

# Combating Deforestation through REDD+ in the Brazilian Amazon: a New Social Contract?

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## Abstract

Brazil is developing a number of REDD+ schemes in Amazonia that offer economic incentives to discourage deforestation and promote conservation. Building upon longer traditions of forest preservation and sustainable development in the region, REDD+ could be said to embody elements of a new 'social contract' that underpins resource governance, based on mutual obligations, rights and responsibilities. This will have to be founded on negotiated agreements among major stakeholders; namely, central and state governments, the NGO sector, private business interests and local beneficiary populations. Despite its embryonic nature and having to face major challenges of implementation and scaling up, REDD+ could offer the beginnings of a fresh paradigm in environmental policy based on a social contract that could help sustain low rates of forest loss in future.

**Key Words:** REDD+, social contract, deforestation, Amazonia

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## 1. INTRODUCTION

Settlement of the Brazilian Amazon has since colonial times been marked by violent confrontation and deforestation in the competition over access to land and natural resources. About 17% of the region has now been cleared as a result of cattle pasture formation, timber extraction and agricultural crops. Yet while levels of rural violence remain significant, there are encouraging signs that rates of forest loss have declined markedly since the mid-2000s. The successful implementation of command-and-control environmental policies, along with changing market conditions for agricultural commodities, has been instrumental in bringing about this decline.

Yet another contributory factor in future could be the expansion of systems of payments for ecosystem services (PES). These aim to encourage forest conservation and sustainable development by giving natural resource users financial incentives to supply key ecosystem services such as carbon sequestration, biodiversity preservation and climate regulation. This paper will focus on one particular PES mechanism aimed at maintaining standing forest and their environmental services; namely, Reduced Emissions from forest Destruction and Degradation or REDD+.<sup>1</sup> The Amazon has a significant potential to contribute to global climate change mitigation through REDD, once it has been scaled up from its present embryonic, pilot phase.

In the context of building new social contracts in Latin America, REDD offers a relevant avenue in the environmental field. It brings a complementary approach to the highly centralised, command-and-control environmental policies adopted so far. Rather than employing punitive sanctions, it places the emphasis on incentives and cooperation strategies to discourage destructive practices, stimulate forest conservation and strengthen people's livelihoods. REDD+ can either be incorporated as part of a conservation strategy in populated, protected areas, for example, or form a separate approach to sustainable development on non-protected lands.

## 2. DEFORESTATION, CONFLICT AND ENVIRONMENTAL POLICY IN THE AMAZON

Rates of forest loss and agrarian conflict escalated rapidly from the late 1960s onwards when an aggressive policy of Amazon occupation and infrastructure expansion was pursued as a vehicle for promoting multiple development objectives: namely, macroeconomic growth, regional integration, poverty alleviation through agrarian settlement, and national security through strengthened border security, amongst others (Bourne, 1978; Mahar, 1979; Schmink & Wood, 1984).

There was a steady increase in rural violence from the 1960s in Amazonia (MST, 1987; Americas Watch, 1991). Small farmers, indigenous groups and large commercial producers such as cattle ranchers have fought over land and livelihoods. During the period of military rule (1964-85) some 1500 people died in Brazil's land conflicts, mostly in the Amazon. In the 1970s alone, ten times this number was

evicted every year as the result of land grabbing (Branford & Glock, 1985; Hall, 1989). International condemnation has often followed major, shocking events. These include, for example, the murder of rubber tappers' leader Chico Mendes in 1988, the 1996 massacre by military police of 19 rural workers at Eldorado do Carajás, and the assassination of Sister Dorothy Stang in 2004 (Nepomuceno, 2007). The incidence of agrarian conflict in Brazil generally, including the Amazon region, remains stubbornly high according to latest reports from the Church Land Commission (CPT, 2012). (any data to support this claim?)

However, the same cannot be said for deforestation trends in the region. For many years Brazil was home to the world's highest rate of tropical forest loss. Annual levels in the Amazon region averaged 20,000 km<sup>2</sup> during the 1980s, peaking at 30,000 km<sup>2</sup> by 1995, and remaining high at 26,000 km<sup>2</sup> until 2005. The drivers of deforestation during this period of 'modernisation' are by now well known (Mahar, 1979; Hall, 1989; Margulis, 2004; Fearnside, 2008). Allowing for some overlap, the main culprits are cattle ranching and other commercial farming such as soybean (70%), small farmer colonisation, including agrarian reform settlements (20%+), with other activities such as logging and mining accounting for the remainder.

Underpinning these drivers has been a series of economic and other inducements that have accelerated the pace of deforestation and, arguably, conflicts in the countryside (Hall, 2011). Recipients of these 'perverse' incentives or subsidies have rarely been obliged to bear the economic (or the social and environmental) costs of their actions. Regional development policies have encouraged occupation. For titling and credit purposes, forest removal was accepted as proof that land was being put to 'productive' use. Highway construction has continued apace, facilitating commercial exports of livestock and grain and encouraging land occupation.

Direct economic inducements also played a major role in speeding up deforestation. The regional development agency (SUDAM) and the regional bank (BASA) allocated over US\$5 billion in subsidised credit and tax breaks during the 1970s and 80s to support livestock enterprises in the Amazon, most of which later proved economically unsound but were used for the purpose of property speculation (Gasques, 2005). Such incentives have since been scaled back but will not be phased out entirely until 2023. In the meantime cattle ranching in the Amazon has become increasingly profitable as production has been adapted and modernised, gaining substantial financial support from the national development bank (BNDES) and now contributing one-third of Brazil's total beef exports according to a study by Imazon (FOE, 2009) (source?).

While the lion's share of financial benefits has been allocated to asset-rich investors and wealthier migrants, many small producers have also benefitted. The land reform agency INCRA distributed public land to small farmers at virtually zero cost to settlers and with almost no regard for its environmental impacts, with INCRA now allegedly responsible for one-third of Amazonia's present forest loss.<sup>2</sup> Special credit for small producers in the region (FNO/PRONAF) has also favoured cattle ranching and land clearing for pasture (Hall, 2011).

In the face of such a turbulent history of Amazon settlement with its attendant incentives to destroy rather than conserve the rainforest, it has come as something of a surprise to many observers that Brazil's notoriously high rates of deforestation have steadily fallen, by 69% from 2004 to 2012. This constitutes the largest decline in tropical forest removal ever witnessed anywhere in the world. This turnaround has put the country well on track towards meeting its voluntary commitment to an 80% drop in the rate of forest loss by 2020. The fall in deforestation has led to a reduction of 2.2 billion tons of CO<sup>2</sup> equivalent greenhouse gases over the period, or 1.5% of total global emissions (Nepstad et al., 2012). Given that deforestation and land-use change account for roughly three-quarters of Brazil's greenhouse gas output, the declining rate of forest removal in Brazilian Amazonia has resulted in a 16% fall in emissions from 2011-12, according to official INPE figures.<sup>3</sup>

Yet a welcome as this news is, there is more than a little puzzlement amongst scientists as to why the historically high rate of Amazon deforestation should have dropped so consistently since 2005; from 26,000 km<sup>2</sup> in 2004 to under one-fifth of this figure in 2012. The federal government has, unsurprisingly, been quick to claim credit for this development. This is hailed as hard evidence of its environmental responsibility in the context of negotiations under the UN Framework Convention on Climate Change (UNFCCC). A number of factors are relevant in this respect.

A first major step towards increasing command-and-control powers came with the multi-sector PPCDAM<sup>4</sup> deforestation prevention plan for Amazonia, introduced in 2004. Measures include the development of sophisticated remote sensing methods by INPE, the strengthening of monitoring and control capacity at federal and state levels, and a major expansion of protected (including indigenous) areas, which together cover 43% of the Brazilian Amazon. Four years after the launch of the PPCDAM, 36 municipalities were targeted as major culprits in illegal deforestation, and rural credit eligibility was made conditional upon compliance with environmental regulations (May & Millikan, 2010). According to the Ministry of the Environment, such intensified vigilance over Amazon deforestation will in future be a question of establishing 'permanent national environmental security.'<sup>5</sup>

A recent study concluded that about half of the deforestation avoided in Amazonia from 2005-09, or some 62,000 km<sup>2</sup>, was due to conservation and control policies such as these (Assunção et al., 2012). On the other hand, many observers less confident of the effectiveness of government environmental regulation point to the impact of national and global market conditions for soybean and cattle. In truth, there is still an imperfect understanding of the relationship between commodity markets and rates of Amazon deforestation. While this debate is likely to continue for some time, however, policy space is growing on the environmental agenda in Brazil and other countries for the adoption of additional, positive incentives to protect forests and livelihoods.

There is a history of such 'green' financial incentives in Brazil that preceded the advent of REDD+ (Hall, 2011; May, et al., 2005; Haddad & Rezende, 2002). They include, for example, instruments such as the ecological value-added tax (ICMS-E),

rural property tax rebates for eco-friendly producers, price support for the sustainable extraction of forest products such as rubber and Brazil nuts, and subsidised rural credit through PRONAF for 'environmentally friendly' farmers. In addition, several major initiatives have been introduced to encourage 'responsible sourcing' in commodity chains for timber, cattle and soybean. At least locally in deforestation hotspots these measures help slow down the rate of forest loss.

In the quest to mitigate the effects of deforestation on global climate change, REDD+ aims to provide economic and other incentives for natural resource users to maintain standing forest, replant trees and enhance forest carbon stocks. Underpinning this approach is the need to strengthen the livelihoods of populations that depend on forests. In turn, this requires a new approach to the use of forests, one that eschews the conflictive and destructive strategies of the past that have helped to generate historically high rates of deforestation. There is an urgent need to negotiate and cultivate new models of resource use that encourage a *modus vivendi* based on greater collaboration amongst competing users. In effect, a new social contract.

### 3. REDD+ IN THE AMAZON

Along with Costa Rica and Mexico, Brazil is one of the pioneering nations in Latin America, and indeed globally (along with Indonesia), in establishing REDD+ projects (Hall, 2012; May & Millikan, 2010). With some 30 schemes operational in Brazil, mainly in the Amazon, REDD+ is still at a pilot stage. Unlike elsewhere on the continent, where REDD+ is largely under centralised government control, in Brazil projects are conceived and administered at the state level. Furthermore, REDD+ builds upon a tradition of forest-friendly conservation and sustainable development policies developed in the Brazilian Amazon since the 1990s involving extractivism as well as family farming and agroforestry (Hall, 1997).

Before the term 'REDD' had entered the development lexicon, Brazil's first formal payments for environmental services (PES) scheme was *Proambiente*, launched in 2000 by civil society institutions and transferred to the federal government four years later (Hall, 2012, 2008). It was based on the principle of compensating producers to maintain ecosystem services such as carbon sequestration and biodiversity conservation; paying small farmers to conserve forest, introducing sustainable systems such as agroforestry and minimising the use of fire use. A dozen 'poles' or hubs were set up across the region benefiting some 4000 families but the programme was hamstrung by a number of problems. These included the lack of a legal framework at federal level, irregular and limited funding, poor technical capacity, lack of political support and inadequate cross-sector backing. *Proambiente* was officially closed in 2010, but a number of the more successful local initiatives, in Pará and Acre for example, are now being incorporated into the new generation of REDD+ projects.

Probably the best known of these is *Bolsa Floresta* ('Forest Grant') run by the Sustainable Amazonas Foundation (FAS), attached to the state government of Ama-

zonas. It commenced operations in 2008 and is underpinned by the country's first state climate change legislation, which authorises REDD+ projects and ecosystem service payments. *Bolsa Floresta* embraces 14 protected areas with a population of some 7000 families spread over 10 million hectares, although initial activities have been concentrated in the 590,000-hectare Juma Reserve.

Monthly grants of about US\$20 are paid to families who commit to zero deforestation, with further funding provided for productive economic activities and community infrastructure such as education, health and transport. It is supported by the state government, by a major Brazilian bank (Bradesco) and a number of private companies, including the Marriot hotel chain and Coca Cola, which contribute to a US\$40 million trust fund. It is billed as the largest REDD+ project in the world, and Juma was the first such Brazilian scheme to gain CCBA<sup>6</sup> Gold Status certification (Viana, 2010).

*Bolsa Floresta* has, however, come under criticism on matters such as inconsistency in family payments and lack of community participation in planning, as well as exclusion of the state conservation agency CEUC in design and execution. Furthermore, its relevance is questioned in the absence of any significant threats to the forest in this part of Amazonia, although this could change in future (Hall, 2012; Pereira, 2010; Gebara, 2009). In this respect, the relatively peaceful context of *Bolsa Floresta* is rather unique amongst Amazonia's REDD+ projects. It is less problematic to defend already protected areas. In other parts of the Amazon the picture is very different. A number of state government-sponsored schemes are at the design or early planning stage in Pará, Acre and Mato Grosso, where there is a history of land conflict and intensive deforestation. Here, the challenge of making REDD+ effective in containing forest loss is far greater.

In Pará, the state government is launching an ambitious small producer programme (*Campo Cidadão*), part of which will pay farmers for the recovery of improperly deforested land, as well as for avoided deforestation. Elsewhere in the state, on the Transamazon Highway near Altamira, the 'REDD for Amazon smallholders' (RAS) project will support 350 families that used to form part of the now defunct *Proambiente*. The non-governmental organisation IPAM has received funding from Brazil's Amazon Fund, administered by the national development bank BNDES, to financially compensate farmers for the cost of transitioning towards more sustainable production and land management models.

Acre has also experienced a violent history of land conflict associated with the rubber tappers' struggle against cattle ranchers as the livestock front advanced westwards. This culminated in the assassination of tappers' leader Francisco 'Chico' Mendes in December 1988, provoking a strong domestic and international protest by environmental groups that forced the hand of the federal government into a consultation process with civil society, from which emerged the first of Brazil's 'extractive reserves' (Hall, 2007). Acre's administration subsequently became known as the 'government of the forest' in recognition of its support for sustainable policies in this sector (Schmink, 2011).

In November 2010, following a process of public consultation, Acre passed into law its 'State System of Incentives for Environmental Services' (SISA) and a new body was created to approve, register and monitor sub-projects. The REDD (ISA-Carbon) sub-programme, initially focused on six pilot areas, aims to reduce greenhouse gas emissions from deforestation and degradation, through avoided deforestation, reforestation, recovery of degraded lands, promotion of eco-friendly agriculture and provision of payments for ecosystem services (Acre, 2009).

While most incipient REDD+ projects focus on the needs of small producers, several others involve larger farmers and ranchers (Hall, 2012). As the main drivers of Amazon deforestation, it is important that big commercial producers also be targeted in order to assess the effectiveness of PES in containing deforestation and greenhouse gas emissions. In southern Pará, the planned São Félix do Xingu (SFX) REDD+ demonstration project covers 11 million hectares and embraces all stakeholders in the municipality, including farmers of different sizes as well as indigenous groups. Based on a range of strategies for protected areas and private landholdings, this is a joint endeavour of the state and municipal governments and The Nature Conservancy (TNC) in a region with one of the highest rates of forest loss in Brazil.

Mato Grosso is presently constructing a state policy on climate change and building a legislative framework to incorporate PES. It is designing a REDD+ system, with technical support from the non-governmental organisation ICV (Centre of Life Institute). Mato Grosso is also a member of the international Governors' Climate and Forests Task Force (GCF), along with Acre, Amapá, Amazonas, Mato Grosso, Pará and Tocantins. Together with representatives from the US, Mexico, Nigeria and Indonesia, the GCF supports the formation of sub-national REDD programmes.

In northwest Mato Grosso, another scheme, the Northwest Mato Grosso Project (NWMT) will cover ten million hectares, focused on the municipality of Cotriguaçu (MT, 2009). Following consultation with the range of stakeholders, large and small, its objective is to strengthen the existing environmental monitoring and control system, and introduce ecosystem payments to discourage forest conversion for pasture and cropland. The state government is collaborating with several civil society organisations in the planning and implementation of this scheme, notably, ICV, TNC and ISA (Socio-Environmental Institute). A major incentive is certification of beef and soy production to supply a growing market for responsibly sourced commodities.

In southwest Mato Grosso, the 'Headwater of the River Xingu' (or Xingu Socio-Environmental Carbon) project was developed by the *Aliança da Terra* landowners' association. Set up by pioneer American rancher John Carter, it enjoys the collaboration of several partners including IPAM (Amazon Environmental research Institute), ICV and the Woods Hole Research Centre. It involves smallholders, indigenous groups, ranchers and industrial farmers in an attempt to agree on a rational land-use strategy for this area of some two million hectares. A landownership register for over 300 farmers practicing sustainable management

has been compiled to encourage and reward conservation and sustainable land management practices. The scheme aims to reduce deforestation and promote sustainable land management practices in an area of intensive cattle ranching and soybean farming that surrounds the vast Xingu indigenous reserve.

On that note, the potential role of indigenous groups in Brazil and other Latin American countries in adopting REDD+ to bolster forest conservation is particularly significant (Hall, 2012). Indigenous groups in the Amazon are in the process of developing a basin-wide, collective plan for coordinating a REDD+ strategy (WWF, 2013). Their activities would be central to any social contract given their strategic importance in forest governance. In the Brazilian Amazon, for example, 375 indigenous reserves occupy over one-quarter of the region. The Paiter Suruí tribe, which inhabit an area of 248,000 hectares in Rondônia, have for many years successfully defended their reserve against encroachment by farmers and ranchers. They are now developing a fifty-year 'ethno-development plan' based on REDD+ principles and the sale of carbon credits (Olander et al., 2010) (Source?). Others could follow their example.

#### **4. REDD+: A SOCIAL CONTRACT IN THE MAKING?**

REDD+ is directly or indirectly underpinned by a long history of sustainable forest management practices on the part of indigenous and traditional populations who have for centuries built their livelihoods on the non-destructive use of natural resources. Hence, 'productive conservation' strategies involving terrestrial and aquatic extractivism, as well as agroforestry systems, for example, were well established long before climate change mitigation tools were invented (Hall, 1997). A newer set of economic, political and social features builds upon this historical base to form REDD+ as a tool aimed at reducing deforestation, lessening carbon emissions and generating 'co-benefits' such as biodiversity preservation and livelihood support for local populations as one element in a broader strategy to combat global warming.

These long-standing practices together with more recent policy innovations could be said to comprise a new form of 'social contract' that brings together a diverse range of stakeholders in a series of agreements under the REDD+ umbrella. In the past, forest conservation and sustainable development initiatives were undertaken very much on an ad hoc basis rather than as part of any wider, more systematic plan. Under REDD+, in contrast, the aim is to consolidate projects and programmes into regional and national strategies of climate change mitigation. In Latin America, leading advocates of REDD+ such as Costa Rica and Mexico have made a significant start in setting up regional and national strategies, and introducing PES systems. As noted above, Brazil is in the process of developing a range of pilot REDD+ schemes and is thinking more strategically about incorporating this approach into economic development and conservation planning at the state level. However, there have been delays in fashioning a national plan and legislative framework (Hall, 2012).



As noted above, however, most such schemes in Brazil are at a relatively early stage in the planning and implementation process. Furthermore, when set against the challenge of mitigating climate change and the fact that about three-quarters of the country's greenhouse gas emissions are due to deforestation and land-use change, REDD+ is the proverbial 'drop in the ocean'. However, despite this and the inevitable uncertainties surrounding its longer-term future on the global UNFCCC stage, it is possible to identify certain features of an emerging new social contract that could form an important pillar of support for REDD+ in future.

The term 'social contract' originated during the Age of Enlightenment in the seventeenth and eighteenth centuries to address the question how law and order is created, and the legitimacy of State authority over the individual in this process. It considers the extent to which people are prepared to surrender some freedoms in exchange for protection of their residual rights. There are contrasting views on the nature of the 'social contract'. At one end of the spectrum is Hobbes' opinion that absolute government authority is necessary in order to counteract with a strong hand the seemingly inevitable anarchy in society.<sup>7</sup> Locke and Rousseau hold a contrasting perspective: that individual rights are earned, and some rights are sacrificed, in exchange for accepting and respecting the entitlements of others.<sup>8</sup> In effect, a negotiation must take place over the extent to which individual self-interest can be reconciled with wider notions of the common good (Ostrom, 1990). This is the fundamental challenge of institution building in contexts where natural resources such as forests, common-pool or otherwise, have to be protected; namely, how to organise and incentivise stakeholders who are in an interdependent situation so that individual and collective interests may be reconciled in pursuit of an overarching objective such as reduced deforestation and the pursuit of conservation.

What features might be considered the basic prerequisites necessary to underpin the notion of a REDD+ 'social contract'? In brief, these could be as follows:

### **1. Contextual preconditions**

- 1.1. A strategic plan involving federal, state and municipal levels of government, possibly in a 'nested' and interconnected format.
- 1.2. A legal framework at federal and/or state levels setting up an institutional structure and system to provide for the supply and authorisation of ecosystem service payments.
- 1.3. Agreements to secure funding either at national or international levels from diverse sources (aid funding, compliance and voluntary carbon markets).

### **2. Project/programme design**

- 2.1. Designation and registration of scheme members.
- 2.2. Definition of resource governance roles and responsibilities for all stakeholders.
- 2.3. An agreed land-use management plan, including educational and awareness-raising components.
- 2.4. Implementation of a negotiated participatory process involving the effective engagement of all stakeholders in consultation and decision-making over

design, implementation procedures, monitoring and evaluation of progress (included under MRV).

2.5. Transparent benefit-sharing arrangements around individual and/or common property.

2.6. Accountability and procedures for enforcing conditionalities/sanctions.

The importance of institution building for community-based natural resource management and the acquisition of environmental entitlements has been clearly underlined (Leach et al., 1999). This problem is also centrally relevant to REDD+ initiatives in the context of climate change mitigation. Furthermore, within a social contract, the institutional and policy support framework should involve an appropriate, situation-specific combination of external monitoring and controls together with internal self-governance mechanisms.

The major rationale behind REDD+ is, of course, that it should constitute an additional or complementary tool to centralised command-and-control environmental policies predicated on Hobbesian principles that strict external vigilance and the threat of punishment for infractions is necessary to avoid the rampant destruction of natural resources. In contrast, REDD+ is based on the principle that monetary and other incentives, such as the provision of community infrastructure, will encourage the adoption of more sustainable practices by forest users, engender collaboration amongst stakeholders and contribute towards the generation of wider environmental and socio-economic benefits.

An overriding feature of all REDD+ arrangements is the recognition of mutual obligations and responsibilities based on an institutional partnership amongst the major stakeholders. Each participant will play a particular role and contribute in different ways to the social contract or agreement, whether at the project or programme level. In Brazil players are likely to include the following:

1. National government. A consultation exercise is currently underway to devise a national REDD+ strategy involving government, civil society and the private sector (Brazil, 2011). Brazil's first and only federal PES programme, *Proambiente*, was frustrated in part by the lack of a legislative framework to authorise the allocation of resources from the government budget for ecosystem service payments. Two pieces of legislation going through Congress aim to address this constraint. First, PL 792/07 proposes compensation from the federal budget for forest conservation on private property.<sup>9</sup> Second, PL 5586/09 sets out a national system of payments for conservation and sustainable forest management activities, allowing certified emissions reduction titles to be traded on the carbon market.<sup>10</sup> However, a time-scale for the final approval of legislation and the putting in place of appropriate institutional procedures is still unclear.

In the absence of a national framework and legislation governing PES, the main source of federal support for REDD+ has been the Amazon Fund. Administered by the BNDES, financial arm of the Ministry of Development, Industry and Foreign

Trade, the *Fundo Amazônia* was set up with an initial grant of US\$120 million from the Norwegian government, which promised US\$1 billion by 2015. The fund was originally intended to finance mainstream conservation activities but its remit was extended to cover PES schemes. By 2012, some 36 projects had been contracted and/or approved with a total value of US\$440 million, including REDD+ projects in Amazonas, Acre and Pará.<sup>11</sup>

2. State governments. State governments have played a key role in getting REDD+ onto the policy and legislative agenda in Brazil. In the face of federal government sluggishness, states have taken the initiative, encouraging national efforts in the UN Framework Convention on Climate Change (UNFCCC) agenda, while developing their own legislation and supporting projects on the ground. The Amazon Governors' Forum, in collaboration with major NGOs, has lobbied the federal administration on climate change policy, urging Brazil to consolidate a national PES/REDD+ programme and to play an active part in international negotiations to agree on the principle of market-based carbon trading to complement aid-based donor support.

The 'Task Force on REDD and Climate Change', comprising representative from federal and Amazon state governments as well as and civil society, have worked to forge a common position on a National REDD+ strategy (Viana, 2009; Brazil, 2011). Amazon governors have also played a major role in setting up the international Governors' Task Force along with governors from the US, Mexico, Nigeria and Indonesia to develop sub-national REDD+ plans. Together with Amazon-based NGOs, governors have lobbied at international climate change COP meetings, notably in Bali and Cancun, for the formal inclusion of REDD+ within the UNFCCC.

While federal legislation on PES/REDD+ is stuck in Congress, Amazon states have stolen a march by developing their own climate change laws governing ecosystem payments as well as fund-raising through international donor support and voluntary carbon markets. These include Amazonas (2007), Acre (2010) and Mato Grosso (2013). Similar moves are afoot in Amapá, Roraima and Tocantins. There is mounting concern in Brazil that state and federal REDD+ plans should be compatible and integrated in key areas such as financial instruments and governance structures (Pavan & Cenamo, 2012).

3. Non-governmental organisations. NGOs lie at the heart of REDD+ in various fundamental respects. They act as a lynchpin in the emerging 'social contract' between government institutions on one hand and, on the other, local resource user populations, in the design and implementation of REDD+ policies. At the policy level, NGOs in Brazil are working together with federal authorities in the formulation of a national REDD+ strategy. On the UNFCCC stage, NGOs have formed an influential pressure group, together with the Amazon governors, to press for the inclusion of forests in climate change negotiations and for the adoption of an integrated national policy.

Operationally, in most of the Amazon projects mentioned previously, international and domestic NGOs have performed formed an intermediary-interlocutor function,

linking forest user groups with higher institutions of governance or funding organisations in Brazil and overseas. International NGOs include, for example, The Nature Conservancy (TNC), the Woods Hole Research Centre (WHRC) and the World Wildlife Fund (WWF). Brazilian partners, amongst others, comprise IPAM, AMAZON (Amazon Institute of People and the Environment), ICV, FVPP (Foundation for Life, Production and Preservation) and ISA. International NGOs have been quite instrumental in obtaining funding for REDD+ pilot projects in Brazil since the country does not participate in multilateral finance arrangements for REDD+ such as the World Bank's Forest Carbon Partnership Facility (FCPF) or the UN-REDD programme.

Most NGOs are engaged in the design of diverse REDD+ schemes to meet the needs of forest-user groups in a range of situations and on varying scales of operation. These might involve small farmers, extractivists, medium and larger-scale commercial producers, indigenous groups, or a mix of several categories. They are a major source of the essential technical skills required in specialist areas such as resource mapping, forestry and applied biological science. Furthermore, they will have to liaise with local community organisations and become involved in governance issues relating to mobilisation, participation and the design of benefit-sharing arrangements. Further responsibilities might extend to environmental education and awareness-raising. Enhancing social and political capital at the grassroots level, a vital prerequisite for successful REDD+ and similar endeavours, are tasks that domestic NGOs are best placed to undertake.

4. Private sector. A fourth stakeholder in the 'social contract', albeit a relatively minor one compared with federal and state governments or NGOs, is the private business sector. This has so far played a small role in the financing of REDD+ initiatives in the Amazon, although in other parts of the country companies (such as *Natura*, for example) have implemented ecosystem service payments to rural producers for watershed conservation purposes.

In the Amazonas state *Bolsa Floresta* scheme, companies such as Marriot, Coca Cola and the Bradesco bank have provided key funding support, alongside the Amazon Fund. On a smaller scale, the Dutch Rabobank has funded two small experiments in forest restoration on the Xingu Socio-Environmental Carbon Project (CCSX) in Mato Grosso to generate carbon credits for sale in voluntary markets. While making a small but significant contribution to early REDD+ development, these companies also benefit from being publicly seen to fulfil their corporate social responsibilities.

5. Local populations. Arguably the key stakeholder in REDD+ partnerships comprises local populations of resources-users. They bear the major responsibility for conservation, sustainable land use and improved forest management. They are expected to adopt modified production systems and to replace destructive practice such as uncontrolled slash-and-burn farming with non-destructive techniques such as extractivism and agroforestry, or other forms of eco-friendly land management. In order to offset the opportunity costs of switching, cash payments and other

development incentives are offered, the fair and equitable distribution of which must be negotiated between donors and recipients.

In addition to the adoption of economic incentives to facilitate behavioural change in favour of conservation, another element of the social contract concerns the definition of governance arrangements that reconcile individual and collective rights and responsibilities. This applies to individual landholdings and any implications for the wider public good, but is especially relevant for the administration of collective or common property such as forests. Here, the failure to introduce effective governance may lead to a spiral of destruction or a 'tragedy of the commons' scenario (Ostrom, 1990; Hall, 1997).

In such situations, the role of local populations in acquiring a degree of control over governance through appropriate mechanisms of participation and empowerment becomes critical. The effective integration of traditionally marginalised rural populations into resource governance, as part of the social contract, is a basic prerequisite of REDD+ in Brazil and elsewhere. Unfortunately, however, this is a principle to which many policy-makers often pay only lip service.

Policy-makers ignore local populations at their peril, for these groups are the ultimate custodians of Amazonia's natural resources. Most of the REDD+ projects and programmes mentioned above involve farmers of various categories, extractivists and indigenous groups. Taken together, such groups are the effective guardians of a major part of Amazonia's forests and natural resources. Indigenous reserves, for example, cover about one-fifth of the region's forested area, giving indigenous groups themselves a huge potential influence within any REDD+ framework, as noted above.

## 5. CHALLENGES FOR REDD+

In theory, REDD+ seems to offer an attractive 'win-win' solution for addressing the problems of deforestation and climate change. Ecosystem service payments would persuade resource users to switch behaviour patterns in favour of conservation and sustainable development, offsetting their opportunity costs, supporting livelihoods (through co-benefits) and protecting the environment. An emerging 'social contract' amongst REDD+ stakeholders would legitimise a degree of consensus regarding the most appropriate institutional setup for governing these arrangements while helping to reduce forest loss and rural violence. However, a number of conceptual, structural and operational problems threaten to undermine these objectives.

Conceptually, REDD+ is predicated on the assumption that cash payments will form the major incentive for transforming resource-users' behaviour. Yet decision-making is more complex than this. The classic neo-liberal model is based on the assumption of individualistic, 'rational' monetary transactions, and it 'does not pay enough attention to the role of institutions and shared beliefs in shaping PES design and outcomes' (Muradian et al., 2010: 1205). Research on forest conservation in various

parts of the world indicates that financial inducements may not be the only, nor even the principal, factor conditioning rural practices, and cash payments may even 'crowd out' more altruistic motives based on traditional customs (Hall, 2012). In Brazil itself, evidence from *Proambiente* strongly suggests that farmers' intentions are driven by a complex set of both economic and non-economic factors. Access to technical assistance and infrastructure support may be even more highly valued than cash payments (Bartels et al., 2009). Thus, getting this incentive balance right would be central to the viability of any REDD+ social contract.

Attempts to impose an incentive system, blueprint-style, based on unrealistic, neo-liberal assumptions is likely come up against the sheer social and cultural diversity of Amazonia. Research all over the region into land-use patterns has demonstrated that forest populations have developed complex, multi-directional household livelihood strategies. Rather than following a predictable, linear trajectory in frontier expansion and settlement, decisions about retaining forest cover depend on many factors and may take many directions depending on the context (Hall, 2012). Such diversity, involving a myriad of forest-user groups with many cultural, economic and ethnic backgrounds, must be factored into social contract understandings that form the basis of REDD+ schemes. In addition, unstable and insecure systems of land ownership and occupation, both individual and common property-based, could undermine attempts to forge social contract agreements.

Operationally, targeting, design and implementation issues could have profound implications for the nature of any social contract underpinning PES systems. For example, perceived fairness in the distribution of expected co-benefits arising from REDD+ would affect attempts to negotiate a social contract. Should interventions be targeted to maximise efficiency in greenhouse gas emissions reductions by involving large commercial farmers, the main drivers of deforestation; or should the main aim be to promote social justice and equity by focusing on family farmers, extractivists and indigenous groups (Wunder, 2007)?

Given the mix of REDD+ projects underway in Brazilian Amazonia catering for a diverse range of resource-user groups, from ranchers and soybean farmers to indigenous populations and small settlers, competition over benefits distribution is likely to intensify. Setting up fair systems for local benefit sharing will be crucial to maintain the legitimacy of REDD+ in the eyes of participants. Furthermore, benefit sharing amongst Amazonian states will also be critical.

How this challenge is dealt with is likely to depend on the system of governance adopted in any future national REDD+ strategy in Brazil. This could combine one or more features of three models (Hall, 2012; Forsyth, 2009). An integrated, 'nested' or top-down approach based on a common set of clearly defined rules for all levels might be introduced. At the opposite end of the scale, a bottom-up model based on 'legal pluralism' would incorporate formal and traditional governance arrangements, recognise the complexity of local decision-making and the primacy of poverty alleviation alongside emissions reductions as a goal. A participatory, 'deliberative' middle way would embrace all stakeholders in an attempt to reconcile national,

regional and local interests. Although still in formation, it appears that in Brazil some kind of nested/deliberative arrangement might prevail. However, the power of grassroots pressure to further the interests of local, traditional and indigenous groups should not be underestimated.

Another major issue concerns access to funding for REDD+ projects. To date, the Amazon Fund has been the major source of such financial support in Brazil, supplemented by some NGO assistance, a little from the private sector and from voluntary carbon markets. Notwithstanding the problem of a falling carbon price, in the eventuality of REDD+ entering the UNFCCC and compliance markets, the problem of guaranteeing fair access will become increasingly contentious. This could support or undermine the basis for any social contract. IPAM, for example, has suggested a model for allocating funds based on 'target, stock and deforestation reduction' (Lima et al., 2009). An equitable distribution amongst the nine Amazon states would be based on a calculation of opportunity costs of reduced deforestation, compensation for forest conservation, and payments for demonstrable, reduced levels of forest loss.

A number of other technical aspects of REDD+ could threaten its credibility as a policy and, hence, the likelihood of a social contract emerging. 'Leakage' can lead to illegal deforestation simply being displaced from a REDD+ project to one that is unprotected, thus cancelling out any overall advantage. There is also a major challenge in guaranteeing the 'permanence' of emissions reductions in the face of continuing pressures on the environment. A regional or national governance framework could address this issue. Yet another major problem is how to determine the historical 'additionality' generated by PES/REDD+ when set against a baseline. This would require that a strong 'monitoring, reporting and verification' (MRV) methodology be implemented.

## 6. CONCLUSION

REDD+ is based on a system of economic incentives as well as mutual rights and responsibilities negotiated amongst a range of stakeholders, aimed at reducing deforestation and enhancing forest carbon stocks to achieve multiple goals. While mitigating the effects of global climate change and preserving other ecosystem services, it also seeks to strengthen local livelihoods. In Brazil, as elsewhere, REDD+ is still at an early stage in its development. It is argued here that one of its emerging features is a potential 'social contract' that could underpin governance arrangements for forests and other natural resources involved. This notion of a social contract is rather implicit but it could become formally embedded in REDD+ agreements. If REDD+ were to significantly expand its coverage in Amazonia, it could be symptomatic of a new environmental policy paradigm in the region.

Other elements in Amazonia's environmental policy matrix could serve to support the notion of a growing social contract. For example, Acre's integrated approach to forest governance is underpinned by a culturally strong sense of 'forest citizenship'

or *florestania* (Schmink, 2011). While this vision is specific to the historical context of Acre itself, additional region-wide measures could have an influence in future. The *Bolsa Verde* ('green grant', not to be confused with the Bolsa Floresta in Amazonas state) programme, for instance, pays monthly stipends of R\$300 to very poor families in priority conservation areas who practise sustainable forms of production, such as extractivists, small farmers and indigenous populations.<sup>12</sup> Other conservation incentives mentioned above, complementing more traditional command-and-control policies, could also have an impact. Taken together with REDD+ schemes, the beginnings of a broader social contract to preserve Amazonia could be emerging.

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## NOTES

<sup>1</sup> REDD+ includes reduced emissions from deforestation and forest degradation, sustainable forest management and enhancement of carbon stocks.

<sup>2</sup> 'Ministério Público Federal aponta INCRA como responsável; por um terço do desmatamento da Amazônia'.

<http://agenciabrasil.ebc.com.br/noticia/2012-10-10/ministerio-publico-federal-aponta-incra-como-responsavel-por-um-terco-do-desmatamento-da-amazonia> (Accessed 14 October 2012)

<sup>3</sup> 'Emissões por desmatamento caem 16% na Amazônia', National Space Research Institute (INPE) press release, 21 December, 2012. [http://www.inpe.br/noticias/noticia.php?Cod\\_Noticia=3180](http://www.inpe.br/noticias/noticia.php?Cod_Noticia=3180) (Accessed 4 January, 2013).

<sup>4</sup> Plano de Prevenção e Controle do Desmatamento na Amazônia.

<sup>5</sup> 'Amazônia Legal terá força nacional de segurança ambiental permanente, diz ministério', 9 October, 2012. <http://agenciabrasil.ebc.com.br/noticia/2012-10-09/amazonia-legal-tera-forca-nacional-de-seguranca-ambiental-permanente-diz-ministerio> (Accessed 14 October, 2012).

<sup>6</sup> Climate, Community and Biodiversity Alliance

<sup>7</sup> Thomas Hobbes, *Leviathan*, 1651.

<sup>8</sup> John Locke, *Second Treatise of Government*, 1689; Jean-Jacques Rousseau, *Du contrat social*, 1762.

<sup>9</sup> Bill PL 792/07 introduced in 2007 by former federal deputy Anselmo de Jesus

proposes giving incentives to rural landowners, who voluntarily conserve forests and watercourses, to be financed from a special fund.

<sup>10</sup> Bill PL 5586/09 outlines the 'National System of Certified Reduction of Emissions through Deforestation and Degradation' (RCEDD). The federal government, states, municipalities, indigenous areas, *quilombola* (former runaway slave community) lands and private rural properties would all qualify for this scheme.

<sup>11</sup> Amazon Fund: [http://www.amazonfund.gov.br/FundoAmazonia/fam/site\\_en/Esquerdo/Projetos/](http://www.amazonfund.gov.br/FundoAmazonia/fam/site_en/Esquerdo/Projetos/)

<sup>12</sup> Modelled on *Bolsa Família*, it was introduced in October 2011 as part of the federal government's wider *Brasil Sem Miséria* poverty alleviation and employment generation programme. With an initial target of some 15,000 families, *Bolsa Verde* aims to encourage natural resource conservation, raise incomes and improve livelihoods while strengthening citizenship.