redd.org/Home/tabid/565/Default.aspx. Last accessed on December 21, 2010.

United Nations Statistics Division. (2012). UN Data source: Ecuador's Per Capita GDP at Current Prices. National Accounts Estimates of Main Aggregates. Retrieved from http://data.un.org. Last accessed on April 5, 2012

US Department of State. (2010). Background Note: Ecuador. Washington DC, US. Retrieved from http://www.state.gov/r/pa/ei/bgn/35761.htm. Last accessed on April 07, 2011.

Valdivia, G. (2007). The 'Amazonian trial of the century': Indigenous identities, transnational networks, and petroleum in Ecuador. *Alternatives 32,* 41–72.

Valdivia, G. (2008). Governing relations between people and things: Citizenship, territory, and the political economy of petroleum in Ecuador. *Political Geography 27(4),* 456–477.

Warnars, L. (2010). The Yasuní-ITT Initiative: An International Environmental Equity Mechanism. M.Sc. Thesis. Radboud University Nijmegen, Nijmegen, Netherlands.

Wasserstrom, R. (2010). Roads, Oil and Native People: A Controlled Comparison on the Ecuadorian Frontier. Paper presented at the Latin American Studies Association, Toronto, October 2010. Retrieved from http://www.terra-group.net/pdfs/RoadsOilNativePeople.pdf. Last accessed online on April 2, 2011.

Wunder, S., & Alban, M. (2007). Decentralized payments for environmental services: The cases of Pimampiro and PROFAFOR in Ecuador. *Ecological Economics 65,* 685–698.

Yashar, D.J. (1998). Contesting citizenship: Indigenous movements and democracy in Latin America. *Comparative Politics 31(1),* 23–42.