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**Ecological Threats, New Promises of
Sustainability, and the Evolving Political
Economy of Land Use Change and Rural
Development in Latin America**

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Abstract

The paper compares three case studies: Bolsa Floresta, a REDD/PES (Reducing Emissions from Deforestation and Forest Degradation/Payment for Ecosystem Services) forest conservation scheme conceptualized, planned and implemented by Fundação Amazonas Sustentável in the state of Amazonas, Brazil; Ecuador's Yasuní Initiative, a unique example of government-led PES aimed at avoiding carbon dioxide emissions by keeping oil in the ground; and Araçuaí Sustentável, a 10-year grassroots project in the state of Minas Geiras, Brazil, which combats social exclusion with the dissemination of agroecological practices among poor small-scale farmers to restore soil fertility while increasing and diversifying their production, thus providing viable economic alternatives to out-migration. The three programmes result from the efforts of social actors who have sought to create innovative sustainability-enhancing institutions in order to achieve environmental and social policy integration. These institutional experiments thus offer a unique opportunity to study how coordinated, cooperative and integrated policy design works in practice.

Introduction

Late twentieth century thinking about sustainable development is being reworked into a new paradigm that proposes to replace older trade-offs between development and conservation with new hopes of ‘developing while conserving.’ Research produced in the last ten years shows the dangers of separating environmental policies from poverty reduction and points to the need for holistic solutions and integrated social and environmental policies to solve two crucial issues of our time, environmental preservation and poverty reduction. This is particularly true in Latin America, a region relatively poor in financial capital but rich in biological and cultural diversity, where entrenched social and economic inequalities and weak state institutions pose very specific challenges for policy design and implementation. Yet, while some progress has been made on integrating environmental policies with sectoral policies, the view that the main priority should be poverty alleviation through economic growth still prevails in Latin America.

The paper discusses comparatively three case studies: ‘Bolsa Floresta,’ a REDD/PES forest conservation scheme conceptualized, planned and implemented by Fundação Amazonas Sustentável (FAS) in the state of Amazonas, Brazil; Ecuador’s Yasuní Initiative, a unique example of government-led PES aimed at avoiding carbon dioxide emissions by keeping oil in the ground; and ‘Araçuaí Sustentável,’ a ten-year grassroots project in the state of Minas Geiras, Brazil, which combats social exclusion with the dissemination of agroecological practices among poor small-scale farmers to restore soil fertility while increasing and diversifying their production, thus providing viable economic alternatives to out-migration. The three programmes result from the efforts of social actors who have sought to create innovative sustainability-enhancing institutions in order to achieve environmental and social policy integration. These institutional experiments thus offer a unique opportunity to study how coordinated, cooperative and integrated policy design works in practice.

Addressing poverty through payments for ecosystem services

Sustaining the development process is a common concern of developing and developed countries, with many policy ramifications. If the green economy being imagined in studies such as TEEB (The Economics of Ecosystems and Biodiversity) rearticulates the three components underpinning the concept of sustainability (i.e. its social, economic and environmental dimensions) in a much more interactive and systematic way than older ‘sustainable development’ formulations did, its policy implications are yet to be worked out in full. The green economy may be a new paradigm, but it is likely that sustainability will continue to mean different things to different people for many years to come (e.g. Redclift 1987; Agyeman et al. 2003; Deb 2009; Norton 2005; Edwards 2010). From an anthropological perspective, sustainable development is best approached as a set of competing visions about the future of society, social justice, and ecological restoration. Anthropology also raises questions concerning the materialisation of visions of sustainability. Why (and how) do *some* visions become reality and what happens to those that are discarded? What vision of sustainable development will become dominant? What institutions will emerge from the political desire for social justice in redistribution within and between countries? What life-sustaining systems will receive protection, and what level of protection? Will the expansion of democracy and the defence of public goods converge or diverge?

An anthropological approach is useful when examining documents such as UNDP's report 'Latin America and the Caribbean: A Biodiversity Superpower' edited by Bovarnick, Alpizar and Schnell (2010), which offers a detailed account, sector by sector, of the economic costs associated with the 'Business As Usual' (BAU) land use model and the multiple benefits of switching to a 'Sustainable Ecosystem Management' (SEM) model. The report's findings suggest that conventional practices associated with natural resource exploitation and industrial agriculture can no longer deliver reduced poverty or enhance wellbeing and prosperity, for they degrade ecosystem services at a time when 'there is an increased opportunity to generate income from conserving and marketing ecosystem services.' The 'Biodiversity Superpower' report summarises a wide range of arguments in defence of the thesis that long-term economic growth in Latin American countries depends on ecosystem services (ES) more than on natural resources per se, especially now that Latin American ES are recognised as playing an important global climate stabilising role. The report concludes that future costs and benefits analyses should take into account the fact that 'healthy biodiverse ecosystems generate greater amounts, higher quality, and more stable flows of ES over time' (Bovarnick, Alpizar and Schnell 2010: 19).

As this quote illustrates, the green economy is built on the concept of 'ecosystem services'¹, on the observation that they used to be free, and on the belief that their payment opens 'new market opportunities for more sustainable practices.' Green economists want to address the fact that although the environment provides people with all sorts of apparently free services, these are almost always ignored when the economic case for 'development' is considered. The first systematic attempt to conceptualise and measure ecosystem services goes back to the Millennium Ecosystem Assessment (MA 2005), where ES are defined as the products of complex links among species and as functions of interactions between species, soil and atmosphere (see also Jax 2010). The MA report establishes that the most significant environmental challenges facing society today include climate change, biodiversity loss, increasing water scarcity and nutrient deposition, and that poverty is closely linked to these challenges. It is in this context that economists and environmental scientists have started to elaborate a range of innovative models and calculations to (1) reflect more accurately the values of the natural capital embodied in ecosystems and the services they provide and (2) assess the consequences of ecosystem degradation. According to some calculations, intact ecosystems (for instance wetlands, forests, coral reefs) are worth far more than the degraded or exploited systems that replace them. The green economy arises from such calculations.

For the green economy to exist, where there are ecosystem services (ES), there should be payments for ecosystem services (PES). PES schemes involve external ecosystem service beneficiaries making direct, contractual and conditional payments to local landholders and users in return for adopting practices that secure ecosystem conservation and restoration (Wunder 2005)². In other words, payments for ecosystem services are the green economy's backbone. Why? Because – the reasoning goes – (1) PES are the most efficient and the most equitable way of attaching economic values to ES; (2) they help bridge conflicting land use interests by means of compensations; (3) they involve partnerships between the public and the private sectors, which will catalyse

¹ See Salzman (2005) and Norgaard (2010) for a discussion of the differences between ecosystem services and environmental services.

² Wunder further specifies the five conditions that need to be met for a transaction to qualify as a PES: [1.] a voluntary transaction where [2] a well-defined environmental service (or a land-use likely to secure that service) [3] is being 'bought' by a (minimum of one) ES buyer [4] from a (minimum of one) ES provider [5] if and only if the ES provider secures ES provision (conditionality).

the needed shift from ‘BAU’ to ‘SEM;’ finally, (4) when generalised and institutionalised, they will give rise to well-functioning markets in ecological goods and services. To appreciate the difference in conceptualisation between the old sustainable development paradigm (as embodied in the Brundtland report, for instance) and the new paradigm (as epitomised by the UNDP’s Biodiversity Superpower Report), it is sufficient to mention some of the policies that are considered innovative today, such as negotiated agreements between downstream beneficiaries and upstream providers in watershed contexts, or REDD+ (‘Reduction of Emissions from Degradation and Deforestation plus’) schemes.

Whereas the old SD paradigm was primarily concerned with ensuring that economic and social development does not pollute or degrade the environment too much, the new SD paradigm aims to capitalize ‘untouched’ nature by turning it in the source of new goods and services, including financial ones. Popular newly recognised ecosystem services for which payments should be sought include hydrological services and carbon sink services. As an example of the former, payments for watershed service schemes are presented as reinvestments in the protection and management of watersheds by water users, who, by the same token, also protect the quality of the water they drink. Examples of the latter include payments to avoid carbon dioxide emissions through forest fire or other forms of land degradation. These payments provide new revenue streams for forest dwellers and Protected Areas authorities, as well as incentives to ensure that standing forests will continue to provide carbon benefits. UNDP’s Biodiversity Superpower Report and TEEB study emphasise the role of the private sector in fostering the green economy, especially the importance of the financial sector (banks and insurance companies), while showing far less when it comes to government involvement in environmental governance. Governments might be good at regulating and standardizing practices that internalize externalities, but too much public expenditure invested in biodiversity conservation and ecosystem management may result in inefficiencies and ‘perverse incentives’ (Bovarnick, Alpizar and Schnell 2010: *). ‘Well-designed policies’ the report’s authors advocate, ‘should aim at creating incentives for private agents to behave in society’s best interest. These incentives will include factors that trigger private inventiveness in finding cost-saving strategies to comply with regulation.’

What these briefly sketched examples show is that, although presented as a single PES policy providing similar benefits, the marketisation of ecosystem services includes schemes that are fundamentally different in nature. Whereas a PES transaction between upriver and downriver dwellers within a watershed may function more or less like a weekly market place where local buyers and sellers regularly meet, redefining a rainforest as a giant eco-utility for large-scale financial investments, as newly created banks such as Canopy Capital³ propose, involve very different mechanisms and scales, with direct implications for social development. In order to tease out these differences, I examine comparatively three Latin American projects that aim to prevent environmental degradation while reducing poverty.

³ canopycapital.co.uk

Bolsa Floresta: Paying for avoided deforestation

Bolsa Floresta (in full and literally, ‘The Forest Conservation Allowance Programme’) started in 2006 as a state project under the name ‘Juma Sustainable Development Reserve Project for Reducing Greenhouse Gas Emissions from Deforestation.’ The Juma reserve, home to 370 families, is a state ‘conservation unit’ comprising 589,612 hectares of forest. It was the first project to be nominally recognised as a REDD project in Brazil, and one of the first projects to obtain a ‘gold-standard validation’ by the Climate, Community and Biodiversity Alliance, which certifies schemes that simultaneously address climate change, community development and biodiversity conservation. Bolsa Floresta’s mission is to replicate the Juma Reserve experience in thirteen additional protected areas with a population of at least 6,500 families spread over ten million hectares.⁴ As explained in greater detail below, initial funding for the project (2006-2016) came from the government of the state of Amazonas, Bradesco Bank and the Marriott International hotel chain.

Incentives to avoid deforestation include a combination of conditional direct payments to families (family forest allowance); grants to community associations (forest allowance for associations); social development programmes (social forest allowance); and the promotion of income-generating activities (income forest allowance). There is also funding for support, monitoring, auditing and administration. A monthly Family Forest Allowance (Bolsa Floresta Familia or BFF) of R\$ 50 (US\$ 22) is paid monthly to registered married women with children who live in one of the fourteen conservation units covered by the programme. This payment is modelled on the highly popular conditional cash transfer Bolsa Familia. Payments are made directly onto a Bradesco bank debit card held by the mother, who can use her card in post offices or cash machines in Manaus and other urban centres. The women who receive this payment pledge at a public workshop that they will look after their children’s education and will do their best to prevent forest fires. Official documents available on the web stress that the payment is a *reward* (‘recompensa’ in Portuguese), not a source of income for the beneficiary families, who commit to zero deforestation.

The Forest Allowance for Associations is calculated to represent 10 per cent of the total value of the family allowances. It amounts on average to R\$ 12,000 per reserve per year. Reception is conditional to participating in the activities of the association. The money is transferred to the community association’s bank account or used as a form of credit towards community expenses agreed upon in general assemblies. This allowance funds office support (internet, solar panels, computers), transportation (speed boats) and logistics (fuel and food supplies) as a means to strengthen community organization and social control mechanisms. The goal is to ensure that the conservation units become managed as community-regulated commons. The Income Forest Allowance, with an average value of R\$ 140,000 per community (calculated to be equivalent to 11.4 families) per year, is designed to promote sustainable development and support income generating productive activities such as bee keeping, vegetal oil, ecotourism, and many other appropriate activities that were pioneered throughout the Brazilian Amazon during the 1990s (Hall 1997), before being systematised by the federal programme ProAmbiente⁵. As an informant told me, ‘the income from the forest allowance covers

⁴ Virgilio Varnia talks about the project as involving six thousand families over an extension twice the size of Costa Rica.

⁵ ProAmbiente is the first formal PES scheme established in Brazil. It was launched by CSOs in 2000, before being transferred to the Federal government in 2004. It is based on the principle that small farmers

anything that generates income, is legal, and does not produce smoke.’ The Social Forest Allowance, with the same average value of R\$ 140,000 per community per year, is aimed at improving health, education, communication and transport for all in collaboration with government agencies and participating NGOs. The villagers I spoke with make a clear distinction between what they see to be two separate Bolsa Floresta, the family allowance and the various types of community payments. FAS employees, by contrast, distinguish investments in income-generating activities, which they call Bolsa Floresta Income (BFI), from investments aimed at improving the quality of life in the communities, which, for them, come under Bolsa Floresta Social (BFS).

The project is planned to run until 2050, by which time it is expected to have generated around 171 million tonnes of CO₂ credits. The methodology to quantify the carbon reduction emission through avoided deforestation was developed by IDESAM (in English, Institute for the Conservation and Sustainable Development of the State of Amazonas), a research NGO founded in 2004⁶. IDESAM also collaborated with various government agencies, university research units and NGOs to prepare deforestation scenarios for the state’s protected areas. For Virgilio Viana, the brain behind Bolsa Floresta, these protected areas form part of the ‘Deep Amazon,’ a region not yet reached by roads or commercial agriculture. With its low rate of deforestation (less than 2 per cent), the ‘Deep Amazon’ is a heaven for ‘pro-active investment in natural capital’ (Trivedi et al 2009), a form of conservation finance aimed at maintaining such forests in their ‘pristine state.’ As a REDD+ scheme, Bolsa Floresta aims to ‘ensure that standing trees are worth more than logs,’ a popular joke I heard many times in the field, which encapsulates the new rationality behind the carbon dioxide calculations of the green economy.⁷

Bolsa Floresta became operational in 2008 after the state of Amazonas passed a law on sharing avoided deforestation benefits. Another law was passed, that created 30 state-level conservation units.⁸ Bolsa Floresta was made possible thanks to two initial donations, each of R\$ 20 million, one from Bradesco Bank, the other from the state of Amazonas.⁹ Additional donations were obtained from a range of national and international partners,¹⁰ including a large grant from the Amazon Fund, which is funded by Norway and managed by Brazil’s development bank, BNDES. The endowment fund, now amounting to approximately US\$ 40 million, is invested with Bradesco Bank, free of fees and administrative charges. While the Family Forest Allowance, Forest

are paid to minimize deforestation and the use of fire, and embrace environmentally friendly systems such as agroforestry. The biggest problem faced by ProAmbiente was a lack of sustained funding (May and Millikan 2011).

⁶ See the Juma Project Design Document, www.idesam.org.br/projetos/rdsjuma_pdd.php.

⁷ "At least now there is some monetary value being placed on trees." Ian Swingland.

⁸ While the federal government has yet to introduce a national PES legislation, the state of Amazonas has already passed a number of laws to this effect. It was the first state in Brazil to create state-level conservation units. The ‘Law on Climatic Change, Environmental Conservation and Sustainable Development’ was published in June 2007 (Amazonas State Law 3.135/2007, www.ciflorestas.com.br/arquivos/lei_lei_3.1352007_31561.pdf). It was followed by the promulgation of the complementary Law 53, which established the state’s system of conservation units. The state’s climate change policy was formalized by the Law 3.244 of 4 April 2008, which created CECLIMA, a new government unit within SDS which coordinates and executes the state’s climate change policy. The state of Amazonas has extractive reserves (the extractive reserves in ACRE were implemented and are regulated by the federal government).

⁹ The donation from the government of the state of Amazonas was authorised by the Law 3.135/2007, see footnote 1.

¹⁰ Such as Coca-Cola, the Spanish Foundation Sevilla Nodo, the Italian clothing store chain Yamamay, and Samsung.

Allowance for Associations, and administrative costs are covered by the private donations, the Income Forest Allowance and the Social Forest Allowance are covered directly from the endowment fund. In 2009, a total of US\$ 8,690,600 was spent (amounting to a direct cost of US\$ 150 per family and a direct cost of US\$ 0.10 per hectare of protected forest). In 2010, a total of US\$ 11,066,666 were disbursed to benefit 8,000 families (with a direct cost of US\$ 115 per family and US\$ 0.08 per hectare of protected forest, see Viana 2010: 38).

Bolsa Floresta is implemented by FAS (Fundação Amazonas Sustentável, Sustainable Amazonas Foundation in English), which is described in the official brochure as ‘a private, independent and non profitable, non governmental institution of public interest and without political party connections.’ FAS was legally founded in December 2007 by the two main grant donors, Bradesco Bank and the state of Amazonas. It is officially registered and recognised in both federal and state law. Virgilio Viana, who acted as State Secretary for Environment and Sustainable Development (SDS in Portuguese) from 2003 to 2008, left the ministry to become FAS’ Director. He has written extensively on Bolsa Floresta and the state initiatives that preceded it. He refers to the scheme as ‘the largest REDD and PES programme in the tropical forests of the world.’ He is currently involved in replicating the programme in various places in Latin America and Africa, and is advising the federal government on how to expand it to other states in Brazil. FAS is currently working with the Federal Government and FUNAI to apply the Bolsa Familia methodology to indigenous reserves.

Official documents describe FAS’ mission as one of promoting sustainable development in the state’s conservation units through actions that decrease deforestation and reduce poverty. The foundation aims to bring together companies and institutions in support of socio-environmental projects that foster forest conservation and improve the quality of life of traditional communities through social and human development and appropriate income generating activities. FAS also intends to establish new markets for environmental products and services. The former are described in Complementary Law 53 as including ‘the carbon available in the biomass and other products associated with the use and conservation of ecosystems’ and the latter as comprising any process ‘that may create benefits from the maintenance and preservation of natural or human-managed ecosystems.’ By law, all the revenues obtained must be re-invested in the management of the conservation units to promote forest conservation and improve the quality of life of the inhabitants.

The creation of a private foundation to achieve these goals is presented as a necessary institutional innovation to allow sustainable development to take place in the long term ‘independently from political party interests’ and outside the constraints of short-term electoral cycles. It also allows private companies to exert their corporate responsibilities voluntarily. While in Manaus, I was struck by the popularity of Bolsa Floresta with the local newspapers, television programmes and radio shows. In their coverage, the media presented the programme as a unique opportunity for the private sector to valorise their image, create carbon neutral solutions, and get a competitive edge. The public/private status of FAS is considered to be optimal to cash on the post-2012 Kyoto agreements that point to a convergence of interests between Brazil as a nation (‘it is in our national interest to reduce deforestation and conserve our forests’ says Viana) and the Annex 1 countries who are committed to reduce their CO₂ emissions. This is how Virgilio Viana describes the convergence of interests and its potentials:

There exists a provision in the U.S. legislation for a quota of 1 to 1.5 billion tons of CO₂ for international compensation. This could represent US\$ 10 to 30 billion per year for compensatory mechanisms for REDD worldwide. Brazil could take the lead in promoting green entrepreneurship by private companies as well as rural producers, nongovernmental organizations and traditional and indigenous communities. These resources could result in the development within Brazil of a vanguard sector in terms of REDD projects internationally. REDD projects could increase the financing of governmental actions through a collection of taxes or contributions for federal, state and municipal governments. In addition, REDD projects, through the use of systems for payments for environmental services, could result in investments for the eradication of poverty and quality of life improvements (my translation).

FAS implements many of the actions that were envisaged by the SDS under the Green Free Trade Zone Programme (Programa Zona Franca Verde, see Viana 2010) in the Conservation Units where it works. According to Virgilio Viana and other FAS workers I have interviewed, the status of private foundation allows FAS to partner with a wide range of organisations that offer their technical expertise and support to Bolsa Familia at a minimal cost, as ‘donations in kind.’ For instance, while DDL, ‘one of the largest law firms in the Amazon region,’ provides FAS with legal assistance, Pricewaterhouse Coopers-Brazil, ‘one of the most respected auditing companies in the world,’ is responsible for FAS’ external audits. The federal university (UFAM) sends its forestry and pisciculture students to research and monitor the income forest allowance programmes, whereas researchers at UEA (Amazonas State University), INPA (National Institute for Research on the Amazon), the AgroTechnical School, and the Permaculture Institute contribute to the development of a whole range of initiatives. FAS has also contractual partnerships with a range of agencies from the state of Amazonas, such as the secretary for education and the agency for sustainable development¹¹. These partnerships allow FAS to associate a number of additional and complementary programmes to the core ‘forest allowance system,’ in order to foster long term and lasting changes in human development, especially in the areas of health and education; in sustainable forest economies; and in the management of the conservation units through monitoring, control and scientific development. As a FAS worker told me, “We need to work on all fronts.” He added that coordinating many institutions and articulating a multiplicity of activities into a coherent whole was a real challenge. For its director, Bolsa Floresta would not be possible without FAS and its catalysing role in getting actors to work together to fulfil the MDGs, especially on health issues, which he sees as absolutely central to the promotion of a better quality of life linked to forest conservation in the Amazon region (see also Viana 2008: 150).

Unsurprisingly, Bolsa Floresta is hailed as a complete success by REDD fans. As someone working for a pro-REDD NGO told me half jokingly: ‘they [i.e. FAS]’ve proven that REDD is simple and doable.’ At a meeting held at Chatham House on 23 March 2009, Bianca Jaegger introduced Virgilio Viana as ‘an environmental hero who has managed to implement forest conservation *with* people, and is saving thousands of people from poverty.’ In the same meeting, Camila Toulmin of IIED (International Institute for Environment and Development) described Bolsa Floresta as a success story ‘where forest households are rewarded with monthly payments into credit card accounts

¹¹ See www.fas-amazonas.org/pt/secao/parceiros/parceiros-operacionais for the full list of partners.

for practising farming without fire.’ Bolsa Floresta ticks all the boxes of REDD specialists, whether they work for Forest Trends, CIFOR or IIED¹². What REDD fans particularly like about Bolsa Floresta is the enabling role played by the sub-national government, which created the legal structure, has partly financed the project, and assumes (at least in theory) the heavy cost of controlling and enforcing the zero deforestation objective. Some also admire the consultation process and the participatory methodology used by FAS. It is the funding mechanism and the organisational structure that they wish to replicate in other locations. Conservation units seem to be the best legal instrument to protect environmental and ecosystem services in a country where land tenure is a thorny political issue, and the state of Amazonas has instituted its own laws to facilitate PES. State ownership is devolved, not to the communities, as advocated by Forest Trends ten years ago, but to sub-national governments. The families living in conservation units have no legal ownership on the land they occupy; they are registered as being granted the right by the government to live there, and are rewarded if they accept to commit themselves to forest stewardship obligations. ‘Conservation units,’ Virgilio Viana told me in an interview, ‘transform maps into behavioural change on the ground. They get the technical information out of the closet.’ The contract structured in four parts allows the project to receive funding from a wide range of sources, both through the Clean Development Mechanism (CDM) and the Amazon Fund (which funds only capacity building activities).

The Yasuní-itt initiative: Paying for avoided pollution from oil burning

If Bolsa Floresta has become the icon of a successful REDD scheme, the Yasuní-Ishpingo Tambococha Tiputini Initiative (thereafter Y-ITT),¹³ is designed as an alternative to REDD. The fundamental idea behind Y-ITT (i.e. that the best way to mitigate climate change and develop sustainably is to keep fossil fuels underground, embrace renewable energies and promote forest conservation) has been circulating in non-governmental organisations such as Acción Ecológica and OilWatch since the early 1990s. ‘A key outcome of the ITT initiative, if successful, would be to show that petroleum can be worth more under the ground than above it’ I was told by an interviewee. This idea arose from the conclusion that Ecuador’s heavy dependence on oil revenues creates a skewed regime of development, with high indebtedness, unemployment, poverty, inequality, and deforestation rates. It was officially endorsed by the Ecuadorian government in 2007, when President Correa pledged to leave indefinitely 846 million barrels of heavy crude underground in the Ishpingo, Tambochocha, and Tiputini (ITT) oil fields lying beneath the Yasuní National Park (YNP). The park is one of the most biodiverse in the world and home to indigenous groups living in voluntary isolation. In exchange, Ecuador asks for a compensation of US\$ 3.6 billion - half the oil’s market value - to be raised over thirteen years and deposited into a trust fund administered by UNDP. The trust fund and the interests it would generate would then be used to finance renewable energy facilities, energy

¹² The way I hear people in the conservation and development community promote this project reminds me of the role Quintana Roo played in the 1990s as the iconic model of community management for tropical forestry (Rival 2003). FAS is already organising many field trips to the Juma Reserve, which is showcased all over the world and visited by numerous study groups in very much the same way as GTZ Manejo Forestal projects were in southern Mexico. The difference, perhaps, is that FAS, who charges large fees for the experience, uses these visits as an additional income stream.

¹³ See Rival (2010) for a history of this initiative.

efficiency in consumption programmes, avoided deforestation, reforestation, the protection of the country's national parks, projects in and around YNP, and environmental research. If a future government ever decided to exploit the oil, the money invested plus interests would be returned to the contributors. Despite what some commentators have said, the trust fund is no more risky for international donors than Ecuador's external debt is; the repayment guarantees are similar (Rival 2010). Proponents of Y-ITT have made it clear that this proposal is a long-term strategy signalling a political commitment to change the country's model of development in the face of climate change.

Y-ITT is being officially promoted as a non-market-based mechanism. The official reasoning goes something like the following¹⁴. By committing to refrain indefinitely from extracting the 846 million barrels of ITT petroleum, Ecuador proposes an innovative way of combating global warming, which involves (1) refraining from extracting fossil fuels from areas that are highly sensitive both biologically and culturally; and (2) consolidating a strategy based on promoting social development, nature conservation and the use of renewable energy sources with the ultimate goal of achieving a new model of sustainable human development. As a developing oil dependent country, Ecuador cannot afford to promote the transition from the current development model based on petroleum extraction to a new strategy based on equality and sustainability without external financial contributions. Y-ITT is presented as a highly cost-effective solution, in fact, 'several times better than other conventional mitigation tools, based only on avoided deforestation,' given that more than a billion tons of CO₂ emissions can be avoided during a thirty-year period through a combination of measures such as keeping the ITT oil in the ground, avoiding deforestation on a national scale, reforestation, and switching to renewable energy.

The official document prepared for the UNFCCC meetings of April and June 2011 clearly stipulates that Ecuador's proposal is consequential with the Human Development Report 2007/2008 on 'Fighting Climate Change: Human Solidarity in a Divided World.' It fully embraces the report's central ideas such as, for instance, that 'climate change is the defining human development challenge of the 21st century':

Failure to respond to that challenge will stall and then reverse international efforts to reduce poverty [...] Business-as-usual climate change points in a clear direction: unprecedented reversal in human development in our lifetime, and acute risks for our children and their grandchildren [...] Actions taken—or not taken—in the years ahead will have a profound bearing on the future course of human development [...] In a divided but ecologically interdependent world, [we need to challenge] political leaders and people in rich nations to acknowledge their historic responsibility for the problem, and to initiate deep and early cuts in greenhouse gas emissions.

The document further explains that Y-ITT is grounded in the government's decision to give priority to social and environmental values by exploring alternatives economic and development models. With Y-ITT, Ecuador shows its willingness to take a lead internationally on the shared and differentiated responsibilities that underpin international climate change policy. This is why Y-ITT is proposed to the world in a spirit of international cooperation and solidarity, with Ecuador assuming up to half of

¹⁴ Refer to Ecuador's submission to UNFCCC in February 2011, available on the red desk.

the opportunity cost of keeping the ITT oil in the ground, and the international community contributing at least half of the revenues that the state would have otherwise received from extracting this oil (see also Larrea and Warnars 2009). As a negotiator told me, Y-ITT ‘creates a public good for the world.’

I have analysed elsewhere (Rival 2010, 2011) the ways in which the proposal is constructed in relation to the unique characteristics of the Yasuni’s biological and cultural diversity and the fact that the exceptional and unique richness of the park is currently threatened by the oil industry. Arguments also cover the accelerated deforestation of the Ecuadorian Amazon region and the threats posed by the development of a vast road infrastructure. Although not mentioned with the same frequency, the low grade quality of the ITT crude, which makes it particularly expensive to exploit, less productive in terms of recovery, and extremely polluting is also playing a part. As I have explained in my previous work, it is the existence of international carbon markets that make a proposal such as Y-ITT conceptually possible, as they facilitate the translation of the market value of crude oil into direct and indirect avoided carbon dioxide emissions. According to Ecuador-UNDP’s international agreement, the total amount to be raised and administered by the Trust Fund is equivalent to 407 million tons of avoided CO₂ emissions, valued according to the price at the signing date of each particular contribution of the European Union Allowances (EUAs) in the Leipzig Carbon Market (currently at US\$ 19.81 per ton of CO₂). Official negotiators stress that the amount of direct CO₂ emissions that would be prevented with Y-ITT surpasses the annual emissions of France (373 million tons) or Brazil (332 million tons), with a total economic value of US\$ 8.067 billion.

The Trust Fund is designed to be used in a very similar way as Norway’s oil fund is used, with royalties invested in sustainable development projects and interests covering running costs as well as human development and conservation programmes. To give donors confidence in the instrument proposed, this fiduciary fund is managed by an international organization (UNDP) with oversight on how the funds will be disbursed and control over the fulfilment of the fund’s objectives. The government intends to invest the fund’s capital in renewable energy projects, taking advantage of Ecuador’s vast hydroelectric, geothermal, wind and solar potential. Official documents stipulate that the interest earned from the Trust Fund will be invested according to the guidelines of the National Development Plan (SENPLADES 2009) to execute five different activities. Firstly, it will be used to protect 38 per cent of the national territory by conserving and preventing deforestation in forty-three protected areas (representing a total of 4.8 million hectares) and administering five million hectares of remaining original ecosystems. In the YNP, funding will be allocated to the protection of indigenous communities living in voluntary isolation. Secondly, the Trust Fund will be used to reforest, afforest, and promote the natural regeneration of one million hectares of forest owned by small landholders and indigenous communities, thus promoting forest conservation in a country that has currently one of Latin America’s highest rates of deforestation. Thirdly, the fund will be used to increase national energy efficiency and savings. The fourth budget line will be dedicated to promote social development in Y-ITT’s buffer zone, with a range of health, education, training and technical assistance programmes, as well as income generation programmes linked to sustainable activities, such as ecotourism, agriculture and agro-forestry. Finally, the fund will finance scientific research and development activities in a range of technologies facilitating Ecuador’s transition to sustainable development. All these projects will contribute directly to the National Development Plan’s objective to overcome the country’s current dependence on fossil fuels.

As substantial international funding has not materialised, Y-ITT is no more than a project awaiting implementation. Yet, many insights can be gained from the disagreements surrounding the policy process, the discussions that have accompanied the promises of international funding, or the attempts to solve a number of technicalities. The proposal was specifically designed to address international climate change policy at meetings of the ‘Conference of the Parties’ (COP) in Bali and Copenhagen. As such, it is far more ambitious and encompassing than any REDD+ pilot project. In international relations terms, Ecuador asks developed countries to contribute financially to the prevention of future CO₂ emissions in a way that ensures the economic feasibility of Ecuador’s centrally planned government strategy to change the course of national development through ‘greening the state.’ Germany, which had initially agreed to pay €58 million a year for thirteen years in the Trust Fund, withdrew its pledge in September 2010.¹⁵ With only a small fraction of the US\$ 3.6 billion necessary for the proposal to be viable actually in the coffers, the future of Y-ITT is far from certain. This situation reflects both the power of international actors’ preference for market mechanisms such as REDD and the mistrust in which the Ecuadorian government, which has been more than ambivalent in its promotion of Y-ITT, is held internationally (Rival 2011). Some evidence suggests that Ecuador is now trying to fit Y-ITT within a REDD national framework (Ruprecht 2011).

Despite all these uncertainties, Y-ITT has created a rich debate inside Ecuador, generating much popular support, including in the Amazon region (Barnard 2011). It has also created tensions between various ministries, as well as between national and local levels of government, which are discussed in greater detail later on in the paper, along with issues surrounding the governance of the trust fund. Finally, it raises a number of issues regarding environmental law, constitutional law and resource exploitation, as well as fascinating issues regarding the links between identity, nationalism and environmentalism. As I shall argue in the conclusion, all these aspects are important to consider when discussing policy integration within a new green economy regime.

Araçuai Sustentável

Araçuai is a municipality of around 38,000 inhabitants, of which 57,3 per cent live in town and 42,7 per cent in the surrounding countryside. ‘90,5 per cent of the Brazilian cities have a population inferior to 50,000 inhabitants’ Tião tells me. ‘Small cities are very important for the development of Brazil; their size is on a human scale.... How can we achieve quality of life for all in a giant megalopolis like São Paulo?’ This is why CPCD (Centro Popular de Cultura y Desenvolvimento), the organization that Tião founded in Belo Horizonte twenty-seven years ago, came to Araçuai in 2003. After eight years of popular education in both the urban and rural parts of the municipality, and an intensive process of inter-institutional work, CPCD has implemented an impressive array of programmes, which, together, are putting in motion a new model of sustainable development for the region.

¹⁵ For a discussion of Germany’s position in relation to other donors, see Ruprecht (2011) and Barnard (2011).

Araçuai is located in the valley of the Jequitinhonha River, in the northern part of Minas Geiras. Agriculture constitutes only 5,7 per cent of the municipality's economy, compared with 15 per cent for mining and 74 per cent for services. Like Bahia further north, this is a poor semi-arid region of Brazil known in the national popular imaginary as a land of drought, hunger and poverty from which people have had to migrate in order to survive. If mass migration to São Paulo or other parts of the country has now stopped, around 8,000 men still leave their homes for nine months every year to cut sugar cane in central Brazil. In the rural households, women have for generations farmed the land and raised their children practically alone. In recent years, with the continued reduction of the forest cover, loss of biodiversity, soil erosion, and, perhaps, the changing global climate as well, lack of rainfall and droughts have become more severe. The river system has been drying, due to dams and the expansion of eucalyptus plantations. Some of these plantations are registered in PES schemes under CDM.

The objective of Araçuai Sustentável is to reverse environmental degradation and boost the role of agriculture in the local economy, so that the poorest section of the population can live comfortable and independent lives without having to migrate to find a job. This requires paying serious attention to the formation of human capital, something that CPCD excels at. Between 2003 and 2006, the organisation dedicated itself to addressing the problems of illiteracy and semi-illiteracy through local mobilisation. Considering illiteracy a grave illness, CPCD initiated its work with an 'intensive care unit' programme, which was then diversified in a whole range of programmes and activities aimed at transforming the lives of the participating families according to the principle of 'yes you can.'

The programme is based on a philosophy of human life and ethical principles rooted in Paulo Freire's pedagogy of the oppressed. The rationale for intervening is that illiteracy, hunger, violence against women and children and environmental destruction should not occur in the twentieth century in a country like Brazil. To address such problems, which are the symptoms of a grave social and political illness, special measures and intensive care are required. At the core of the intervention is the child who has been failed by state schooling and whose most intimate, affective ties have been damaged by poverty. To learn how to read, write and count, and through this knowledge acquire the intellectual and moral skills necessary to grow into a real citizen, the child needs to develop good relations with his peers and with caring adults. Learning has to be fun, and apprenticeship lived as *joie de vivre*. Well-trained and dedicated educators are sent to communities where they can spot and identify those who have the potential to become educators. These individuals, called by Tião 'bright dots' (pontos luminosos), are trained and their work supported by CPCD.

The literacy campaign in Araçuai started with an 'educational unit of intensive work' (UTI Educacional) to address the fact that, according to tests administered by the national government, of the children with eight years schooling, only 3,3 per cent were found to have reached a sufficient level of proficiency in reading, writing and counting. In other words, 96,7 per cent were found to be deficient, of which 50 per cent were declared to be 'in a critical state.' As Tião says: 'the failure of formal schooling has created mass illiteracy in this place. It has created half-citizens who cannot fully develop their potential or fully participate in the life of the nation. These children are the victims of the system that failed them, yet they are treated as defective individuals, as if they were responsible for not knowing how to read, write and count.' CPCD intervention took place outside of school hours in the houses of mothers who supported the literacy campaign and had volunteered to be trained and become community leaders.

'To provide good education, you need good educators' I was told by one of CPCD activists. UTI Educacional expanded into a programme that mobilised the whole community in the literacy campaign, with the constitution of libraries, mobile cinemas, improvised theatres, story telling and many more events, all rooted in local popular culture. These programmes, aimed at transforming streets, public spaces and whole neighbourhoods into spaces of 'permanent education,' have beautiful, poetic names such as 'be a child' (Ser criança), 'hug pedagogy' (Pedagogia do abraço), 'city of learning' (Cidade educative), or 'little seed' (Sementinha). For CPCD, popular culture and folk knowledge are basic, essential resources for human development in all its holistic ramifications.

When a sufficient number of children reached the age of 14, the limit to be part of the programme Ser criança, CPCD created three new youth programmes: 'Software small factory' (Fabriqueta de software); 'Solidary production people's fingers' (Fabriqueta – unidade de producion solidaria dedo de gente)¹⁶; and 'Movie Theatre Children of Araçuaí' (Meninos de Araçuaí – Cinema). The reason for this, I was told, is that 'if children need to play to learn the basics, adolescents need the challenge of fending for themselves. They have to learn how to make money and look after their families.' These programmes geared at the acquisition of new skills have the same focus on culture and communication as those that preceded them. This is illustrated by the fact that they led to the creation of a cinema in the town. There had never been a cinema or a theatre in Araçuaí before, and when the royalties earned by the children's choir were sufficient enough to be invested, it was decided to create a cinema to show the documentaries made by the teen agers enrolled in the project who, as part of their literacy-for-citizenship activities, had been filming the city, its inhabitants, and a whole range of social and cultural topics. Feature films are also shown once a week in the cinema, which is entirely run by teenagers - as the two other social enterprises.

In 2006, CPCD's project was expanded to the rural areas, where the literacy campaign was combined with a nature conservation programme. The first action was a 'solidarity market' (emporio solidario), which consisted in organising the distribution of government donations in kind (food, clothes, etc) to the poor, so that the 'zero hunger' (fome zero) aid programme be fair, well coordinated, and respectful of the dignity of the recipients. The second action was a demonstration farm based on the principles of agroecology and permaculture on an old, disused five hectares farm owned by the Franciscan order. The land was too degraded to produce, and the farm had been abandoned. It became 'the place of wonder' (sitio maravilha), which now produces 28 tons of food per month. Sitio maravilha is supervised by Celsio, who was raised on a small family farm and worked as a sugar cane cutter in the state of São Paulo for over 26 years. Sitio maravilha demonstrates techniques of water conservation, rainwater roof catchment, intensive horticulture, composting, and more, which are then disseminated in rural households through training and social mobilisation. Women who wish to be part of this project have to demonstrate first that they routinely use in their homes the techniques they have learnt to recycle waste and make compost. When they become members of the project, they develop a 'wonderful plot' (quintal maravilhoso), according to the agroecological principles they have acquired. They speak of their garden plots in their own backyards as their own little piece of 'sitio maravilhoso.' Celsio and the community organisers reinforce in their teaching the message that all these cultivated spaces form one large, collective land of abundance. The techniques used in the rural homes and communities include rain capture; compost loos; gray water

¹⁶ 'Dedo de gente' (people's fingers) started in 1996 in other areas of Minas Geiras.

recycling; swales; and tree planting for riverbank consolidation. Houses are painted with the same natural pigments and clays used in the handicraft factory *Dedo de gente*. Like anything else promoted by CPCD, the message conveyed celebrates the principles of simplicity, beauty, practicality, and self-reliance.

Using similar principles of social and community mobilization, CPCD has also organised numerous workshops and training sessions during which women exchange recipes to make herbal remedies, soap from old frying oil, and a range of preserved foods. Much local knowledge was recovered in this fashion, through the use of simple catalysing events that build on what people in the community know. As a result, fifty-six women are now selling their produce in Araçuaí's weekly market. The food, remedies and objects that are sold on the market are simple, practical, useful, and healthy, and popular with the shoppers. Some women are already hoping that this new income stream will be sufficient for their husbands to stay home permanently. Others are simply benefiting from the savings they make by not having to buy the products and food they now produce. Consumer items are expensive in Araçuaí, as everything is imported by road from Belo Horizonte or São Paulo. Several women told me that they hope to live with 'nada do fora' (nothing from the outside). Their hope is that with a thriving local economy, there will no longer be a need to migrate in order to sustain one's family, and that one will be able to make a decent living where one lives, where one is from.

In Araçuaí Sustentável, poverty reduction is based on valorising what one has. Much importance is given to personal transformation. Human life is precious, sacred; every one has some worth that can be cultivated. CPCD measures what is already present in a community, not what is lacking. Its targets and achievements, therefore, are entirely different from those envisaged by other aid or state agencies. Children's difficulties in school are understood to be linked to the long absence of fathers, the break down of family and community relations, and the low esteem and self-esteem in which most people live their lives. As soon as children learn how to read and write, they start writing letters to their fathers. Children take pictures of themselves and tell their missing fathers what is happening with the project, what they are learning and doing. CPCD acts as an intermediary between fathers and children, helping each party to communicate across distances through post or telephone. They see their mission of repairing the social fabric torn by the laws of the market as essential to any long-lasting, meaningful engagement with poverty and exclusion. These actions are done with much care and a light touch; they are geared to the realization of simple, human truths. With the new rural programme, repair of the social fabric is conjugated with 'earth repair.'

The creation of an environment in which children become agents of change is also considered important for poverty reduction. The programmes in which children and educators relate to each other on equal terms foster trust, self-confidence, and independence. As children take into adulthood what they have learnt, they engage market relations meaningfully, on the basis of a strong ethics of solidarity. Several of the educators I interviewed were involved as children in one or more of CPCD's programmes, thus contributing to the continuing social transformation of the whole community.

An ethics of care is central to all the CPCD programmes. The educators are 'carers': 'caring mothers' (*maes cuidadoras*) and 'water carers' (*cuidadores do agua*). To grow less dependent on money and commodities is also considered to be part of this ethics of care, which translates into ideas of citizenship and political transformation, and links

together the health of people and the health of the land into one single concept. Although field research is incomplete, evidence suggests continuities between this caring ethics and the indigenous traditions that are still alive, albeit muted, in the region. Minas Geiras is historically known for its spirit of independence and resilience. The people I had a chance to speak with are not against market and money; rather, they are bent on creating a local economy in which the weekly market plays a central role in reactivating the links between the urban and rural parts of the municipality. Many people spoke to me of their eagerness to create a place where migrants can come back.

CPCD ethics are universal, yet they take roots in the very particular localities in which CPCD works, in a dialogue with the communities which embrace these ethics and develop their own sense of initiative. CPCD educators are in no rush; their practices unfold according to the rhythms of self-discovery and rising consciousness. Symbolic actions play an important role in this process. Their meanings, simple and beautiful, are easily perceived and embraced. For instance, the idea came up one day to offer a tree seedling to each newborn in the maternity hospital. People had been planting trees along the riverbanks as part of the new gardening and conservation techniques, and a community nursery had been developed. Treelets are now sent to the hospital with their scientific name, the botanical name under which they are known in the region, and the baby's name. They are presented in a small basket made of banana leaves, which, being biodegradable, can be planted along with the treelet. The local hospital has now taken on board the treelet gift to families with newborn children. Tião, who was trained as an anthropologist, calls such symbolic actions 'a small nothing that means a great deal.' CPCD has a whole repertoire of similar symbolic actions which express the ethics of care, seamlessly weaving care for the earth, care for people, care for the old, care for the young, and care for the ties that unite people and generations with each other and the place where they live.

Araçuaí Sustentável has grown organically along two main programmatic axes: 'my place is here' (Meu lugar é aqui) and 'caring for past and future generations' (Cuidando dos tataranetos). Every single activity is carried out in a way that strengthens either of these two axes so as to encourage social transformation on the basis of recovered human dignity. The key to sustainable development is to know how to use one's own resources; how to feel adequate; and how to rely on the family ties and community links that frame one's life. Social transformation comprises four dimensions: collective 'yes-we-can' (empoderamento comunitário); environmental commitment (compromiso ambiental); economic satisfaction (satisfação econômica); and human and cultural values (valores humanos e culturais).

The Brazilian state has done much in the last fifteen years for social development, and CPCD builds on these attainments. In Araçuaí, there is now a well-developed network of main paved roads (hamlets are still reached by impracticable dirt roads). The whole region is comprehensively electrified. Water is pumped from the river and piped into most houses. A new covered market was built last year. An affordable and regular coach service links Araçuaí to most cities in Brazil. Many poor families are recipient of Bolsa Família. Too often, though, state services 'lack quality.' CPCD aims to help citizens address this lack of attention to the quality of services. For instance, running water in the houses is unsafe to drink. With the programme 'Water ways' (Caminho das águas), and in partnership with other organisations, CPCD helps households install rainwater storage tanks on rooftops. With the programme 'Ser criança,' CPCD offers educational activities that complement state schooling by transforming children's experience from failure to success. The first two years of the programme received funding from the

municipality to cover the salaries of CPCD educators. With the project ‘city of learning’ (Cidade educativa), CPCD started a library in a small town where there had never been one. In response to the popular success of this initiative, the municipality took on board the expense of maintaining it open. If, as many see it, Bolsa Familia actively encourages people to buy food from supermarkets, CPCD encourages the growing one’s own food and the raising one’s own animals, so that Bolsa Familia payments can be put on savings accounts. Two examples further illustrate the possibilities of collaboration between CPCD and state agencies. CPCD was so successful at getting children in difficulty to read and write that the municipality has asked the NGO to run the city’s educational services for two years. CPCD accepted, and did it for free, as a public service. The educator who acted as secretary of education told me: ‘we made a revolution in the schools.’ Although excellent relations had been forged with parents and teachers, the contract was not renewed when a new mayor was voted in office. In the last few years, Brazil’s federal government has created 250 new technical universities, including one in Araçuaí. Its recently opened programmes in environmental studies and agroecology are run in partnership with CPCD.

Policy integration as a contested process

As mentioned earlier, while calls for a new economic model to meet carbon constraints while creating the growth necessary to overcome poverty multiply, Latin America is being redefined as a ‘Biodiversity Superpower’ region. This new narrative is well summarised in the quote below:

In LAC, close to a fourth of the population lives on less than \$2 a day; in rural areas, 55 per cent of the population has no access to improved water sources. It is the poorer members of society, those unable to afford substitutes during times of crisis or degradation, who rely most heavily on biodiversity and ecosystem goods and services. Indeed, biodiversity provides a primary safety net for rural populations in the LAC region and is one of the few factors limiting malnutrition and large-scale urban migration. Degradation and loss of biodiversity and ES hinder the ability of these groups to cope with environmental change, pushing them further into poverty. An effective strategy to reduce poverty cannot be designed in isolation from its environmental context, and needs to promote sustainable resource use and management strategies by the poor. [...] the objectives of reducing poverty and inequity, and maintaining ES are not contradictory but, indeed, complementary. This follows at least three patterns. First, the externalized impacts and costs generated under BAU often affect most strongly the poor and vulnerable populations. Second, creation of jobs and other opportunities under SEM take place mainly in rural areas, where impoverished populations are concentrated. Evidence from each of the sectors reflects improved access to income generating opportunities by those groups. Finally, the increase in consultation with stakeholders, beneficiaries, and other local actors that characterizes SEM (required to avoid creating externalities) offers poorer and marginalized groups better information, access to decision making, and more empowerment in general, as the circle of participants is widened [...] to include women, youth, indigenous peoples, and other minorities. (Bovarnick, Alpizar and Schnell 2010: 23)

Each of the three case studies presented in this paper involves climate change reducing policies that link conservation, poverty alleviation and economic development. Yet, the policies involved reflect different conceptualisations of the interactions between social, economic and environmental factors. As a result, each case study addresses the challenge of developing economic activities that enhance the wellbeing of people while ensuring the maintenance of integrated social and ecological systems in a distinctive and contrastive manner. Such differences cannot be made meaningfully visible through quantitative comparisons, i.e. the number of hectares under sustainable environmental management; the number of people enrolled in the projects; the number of companies operating in the new green economy; the number of institutions and organisations collaborating, or any other quantifiable measure of the sort; and so forth. Nor can they easily be compared in terms of formal political development measures or normative frameworks. Rather, I wish to argue, a focus on how each policy process is being contested and how conflicts evolve through implementation provides useful insights into the institutionalised practice of policy integration. This requires juxtaposing the three situations through a rich ethnographic description of tensions and conflicts. Although different in scale or scope, these three projects exhibit interesting recurrences as well as notable differences.

Bolsta Floresta

Although officially designed and implemented by a private foundation (FAS, see above), Bolsa Floresta in its current form results from a long process of consultation with local communities, which took place between 2003 and 2007 as part of the state's 'Green Free Zone' (Zona Franca Verde) campaign (Viania 2008). GTA (Grupo de Trabalho Amazonico)¹⁷ undertook most of this consultation work on behalf of the state government, and it is in this capacity that the umbrella organisation has become a vociferous critique of Bolsa Floresta. The main critiques relate to the ownership of the programme; the nature of the payments to communities and families; the model of development involved; and the inequities resulting from implementation.

GTA's main grievance against FAS is the way in which, in their view, the foundation privatised what had started as a political process taking place over a decade - the 2000s, when the many grassroots organisations belonging to GTA consulted the rural population of the state of Amazonas about their wishes and development aspirations. If Virgilio Viana acknowledges the importance of the consultation process in his publications, he never mentions the special role played by GTA and the social movement that it federates and represents. As an academic based in Manaus told me laughing: 'Virgilio is a doer; he sees an idea and run with it.' A GTA representative in Brasilia sees it differently:

In 2005, we at GTA were already thinking about how to best organise payments for environmental services so that communities would benefit. The model you see being implemented by FAS comes from the collective elaboration of GTA with the communities. The difference is that we elaborated the model to be implemented by the government ... we worked at the state level. The governor was worried that if he lost the elections, this would put an end to the initiative, so he created a law to

¹⁷ See www.gta.org.br/.

protect the foundation [i.e. FAS] as an entity that would look after PES. The problem is that by doing this he actually privatised what is public land and public initiative, and we ended up with a conservation concession model. FAS is now mandated to operate on public land for twenty years. FAS was created the very day after the law was passed, and the Secretary of State, Virgilio Viana, resigned in order to be appointed as director of the new foundation, doubling his salary from \$R 23000 per month to \$R 46000 in the process.

GTA's grievance goes beyond a lack of acknowledgement. They see the appropriation by FAS as a betrayal of communities' aspirations. For GTA, Bolsa Floresta should remain a public policy enshrined in formal government structures. Through the consultation process, in their view, the forest communities were involved in a genuine political process focused on transformational change. In contrast, as a GTA member told me, 'Bolsa Floresta does not encourage civic activism.' Here below are the views expressed by other GTA members (the second one is a rubber tapper):

We're talking about good health, education, and infrastructure. We're talking about structuring public policy. Only a government project can do this. We don't want to exchange a tree for rice or clothes. Social marginalization is what devalues forest products and the people who live in the forest. Money is not the solution. The government must have a development project, a clear policy. We need respect.

We want the freedom of defining our own development path, on our own terms. As implemented Bolsa Floresta devalues our labour.

Another rubber tapper puts it that way: 'the problem is the model of development they try to impose on us. We need better technical assistance to build up the system of production we're in the process of inventing.' This rubber tapper mentions the story of a friend who, in order to get a bank loan, was forced to cultivate coffee instead of rubber tapping. His coffee plantation was not economically successful, he ran into debt, and committed suicide. He concluded: 'We're talking about economic solidarity, it's the only way the new model can work. The production needs restructuring, we must diversify.' A GTA community member who was listening to our conversation added: 'We're becoming poor because basic services are monetised, everything is becoming privatised. We need free education, free health, and of good quality.' Later on, I heard the representative of a NGO that supports agroecological projects express similar views regarding the need for a new model of development: "We should be talking about forest citizenship, 'florestania,' or 'forestship' if you wish. This means adequate social and economic services that are appropriate for the needs of forest dwellers. We support initiatives for a modern form of forest life. This is the only way of creating a model for standing forests.' He adds: " I don't like the word payment, compensation or remuneration. What we should be talking about is environmental credit. The destruction of the Amazon forest is totally irrational. We need technical intervention and a community bank.' Another community leader said: 'poverty is the result of state absence.' What communities need, he added, are public services, care for the people ('atención a la gente'). Another rubber tapper adds: "We're not poor, we're not hungry, and we're not favella dwellers. What we need are good services. We live far away, we die of simple illnesses. We need markets for our products, so we can live a decent life." He adds that PES should be based on the same logic as subsidies for rubber production in extractive reserves. Another GTA member stresses that payments should not be in

money but in inversions for community development. 'We need non-monetary payments. We need these payments because public policy has failed. They don't work, and we stay poor. We need health and education. The state does not fulfil its mission. I don't want money, I want a good state. I want to be able to solve my own problems after having been well educated. Having received the right kind of education, I can solve my problems. Nature lends her services. We need human development. The state needs to get the resources to fulfil its obligations and provide the right kind of health and education.' Another delegate stressed the importance of a differentiated education, adequate to live in the forest and solve local problems: 'We need education that allows us to acquire love for the land (adquirir el amor por la tierra),' to which another said: 'education for all is good, but it is not enough. We need a form of education that can support family agriculture.' He then added that such an education would allow forest people to achieve social services through the services that nature lends to society, concluding: 'this is what I call social biodiversity.'

These quotes are sufficient to illustrate the rich political thinking that has gone on in the social movement on PES. GTA is wary of the dominant market ideology, especially the possible commoditisation of carbon and water, which they hope to counter by insisting on the 'bundling' of ecosystem services, and by emphasising the role of human labour in the green economy. Although these leaders and grassroots thinkers are talking the talk of PES and avoided deforestation, they make it clear that ecosystem services are nothing to them if they are not conceptualised as a means to add value to their labour as rubber tappers, fishermen, or agroecological farmers. They produce from the forest in a way that protects the forest, and this work has a value they want to see recognised economically through better prices for what they sell, and politically through better public services. If GTA activists accept that Amazonian rural livelihoods heavily depend on the good functioning of the rain forest ecosystem, they do not assume that ecosystem services are provided by nature without any human mediation. They repeatedly stress the value of human interaction with nature, which becomes visible in the form of products embodying human labour, such as, for instance, fish skin that used to be discarded and is now used as another animal skin with which to make useful objects. As a fisherman explained to me, this is how human labour adds value to nature. In addition to the flesh of the fish that can be sold for food, a fisherman can use the fish bones to make glue or the skin to make handbags or shoes. GTA's vision of PES is thus miles apart from the one articulated by FAS, which basically sees two inputs, the behaviour of ecosystem stewards and the money of the global community feeding in to PES schemes to deliver three types of outputs: livelihood improvement, well managed ecosystems, and economic benefits. The term 'social biodiversity' used by the rubber tapper quoted above encapsulates this vision of rights, entitlement and citizenship. GTA's vision is of a PES mechanism that redistributes wealth from the rich to the poor in the form of good public services delivered by the state. Whereas FAS employees speak in terms of 'virtuous circle' and governments' 'supporting roles,' GTA leaders envision a market controlled and disciplined by the government, whose fundamental responsibility is to redistribute wealth to citizens equitably. If local people were getting a fair price for their products, and if the government provided adequate and free services, there would be no need for handouts in the form of PES, as one of the GTA delegates told me.

Of course, delegates at this workshop were the most politically active members of GTA, and their views only partially reflect the diversity of views existing in the communities.

According to an opinion survey¹⁸ organised in October 2009 by FAS in several of the beneficiary conservation units, the most popular component of the Bolsa Floresta programme is the direct cash payment to families, which is used by a great majority of the respondents to purchase of food and medicine¹⁹. Almost half of the respondents said that if they could choose what to change about the programme, they would increase the family allowance - which is not currently indexed to inflation. Survey results could be interpreted as a consequence of people's perception that there are two Bolsa Familia, one that is working (payment to families) while the other (support to community development and to productive activities and employment) is not implemented yet, as it was mentioned to me. Alternatively, results could be interpreted as signalling a disconnection between the sociological reality of the community, relative to the household. In either case, it shows that REDD schemes such as Bolsa Floresta run in the same kind of difficulties as ICDP did in the past. In interviews, REDD proponents defended Bolsa Floresta as a compensation mechanism superior to ICDP and simple conditional cash transfers precisely on the ground that it promoted rural livelihoods, supported sustainable land use alternatives, and enhanced community well being through well functioning public services, the very programmes that seem to be lacking. It is my contention that they are lacking for the very same reasons that they were ill implemented in ICDP, because community services are expensive and complex, and require the coordination of many institutions. Further research is needed to know how government agencies in charge of health and education relate to Bolsa Floresta, and whether they agree that it is cheaper to deliver these services through FAS. It would be important to query as well whether they feel that FAS is a legitimate institution to coordinate the delivery of health and education services, or whether, like GTA activists, they feel that it is the role of the state to coordinate the delivery of public services. Furthermore, it would be interesting to know whether state employees delivering health and education services feel that the partnership with FAS is equal.

Another critique formulated by GTA members and a number of observers is that Bolsa Floresta as it is being currently implemented is very costly. This is indirectly accepted by FAS, who recognises the heavy transaction costs associated with developing Bolsa Floresta in the Juma reserve (Viana et al. 2009). In addition to the cost of delivering social community benefits as mentioned above, there are substantial costs linked to the preparation of land zoning, capacity building, designing and enforcing laws, and implementing MRV (measurement, reporting and verification) systems. Although in theory social and environmental policy integration should lead to cost-saving synergies, in practice, it is clear that taking conservation and human development seriously requires more funding than had been anticipated. Further research is needed to determine whether the programme would cost less if managed directly by the state, and whether GTA is right in worrying about FAS not making the best use of public funding.

Another critique formulated by GTA and other REDD critiques is that Bolsa Floresta is designed as an avoided deforestation programme based on anticipated level of deforestation that is open to interpretation. Some of my interviewees considered the units of conservation designed for this project of low additionality, as it is developed in a region where land use change pressures are minimal, population scarce, and the risks of conflict or of loss of natural capital minimal. One informant added that if we need to

¹⁸ Available at [web page].

¹⁹ Há informações de aquisição/guarda de cartões das famílias pelos comerciantes das sedes (não há comprovação dessa informação até a presente data.

prioritise areas of conservation in the Amazon biome, more should be done in the headwaters, which belong to Peru and Ecuador, and are under greater threat, including threats that are directly related to Brazil's model of infrastructural development (see also Doureaújanni et al. 2009). Whereas FAS assumes that the generation of environmental benefits is an automatic by-product of payments to families and social investments, the reality is that many of the areas benefited by Bolsa Floresta are in areas under no or little pressure from land use change. Therefore, payments should not be considered as a form of compensation for 'additional' measures to alleviate deforestation pressures.

Moreover, in terms of social development, Bolsa Floresta concentrates the resources in areas of very low population density in a region where 70 per cent of the population live in urban settings where many municipalities lack drinkable water and waste management facilities (Soares 2009). As an informant told me, 'Ok, yes, [Bolsa Floresta] boosts human capital through education, but the project gives a distorted image of Manaus as an island of sustainability, with the industry in the city, and forest conservation all around it. In wellbeing terms, the poorest actually live in the city itself, not in the forest! Bolsa Floresta doesn't create jobs; it doesn't improve earnings.' This is one the main reasons why several authors have doubted the replicability of the project (see May and Millikan 2011: 21). In fact, what makes Bolsa Floresta such a fascinating project is that it considers Manaus, the second most important industrial pole in Brazil, as an economic asset to protect the surrounding forest's natural capital. Manaus, however, suffers from all the maladaptations found in large modern cities in the developed world. Not only its food procurement, housing, transport, and energy supply systems are unsustainable, but the city propagates consumerist models that militate against the conservation ethos that Bolsa Floresta is hoping to instil in the remote, rural communities.

Y-ITT

Not unlike Bolsa Familia, and as discussed earlier, the Yasuní-ITT Initiative (Y-ITT) started as a grassroots proposal long before it became Ecuador's official policy, when the Correa administration decided to promote Y-ITT as 'Ecuador's most important foreign policy initiatives.' The idea of a post-petroleum future for Ecuador, which combines an attachment to place and nature with an awareness of the resilience of indigenous people and their diverse cultures, is defended by a wide range of social actors, albeit it, for many of them, more as a symbol of what we should aspire to than as a realistic policy. More radical Ecuadorian ecologists are opposed to the drilling for oil in the Amazon region on the basis that the country's heavy dependence on oil revenues, while contributing to global climate change, has also resulted in many social and ecological conflicts. For indigenous leaders, extracting oil or alternative modes of development must respect indigenous visions. An Ashaninka leader from Peru addressed the Manaus workshop in September 2009 with these words:

'The forests form an integral part of our lives. They are our food and health markets - markets without money. We have all what others have without any necessity for money. We face the danger of entering a market system without knowing or understanding the market. The commerce of carbon may be beneficial to the whole humanity. We can only participate with rights. We have deep traditional knowledge we can apply to new situations and challenges. This is our work; without it the

forest would not have survived to this day. By combining our traditional indigenous knowledge and modern science, we can improve our productive systems.’

The same ideas are expressed in different words by this Canelo Quichua leader from Ecuador:

What is needed is a new vision of the world, a new model of development. Our respect for the forest and for the trees does not derive from having been paid. The forest is the source of our life, this is why it has our respect. We are forest people. We have to make sure that we never alter the reason why we protect the forest. It is a political problem; a problem of right; the right to live an autonomous life; our own life; to fulfil our vision of life, of development, and of well living. Our values must orientate the path we take, the decisions we make on which development path to follow. We need a politico-legal framework for the government to respect our rights. The same problems arose with CBD (the Convention on Biodiversity) over benefit sharing; they were never resolved. We need to construct our right to build our own future as a people.

To understand fully how Y-ITT became official government policy in 2007, one needs to examine the international context. Like Bolsa Floresta, Y-ITT directly engages debates about the post-2012 (post-Kyoto) international convention on climate change. The fact that Norway decided to earmark US\$ 500 million a year of its Oil Fund to fight deforestation, for instance, has undoubtedly - albeit indirectly - influenced both policies. As Humphreys (2008) argues, ‘the Bali decision on Avoided Deforestation represents the latest iteration in a long series of negotiations on global economic inequalities, and in particular the demands of many developing country governments for a redistribution of economic resources in order to address global inequalities.’ For Humphrey, the Bali decision should be analysed in relation to 1970s demands for a new international economic order as well as to the G77’s twin concept of ‘compensation for opportunity cost foregone’ and ‘common but differentiated responsibilities.’ Humphrey’s historical analysis is important to understand Ecuador’s demand that the international community share in the economic sacrifice that Y-ITT represents, and compensate Ecuador with at least half of what the country would receive, ‘in recognition of the environmental benefits that would be generated by keeping this oil underground,’ as Raphael Correa put it in a speech (Rival 2010). Humphrey’s analysis is useful to understand how older North-South political positions have been reworked in the light of new possible development pathways. Ecuador has repeatedly stressed that Y-ITT represents a long-term strategy signalling a political commitment to change the country’s model of development in the face of global climate risks. There is ground to think that when President Correa denounced the Trust Fund as a new form of colonialism threatening national interests in January 2010, causing the resignation of his Minister for Foreign Affairs and of most members of the Y-ITT special commission, he was acting within a new international economic order frame. In the negotiations that ensued, the terms of reference for the Multi-Donor Trust Fund were altered, so as to give the Ecuadorian state more ownership over the setting of development priorities in relation to the National Development Plan. Conflict thus led to changes in the governance structure of the fund, and the state was granted more control over the allocation of funding.

This conflict over the terms of reference clearly demonstrates the difficulties met when trying to integrate social and environmental policy and forging new institutionalised ways of organising government revenues (Rival 2011). It is interesting that it be expressed in terms of ‘trust’ and ‘betrayal.’ Firstly, there is the issue of trust between Ecuador’s national government and the international community (especially European countries), which has played a central role in the aftermath of COP 15, especially when Germany withdrew its support for Y-ITT due to a lack of guarantee for non-extraction, preference for alternative climate projects and fear of precedent effects for other oil extracting countries overwhelming the system (Ruprecht 2011: 2). As I explain below, when examining Y-ITT in relation to REDD, the mutual lack of trust between Ecuador and potential Y-TT funders often relates to ideas about environmental governance. A number of my interviewees simply do not like Y-ITT because it is the official proposal of a national government. For instance, an investment banker told me:

We need to invest in forests because they capture CO₂ naturally. Conservation values can never defeat commerce. We need to think about our relationship with nature from a business perspective; for instance, by creating global public utilities. Forests are like a proxy for natural capital. They are powerful machines that deliver all these ecosystems services. Y-ITT is not good entrepreneurship. The best projects should receive more funding. Money has to be invested for profit; otherwise, it is communism! Y-ITT is costly and risky. Natural capital is only protected until the time when oil prices will become so high that the temptation to exploit will be irresistible.

Additional conversations with this banker as well as with other experts and consultants made it clear to me that many of their arguments do not hold. They in fact ended up admitting that investing in the Trust Fund is not more risky than many other investments are; or that the time frame of Y-ITT is not shorter than that of other projects (for instance, Bolsa Familia is designed for a twenty year period); or that Ecuador’s poor record at conserving the Yasuní is in fact not much worse or inconsistent than that of many other countries or regions in Latin America²⁰. In short, behind the argument that there is no precedent in existing climate treaties for leaving fossil fuels underground as a tool for reducing emissions, I could thus hear much scepticism towards government-led initiatives, as well as the expression of deeply felt sentiments around the ideological position that climate change must be addressed through ‘market-led, voluntary approaches,’ not through ‘command and control’²¹. As a CDM expert told me, ‘Proposals like Y-ITT should come from the voluntary initiatives of citizens and private entrepreneurs.’ To conclude this point, the idea of generating funding for social development through a new form of monetary valuation of environmental resources is broadly similar in Bolsa Floresta and Y-ITT, but each policy approaches the concept of low carbon futures in a different way. With Y-ITT, it is the national government that takes the lead. To see Y-ITT as a ‘command-and-control mechanism,’ however, is to misconstrue the richness of intent and debate behind the proposal, which has the potential to overcome past dichotomies between either market or state (see Muradian and Rival in preparation).

²⁰ See, for instance, the federal state of Brazil forcing the development of the Belo Monte dam in the Xingu Park against expert advice and popular wishes. The dam will actually affect one of the REDD projects in the Xingu.

²¹ On environmentalists’ suspicion of governments see Eckersley (2004), a suspicion well described by Bryant and Bailey who remark that ‘environmental conservation is rarely seen by states as an end in itself, but rather as a means to various political and economic ends’ (Bryant and Bailey 1997: 65).

The issue of trust - and lack of - is also often mentioned by interviewees in their explanations of 'technical difficulties' in making Y-ITT work domestically. Tensions within the government, and for that matter within the new dominant political party, Alianza País, reflect wider political tensions over the kind of international solidarity and regional integration Ecuador should be seeking (Rival 2011). Oil is a strategic asset in Ecuador, and for Y-ITT to become a successful flagship leading the country to a new, environmentally sustainable economic model requires profound changes in the way natural resources are imagined and managed, and in the way revenues derived from natural resources are channelled and distributed. By proposing a new way of producing and creating revenues, Y-ITT offers a way out of the entrenched contradiction between forest and biodiversity protection (until then the remit of the Ministry for the Environment) and oil production and energy (until then the sole responsibility of PetroEcuador and the Ministry of Mine and Energy). Social and political actors mobilise moral arguments of trust and betrayal to express the real tensions that such changes would imply (Rival 2010).

Domestically, the option of keeping the ITT oil in the ground has been hampered by a lack of clarity around responsibilities and remits between the various ministries involved (Ministry for the Environment, Ministry of Mines and Energy, Ministry of Foreign Affairs and Ministry of Finance), and by PetroEcuador's unwillingness to cooperate. Research has established that Y-ITT, if implemented, would short circuit the mechanisms through which oil revenues are distributed, and alter the unique relationship that has existed between PetroEcuador and the Ministry of Finance. PetroEcuador is structured and organized in a way that ensures maximal use of oil profits as government revenues, to the expense of reinvesting within the company in order to make it more resource efficient and less polluting. As Y-ITT was gaining momentum internationally in the build up to COP15 (Copenhagen 2009), the President of PetroEcuador was doing all in his power to speed a 'business-as-usual' decision and get approval to extract oil from the ITT fields. A conflict surged between him and the pro-Y-ITT Minister of Mines and Energy. Not only did the minister have a different interpretation of the law on hydrocarbons, but he also clashed with the President of PetroEcuador on the issue of who in the government had the power to negotiate contracts for new oil projects. Barnard (2011) found out that thanks to Y-ITT, concern for environmental protection has nevertheless filtered into national development policy. He reports that an official at SENPLADES, the planning ministry, explained to him that all projects that rely on public investment must now detail their impact on Ecuador's carbon footprint and conform to Ecuador's goal of converting its energy matrix to renewable energy. He also found out that across the government, ministers insist that "we are thinking on the level of the entire country about how we can change the base of production in the country" away from oil (Barnard 2011: *). As these examples show, tensions and conflicts around Y-ITT have resulted from contradictions that run deeper than a simple lack of clarity in the chain of command regulating the hydrocarbon industry; they affect the very heart of the state governance system. Important ministerial restructuring has occurred since Y-ITT, and these changes have occurred in response to the practical problems of institutionalising a policy making process that would facilitate the innovative integration of conservation and development policies.

Such rethinking, however, goes against the grain, and challenges many officials' very sense of identity. Alberto Acosta who brought Y-ITT to official circles while serving as Minister of Mines and Energy explained in a recent interview how difficult it had been to convince Ecuadorian officials of 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” (Acosta 2009: 2-3). A government official similarly told Barnard: ‘If you are a fisherman, what is your job? To fish. If you’re the Minister of Non-Renewable Resources, what is your job? Exploit. Minister of the Environment? Protect the environment. This is the same in all governments, England, France, Ecuador, Bolivia—any government. Obviously, the interests are simply opposed’ (Barnard 2011: *). Y-ITT not only challenges government officials to redefine their responsibilities and scope of actions, but it forces them to rethink productivity, wealth generation and wealth distribution. During field research, I encountered countless examples of disbelief that ‘with the use of complex, multi-dimensional negotiation procedures, carbon could be captured with money,’ in the colourful language used by a retired PetroEcuador employee, or that carbon capture in the form of sunk CO₂ emissions could generate more revenues than oil extraction. The cognitive adjustment required is well illustrated by the equally evocative language used by an older civil servant, who told me that the green economy, as a new model of development, ‘requires inaction.’ More generally, I encountered much moral disarray, if not outrage, at the idea that a country could develop by not developing its main natural resource. These popular feelings are miles apart from the new green economy language used by President Correa in his official speeches abroad. That the Ecuadorian political elite finds it difficult to adjust to green economy thinking is not difficult to understand when one takes into account how much national pride depends on oil exploitation. Barnard cites various authors who have discussed Ecuadorian oil nationalism, before remarking wittily that Y-ITT is hard to take ‘for a nation in which the first barrels of oil extracted were paraded through the streets of Quito like a conquering hero and greeted as a source of national salvation’ (Barnard 2011: *).

What Barnard has found out as well, and almost paradoxically, is that the largely poor and marginalized non-indigenous population living near the Yasuní are developing a new kind of regional environmentalism based on the pride of ‘producing oxygen’ for the rest of the world. One of Barnard’s informants told him that: ‘The world needs to understand this: the Amazon is the only lung that still exists. If we don’t maintain the last lung, the climate change will be significant [in ways that] we’ve never seen. [...] Petroleum is the blood in the veins of the earth. If we keep sucking the blood, it will end up dry.’ Barnard concludes that ‘far from seeing the park and the environmental services it provides as a patrimony of all humanity beyond monetary valuation, many felt that they deserved compensation for this. Other countries destroyed their forests in the course of development, and now they were reliant on Ecuador, so “someone needs to pay. [...] We are not selling the park, but we need a policy of compensation”’ (Barnard 2011: *). On the oil frontier, where migrants and their children suffer the effects of industrial pollution, lack of employment and viable markets, and lack of basic services, people do not think that Ecuador is too poor a country to afford leaving the ITT oil in the ground. The qualified, unionized and well-paid oil workers (‘petroleros’) who oppose Y-ITT on the ground of resource nationalism do not live in the productive provinces, as their mistresses and illegitimate children do. They fly back to the capital city at the end of their shift, where their families live in comfortable middle-class houses and where their children receive good quality private education.

Barnard’s thesis shows that the population of the Yasuní region overwhelmingly perceives the Amazon’s forty-year history of oil extraction as having brought environmental and social contamination with little economic benefit. The harmful environmental and social costs of oil exploitation, of course, must be balanced against its perceived economic benefits.

My informants, however, were often reluctant to admit that oil had brought anything to the region at all. In their eyes, revenue from oil flowed to Quito and Guayaquil or Western countries; “barely 1 per cent stays here.” Inhabitants of the *Oriente* contrasted the “wealth” that had been extracted with their own lack of basic services. [...] Petroleum jobs inevitably went to highly educated outsiders who flew in from Quito during the week and then disappeared. This “floating population,” respondents insisted, contributed little to the local economy. Even the vegetables that oil workers ate during the week, they informed me, were brought in from elsewhere, because the workers know that they have “contaminated” the local food supply. In the rare events that locals did gain employment in the petroleum industry, the jobs were short-term, low-skill, and poorly paid (Barnard 2011: *).

The emerging pro-conservationist regional identity that Barnard has documented is echoed by local government officials, who are critical of the Amazon’s political exclusion and of the central government’s lack of attention to the problems of the citizens they represent. Barnard’s quotes of mayors and municipality officials in various regional towns illustrate this point:

“The environment is a positive aspect for our government...this can win them votes.”

“In our campaigns in the *pueblos*, Yasuní is our central theme.”

“The problem is also that the government thinks it can do whatever it wants from Quito and many times doesn’t take our reality into account. [...] It’s because they don’t care about the population here in Orellana. What does it matter, our votes against the million or two million votes in the big cities?”

[The municipality needs] to create an economy based on our region. [...] Nobody [in the national government] is looking with a perspective of twenty to thirty years out, as to what will happen when the petroleum is gone. [...] If we don’t do this, we’re going to be a ghost town. The only thing we have left to protect is Yasuní; that’s what we have, our rainforest.”

To conclude, although Y-ITT is little more than a ‘big idea,’ many insights can be gained from the discussions that have accompanied this evolving proposal. Y-ITT has created a rich debate, as well as tensions between various levels of government and sectors. By examining the tensions between different levels and functions of government, as well as issues of decentralization and local ownership,²² I have shown that Y-ITT could potentially lead to greening the state (see also Rival 2011), thus demonstrating that governments in the developing world need not always be on the side of extraction and degradation. Finally, it raises a number of issues regarding

²² A thorough discussion of the articulation between central and local levels of government a consideration of the indigenous question. For instance, indigenous organisations are opposing Ecuador’s new Environmental Code, particularly articles 261 and 74 of the new constitution, which assert that the state will maintain exclusive authority over forest resources and that environmental services could not be subject to appropriation and would therefore be regulated only by the state. Mistrust indigenous organization current administration/ worry loose ownership/ control their territories with REDD proposals (see Reed 2011).

environmental law, constitutional law and resource exploitation, as well as fascinating issues regarding the links between identity, nationalism and environmentalism. All these aspects are important to consider when discussing policy integration within a new green economy regime.

Araçuai Sustentável

Unlike Bolsa Floresta (hereafter BF) and Y-ITT, Araçuai Sustentável (hereafter AS) is not a PES project, and it is not primarily driven by the global politics of climate change. This in no way means that the programme is not informed, at the conceptual level, by the momentous issues of solving two crucial issues of our time, environmental degradation and structural poverty. Like Bolsa Família and Y-ITT, AS proposes a set of integrated social and environmental policies aimed at linking conservation, poverty reduction and economic development. In this sense, it can be said that the green economy is at the core of AS. However, by addressing policy integration at the level of a medium-size town and its surrounding rural areas in a region of Brazil known for its drought-prone climate and the marginalisation of its population, AS offers an original approach to the policy challenges discussed in this paper. With its objective of reversing environmental degradation and outmigration and of boosting the role of agriculture in the local economy, AS engages the global narratives of nature, weather and well being in a way that highlights many of the covert assumptions underpinning PES schemes. Moreover, its decisively local focus does not imply that AS is oblivious of wider political and economic trends. AS aspires to become a model that *inspires*, both within and outside Brazil, similar initiatives. The term ‘inspire’ is crucial, as it introduces a difference of practice with BF and Y-ITT, and their ambition of *replication*. Although not a global icon in the way that BF and Y-ITT are, AS has been officially nominated by the jury of Global Award for the Sustainable City Award 2011. And although not officially on the list of ‘transition towns’²³ as, for instance, Curitiba, it is clear that the programme’s achievements qualify for ‘transition in action.’ In fact, they are more impressive than what has been achieved in many Anglo-Saxon projects. There is therefore little doubt that AS addresses international issues. But, again, AS is *internationalist*, rather than just aspiring to be known internationally. For instance, AS would not have existed in its present form without the rich exchange of experiences that have taken place over the years between CPCD and sister organisations in Mozambique and other African locations, which too evolved organically from grassroots initiatives.

As we saw earlier, AS started as a grassroots literacy campaign among poor peasants who have not lost their land, but who can no longer sustain their families through what the Brazilians call ‘agricultura familiar.’ The men have to migrate hundreds of kilometres away from their homes and work on large sugar cane estates, thus indirectly becoming a labour force for the production of ethanol, a biofuel central to Brazil’s green economy. Large eucalyptus plantations, some funded under CDM (Clean Development Mechanism, a form of PES considered by some to contribute to the green economy), have contributed to worsen the aridity of the Jequitinhonha River valley where Araçuai is located, and, indirectly, the loss of livelihood for peasant families in the region.

Using Paulo Freire’s precepts and Amartya Sen’s vision of human development, AS thus started as a programme to address poverty as a form of marginalisation and lack of

²³ www.transitionnetwork.org/initiatives/brazil-national-hub; <http://transitionbrasil.ning.com/>

citizenship. At the core, therefore, AS is designed to regenerate and create ‘human capital,’ not ‘natural capital.’ The programme aims to help poor and marginal people to gain sufficient self-confidence and knowledge to become active citizens and political actors capable of engaging in collective transformational change. Children and families learn to use literacy as a tool to reconnect with Minas Geiras’ rich cultural heritage and develop a strong sense of place and community. One mother I spoke with summarised this basic objective as follows: ‘the kids are learning to become citizens with dignity, and they do so having fun.’ Silmara, another ‘caring mother’ told me: ‘we learn to care and to welcome. We learn to learn and teach, to welcome and to be welcomed, we learn to live together. [The project] is a fantastic opportunity to grow together and transform.’ Another mother, Maria de Lourdes, said: ‘my kid’s joy [as they participate in the programme] leaves me so happy as well,’ while a two-years old added: ‘I enjoy playing ball games and I enjoy being with you [pointing to the educator].’

AS, in other words, is based on the principle of socio-cultural resilience. Y-ITT has an ICDP component for the communities surrounding YNP, which, in principle, shares the same human development objectives. But it is fair to say that socio-cultural resilience is nowhere as central in Y-ITT, which works at integrating environmental and social policy at the national level by implementing a paradigm shift in Ecuador’s economic development. In fact, as discussed in the previous section, some of the municipalities negatively affected by the oil industry in the Ecuadorian Amazon are in an incipient phase of articulating ‘transition town’ programmes in accordance with the popular wishes and emerging regional identities of the citizens they represent, but, ironically, in opposition to the national government, which is deeply mistrusted. BF, as we have seen, also includes ICDP components, which, on paper, seem to aim at strengthening human capital in a way not dissimilar to AS. However, this part of the programme is costly and more complex to implement than direct payments to the families, and has not yet materialised. The concept of resilience is important in BF as well, but does not receive the priority that it does in AS. Many of the families benefiting from AS receive the federal government’s conditional cash transfer Bolsa Familia, but AS, rather than creating an additional payment, seeks to foster a reflection among the families on how to use this money in a way that creates and sustains the local economy.

The greatest difference between AS and the two other case studies discussed here is arguably the way nature and its worth are conceptualised. AS started in the urban centre of Araçuaí as a literacy, education, and folk culture programme. As it spread in the rural areas surrounding the town, the environment became increasingly more important as a dimension of human wellbeing. Water and soil conservation are key themes, as well as species diversity and the respect of and love for wild creatures. However, these themes are articulated in a very different fashion from the way they figure in the other two case studies. Whereas in BF and Y-ITT conservation is envisaged as the protection of what has not been destroyed, damaged or altered by humans, conservation in AS relates to restorative practices. While I was visiting a remote village on top of a hill, for instance, CPCD arrived with a representative of the farmers’ union and a regional government officer to facilitate a workshop on water conservation. Villagers of all ages worked in groups in the school’s only classroom on various topics. When I sat with them, they were mapping the springs that had existed in the area until twenty-five years ago, in accordance with the tales of elders. The mapping exercise was followed by a collective reflection on what might have caused the disappearing of the springs, and what could be done to restore them. I was struck by the difference with similar mapping exercises I had participated in the Amazon. In Araçuaí, there is no untouched nature left, and people are looking for ways of repairing and restoring what has been heavily degraded

through bad management and worsening weather conditions; they are not asked to protect what is considered 'wild.'

Waste recycling, water management and conservation, terracing, organic gardening, and other environmental components of the AS programme are not designed to save 'natural capital' from human greed or need. If the measures implemented favour climate and hydrological regulation, they do so for the local population who depends on restored and protected ecosystem services for their basic water and food needs. In other words, ecosystem services are conceptualised in terms of securing and protecting local livelihoods, rather than in terms of providing strategic ecosystems vital for the comparative advantage and the economic advancement of a particular region in the long run. With such 'ES,' 'PES' lose their relevance. For instance, no one I spoke with in Araçuaí would ever envisage that urban dwellers should pay rural dwellers for their restoring and looking after the springs feeding into the Jequitinhonha River. AS aims at strengthening community against the market, not to use the community to expand the market. The interlocking of humans and nature in AS is based on the same socio-cultural resilience ethics as the citizenship programme. As proof of the importance it gives as an organization to individuals and their own process of learning and transformation, CPCD archives many testimonies. People involved in its actions and programmes, educators and educated of all ages, record on paper or video form their own thoughts and those of others. The testimonies I have accessed are very illustrative of the project's human-centred approach to nature. All deserve quoting, but for lack of space, let me just include these:

Leila (4 years old): I have just planted a small orange tree. It's good to suck and to make juice. What I most enjoyed was to put the treelet in the pot with all the other children.

Joice Aparecida (9 years old): I learnt many plant names I did not know. The garden is so pretty, it's a place where people feel good.

Kênia Teixeira (community leader): I loved the gardening workshop, because it deals with all what matters in our lives (*gostei de participar da oficina, porque tem tudo a ver com nossa vida*).

Ellida Karoline (community leader): I learnt so many things I did not know about plants and compost. I gained a wider vision of what nature can offer us.

Valeria Borges (mother): by participating in this course, I realised how much we need to change our lives and the way we think. I learnt to value the earth and the plants.'

Although this is work in progress and much more needs to be known about local peoples' perceptions of cultivated and wild, degraded and restored nature, the quotes above powerfully illustrate the ways in which local people value the earth and the plants, as Mrs Borges says, as living organisms that can become part of, and sustain, their communal projects. From the preliminary field data I collected over the past months, I feel that the views expressed in Araçuaí are quite similar to those expressed by the rubber tappers I spoke with at the GTA meetings. In both cases, we see a view of nature as sustaining 'the base' (Gudeman 2008). Nature is a source of goods for the community, rather than services to be traded. The primary aim of goods from nature is

to sustain, not to gain a plus value on the market. The views expressed above are characteristic of people who cultivate nature and, in so doing, engage nature in intensively human-centred projects linked to the economy of the house.

For these families who have retained a strong subsistence ethics, the prospect of being able to cultivate enough and have access to goods (food, medicines, drinkable water, natural pigments and paints, and so forth) without needing to buy them, that is to pay for them, is extremely rewarding. Cultivated nature strengthens the household's autonomy as it reduces the dependence of families on commodities, which, in addition to being expensive (cash is the scarce resource) are not as healthy, aesthetically pleasing, or safe. This in no way means cornering oneself in an autarkic position. With the land being repaired and family agriculture flourishing, men will find local employment and local sources of revenue. With surpluses and products of their labour to sale, women can now participate in Araçuaí's weekly market, not only as buyers, but also as sellers. This is what a relocalised economy is all about, an economy that links rural producers and town dwellers within a socially and culturally embedded market rich in cultural potentials. Repairing nature is an extension of the project of repairing the social and cultural fabric. Cultivated nature is surrounded by areas that are not 'wild' but simply 'left to themselves,' in the sense of not being under direct cultivation. Rather than being dichotomised in economically developed areas and conserved areas, nature becomes a mosaic of land uses of varying intensity, none of which is ecologically or socially destructive. Nature cultivated according to agroecological principles is no longer eroded. Although composed of very different species from the nature that is 'left to recover,' it is home to as much biological diversity. As the project matures and grows, the city is slowly incorporated within the municipal 'socio-ecological system' and the old opposition rural/urban starts fading away. Urban/ rural linkages are not formally institutionalised, but, rather, achieved through a multitude of small, everyday practices.

With its municipality focus, AS aspires to policy integration at the local government level. To further support this 'municipalisation,' the project is developed around two central axes, 'my place is here' (Meu lugar é aqui) and 'caring for past and future generations' (Cuidando dos tataranetos). This is how, as we saw earlier, CPCD came to be asked by the Mayor of Araçuaí to share its expertise more widely by running the local authority's educational services for two years. When the town was selected by the federal government to receive a new university, CPCD immediately collaborated with the new authorities and staff to coordinate programmes in agroecology in order to create synergies between scientific knowledge and practical knowledge on the ground. One of the first initiatives taken by the university's agronomists was to design a research project on the local lake's conservation. By ensuring that all the project's activities are carried out in a way that strengthens either of these two axes, AS is designed to encourage social transformation on the basis of recovered human dignity on four dimensions: collective 'yes-we-can' (empoderamento comunitário); environmental commitment (compromiso ambiental); economic satisfaction (satisfação econômica); and human and cultural values (valores humanos e culturais).

As discussed earlier, AS builds on the Brazilian state's attainments. In Araçuaí, there is now a well-developed network of main paved roads (hamlets are still reached by impracticable dirt roads). The whole region is comprehensively electrified. Water is pumped from the river and piped into most houses. A new covered market was built last year. An affordable and regular coach service links Araçuaí to most cities in Brazil. Many poor families are recipient of Bolsa Família. The relationship between local authorities and grassroots movement is not without friction, but it is precisely from

these frictions and their resolution that progress is made. Through its innovative policies and processes, AS is promoting a form of autonomous adaptation to worsening weather conditions. Autonomous does not mean spontaneous; none of this could have happened without the concerted efforts of an organisation like CPCD. In fact, without an organisation that catalyses people's energies, so that they can create the conditions that allow them to stay and slowly transform harsh conditions and social exclusion into a good life, people leave, migrate out (Reenberg 2009). In Araçuaí, local adaptation consists in reverting the processes of both ecological degradation and social exclusion together.

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