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Making 'Peace with Nature': Costa Rica's Campaign for Climate Neutrality

Robert Fletcher

Introduction

On 7 June 2007, the then president and Nobel Peace Prize laureate Oscar Arias Sánchez made international headlines by announcing Costa Rica's intention to become the world's first carbon neutral country by 2021, the nation's bicentennial.[1] In the following months this announcement was propagated by news agencies around the world, further cementing Costa Rica's long-standing reputation as a global leader in progressive environmental initiatives (see e.g. Evans 1999; NRDC 2007). Heralding Arias' pledge, for instance, the watchdog organization Climate Action Tracker praised Costa Rica as a 'role model' for the world (cited in Hermwille 2011, p. 10), while Hermwille (2011, p. 10) more recently asserts that '[b]y accepting such a demanding challenge' the nation has advanced 'to the forefront of climate protection and set an example for developing and developed countries alike'.

This inclusion of Costa Rica as among 'the vanguard' (Hermwille 2011, p. 10) of climate change action is a dramatic reversal of fortune from the 1980s, when the country, on the contrary, boasted the highest deforestation rate in the Western hemisphere (Evans 1999), resulting in some scathing international criticism for poor environmental stewardship (e.g. Hunter 1994). In this chapter, I chart Costa Rica's dramatic transformation in the global spotlight from environmental 'laggard to leader', particularly in terms of the country's ambitious and innovative measures to address the effects of anthropogenic climate change. Climate governance in the country is highly complex and dynamic, involving numerous stakeholders at different scales, both domestic and international. Rather than a comprehensive assessment, therefore, I can provide only an overview of some of the regime's most significant highlights. The analysis is based on my long-term ongoing research investigating strategies of environmental governance throughout the country. This research, involving interviews and participant observation with natural resource managers

and users in a number of locations, has examined various dimensions of environmental governance, including ecotourism and protected area conservation (Fletcher 2012a), watershed management and hydroelectric power development (Fletcher 2010), and payment for environmental services (Fletcher & Breitling 2012).

I begin by describing the drivers behind the country's largely successful effort to reverse deforestation, documenting this effort's increasing incorporation into climate change concerns via an innovative payment for environmental services (PES) programme. I then discuss the development of the carbon neutrality initiative and its evolution through the end of the Arias administration. I suggest that all of this can best be understood by situating it within the overarching context of Costa Rica's evolving approach to governance generally, a trend towards increasing neoliberalization throughout the society over the past several decades expressed in the environmental arena in an increasing emphasis on so-called 'market-based mechanisms' such as ecotourism, PES and Reducing Emissions from Deforestation and Forest Degradation (REDD). On the other hand, as with all neoliberalization this process has been partial and piecemeal, with the state retaining a strong hand in various aspects of environmental governance as well as other political arenas. This hybrid neoliberal–welfare state structure, I contend, largely defines Costa Rica's climate governance strategy at present. After developing this framework, I outline some of the significant obstacles in the face of actualizing the ambitious neutrality proposal and describe how these are being addressed.

Making 'Peace with Nature'

In the 1950s, a full 50 per cent of Costa Rica's territory was covered in forest (Evans 1999). Diffusion of the chainsaw in that period, however, dramatically transformed this picture, allowing the agricultural frontier to expand much more quickly than before (Cole-Christensen 1997; Evans 1999). This was encouraged by a national forestry policy decreeing that title to new land could be claimed only by 'improving' (i.e. clearing) it. In the 1970s, deforestation accelerated because of the growth of the global fast food industry, whose demand for beef compelled increased clearing of forest for pastureland (Edelman 1999; Evans 1999). By the end of the 1980s, indeed, Costa Rica had become the foremost supplier of beef to the North American fast food market while its deforestation rate, as noted above, was among the highest in the world.

The alarming pace and impacts of this deforestation were recognized early, first by the biologists, mostly European and North American, who had been busy documenting Costa Rica's impressive biodiversity since the end of World War II (Evans 1999; Chornook & Guindon 2008). They and others began to campaign for protection of the remaining rainforest in the face of agricultural expansion,

appealing to private landholders as well as the national government. Both efforts found sympathetic audiences. Campaigning on the private front resulted in the establishment, in 1973, of the famous Monteverde Cloud Forest Reserve, owned by an immigrant community of Quakers from the United States and managed by the Tropical Sciences Center, a research institute based in San José (Vivanco 2006). Meanwhile, political lobbying had led to enactment in 1969 of a new Forestry Law that established a National Park Service, under the direction of legendary conservationists Mario Boza and Alvaro Ugalde, which quickly set about expropriating representative parcels of forest throughout the country's numerous eco-zones and placing them under federal protection. The result was a frenetic contest between the forces of expansion and preservation, each encouraged by its own arm of the government, each striving to claim as much remaining unclaimed land as possible before the other could gain hold of it.

Despite the nascent Park Service's efforts, however, Costa Rica's forest continued to disappear at an impressive rate, such that by 1990 the percentage of land under forest cover had diminished by half to under 25 per cent total (Evans 1999). By this time, the Park Service's enclosure campaign had begun to wane, with most of the land capable of expropriation already acquired, such that over one quarter of the country was eventually included in the national protected area system. Despite continued issues of illegal logging and other forms of encroachment in the national parks, most of the remaining deforestation at this time was occurring on private land (as well as government land with less stringent regulation and oversight).

Hence, mechanisms were needed to discourage deforestation on these lands in the absence of formal, state-centred, command-and-control regulation. In 1991, the United States Agency for International Development (USAID) took an initial step in this effort with a US$7.5 million grant to create an incentive structure to address deforestation in the particularly affected Sarapiquí province in the northeast of the country (Borges-Mendéz 2008). Out of this initiative grew the non-governmental organization (NGO) Fundación para el Desarrollo de la Cordillera Volcánica Central (FUNDECOR), created jointly by USAID and the Costa Rican state. Its programme, Forest Resources for a Stable Environment (FORESTA), became the pilot project for a national system of payment for environmental services (called Pago por Servicios Ambimentales, or PSA), initiated in 1997 via a renovated Forestry Law (Ley no. 7575) enacted the previous year.

Under the PSA programme, funds are provided to the private owners of forest parcels for the environmental services their lands are seen to confer (see Pagiola 2008; Daniels et al. 2010). The programme encompasses four distinct services – watershed maintenance, biodiversity preservation, carbon sequestration and scenic beauty – that are bundled together in a single payment which varies with the specific modality in which a given parcel is enrolled. The programme comprises a number of such modalities, including conservation of existing

forests, planned reforestation, natural regeneration, agroforesty and sustainable forest management (this last was briefly excluded from the programme in 2000, then subsequently reintroduced), each with its own specific requirements and payment structure (for details see Daniels et al. 2010).

While PSA encompasses several other environmental services in addition to carbon sequestration, the programme was Costa Rica's first concerted effort to conjoin forest policy with the growing global effort to address anthropogenic climate change. The programme was complemented by the creation of a national joint implementation office intended to link PSA with the emerging Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC), particularly the flexible mechanisms under discussion at the time, so that Costa Rica would be able to fund PSA though the sale of carbon credits on the international market expected to develop out of Kyoto. To help jumpstart this initiative, Norway provided an initial payment of US$2 million in 1997 for 200 million tonnes of CO_2 equivalent offsets (Sánchez-Azofeifa et al. 2007, p. 1167). In the years since its inception the PSA programme has proven very popular and expanded substantially, such that by 2008 it had encompassed nearly 700,000 hectares nationwide (Daniels et al. 2010) while continuing to receive five times the applications it was able to support (Sierra & Russman 2006). As a result, PSA has become quite well known internationally and widely celebrated as a model of best practice for the development of PES programmes elsewhere (see e.g. Pagiola 2008; Daniels et al. 2010). The most recent assessments suggest that as a result of this and other efforts Costa Rica's forests have now recovered to 1950s levels, encompassing 52.38 per cent of the country (FONAFIFO 2012).

The carbon neutrality initiative launched in 2007 by President Arias (and codified in Decree No. 33487–MP) therefore represented merely an intensification of Costa Rica's long-standing effort to link domestic environmental protection to climate action, both at home and internationally. Titled 'Paz con la Naturaleza' ('Peace with Nature', or PCN), the initiative was a skilful and self-conscious effort to capitalize on the two attributes for which Costa Rica is most known in the international arena: its ostensibly non-violent nature (represented, foremost, by the abolition of its formal military in 1948 and Arias' receipt of the Nobel Peace Prize in 1987); and its aggressive environmental protection (symbolized, as noted above, by its extensive system of protected areas and global reputation as 'ecotourism's poster child' [Honey 2008, p. 160]). The initiative built on a more general *Peace with Nature* manifesto presented by Arias the previous year, in which he called on 'all the countries of the world to unite in a joint effort to strengthen their actions and political commitment in order to reverse the trends of environmental degradation caused by the impact of human activities on the planet's ecosystems' (Arias Sánchez 2006, p. 5). Towards this end, Arias committed Costa Rica to 'lead an initiative by the developing countries that transcends the requirements of interna-

tional agreements and obligations' as well as 'to promote a form of national administration that will allow our nation to aspire to an economic and social development that is environmentally sustainable' (ibid.).

The mechanisms for accomplishing these aims, however, were not clearly specified. In relation to the international agenda, Arias called for 'a new ethic and a new vision of international cooperation' and formation of 'an alliance between developing countries and developed countries, with a view to achieving the common objective of reversing environmental degradation and maintaining and restoring the planet's vital ecosystems', in pursuit of 'an active and enduring Peace with Nature' (Arias Sánchez 2006, pp. 8, 9). On the national front, the president promised, Costa Rica would pursue a number of vaguely defined goals, including a 'Focus on solutions', 'Search for partners outside the public sector', 'Designing solid and coherent frameworks for environmental management in the executing units' and 'The "greening" of Public Administration' (Arias Sánchez 2006, pp. 11–12).

The climate neutrality campaign initiated the following year thus constituted the first tangible crystallization of these aims. It was quickly followed by the development of a National Climate Change Strategy (NCCS) under the direction of the minister of environment and energy, Roberto Dobles (Dobles 2008), and the establishment of a new governmental office, led by biologist Pedro Leon, to direct and coordinate climate action across the public sector. Alvaro Umaña, former minister of environment under Arias' first administration in the 1980s, was designated climate change ambassador to represent Costa Rica during UNFCCC negotiations.

The National Strategy guiding all of these efforts comprises both mitigation and adaptation measures (Dobles 2008). Mitigation entails carbon capture and storage through protected area management and a national tree planting campaign as well as greenhouse gas (GHG) emissions reductions in eight sectors: (1) energy, (2) transport, (3) agriculture and livestock, (4) industrial, (5) solid waste, (6) tourism, (7) water resources and (8) land use change. Adaptation calls for risk and vulnerability reduction in seven areas – (1) water resources, (2) agriculture and livestock, (3) fishing, (4) health, (5) infrastructure, (6) coastal areas and (7) biodiversity –as well as 'research and monitoring, early warning systems, [and] strengthening of capacity to improve in an integrated way the country's economic, social, environmental and biophysical capacity to adapt' (Dobles 2008, p. 15).

While the Arias administration was concerned to ensure that the PCN initiative survived the end of its four-year term, the proposed law drafted towards this end was never enacted. As it turned out, there was indeed reason for concern. When Laura Chinchilla, one of Arias' vice-presidents, was elected to succeed him in 2010, funding for PCN ceased and the office was disbanded. It was replaced, however, with a new Direccion de Cambio Climático (Climate Change

Department), headed by William Alpízar, within the Ministry of Environment, Energy and Telecommunications (MINAET), which has assumed responsibility for the climate neutrality campaign and NCCS implementation, as well as the nation's commitment to pursue low emissions development (LED) generally though executing Nationally Appropriate Mitigation Actions (NAMAs) consistent with recent UNFCCC negotiations (see this volume's introduction).

A Green Neoliberal Republic?

These activities are situated within the history of Costa Rica's changing approach to environmental governance generally, characterized by a process of progressive neoliberalization over the past several decades (Edelman 1999). While the term 'neoliberalism' has been employed in diverse ways within academic analyses (see Flew 2012), most precisely defined it refers to the economic philosophy promoting principles of decentralization, deregulation (or more commonly reregulation from states to non-state actors), marketization, privatization and commodification in political and economic affairs (see Harvey 2005; Castree 2008). This philosophy, advanced in the postwar period in specific challenge to the popularity of the welfare state in that era, gained prominence in the 1980s with its adoption as the basis of the Reagan and Thatcher administrations in the US and UK, respectively, and subsequent promotion throughout the less developed world by international financial institutions (IFIs) such as the World Bank and International Monetary Fund (IMF) as a component of so-called 'structural adjustment' programmes (SAPs) (see esp. Harvey 2005).

Consonant with this history, prior to the 1980s Costa Rica was characterized by a pervasive welfare state presence in virtually all sectors of society (Edelman 1999). This state-centred approach characterized governance within the environmental sector as well, as represented by the command-and-control 'fortress conservation' model (Brockington 2002; Igoe 2004) dominant within the national park system (Evans 1999). Beginning with Costa Rica's implication in the 1980s debt crisis, however, this situation transformed dramatically. Three rounds of structural adjustment under supervision by the World Bank and IMF over the next decade spurred pronounced neoliberalization in a variety of sectors, with state agencies downsized or privatized and dramatic cutbacks demanded in welfare institutions, and NGOs offering independent social services increasingly promoted to fill the 'governance gap' left vacant by the retreat of the state (Edelman 1999).[2] This trend quickly manifested within the environmental governance arena as well. In 1991, the consolidated National Park Service was replaced by a far more decentralized National System of Protected Areas (SINAC), which divided the country into eleven distinct 'conservation areas' administered in semi-autonomous fashion. Decreased funding for park management as a component of struc-

tural adjustment (Evans 1999) led to an environmental governance gap of sorts that has been increasingly filled by NGOs, both domestic and international, which developed independent conservation policies espousing a variety of market-based strategies, including several well-known debt-for-nature swaps negotiated with the Costa Rican state. In addition, a substantial percentage of the nation's conservation began to be undertaken through an extensive network of private nature reserves, owned by both NGOs and discrete individuals (Langholz 2003), facilitated by a newfound liberalization of Costa Rica's domestic ownership regulations in order to stimulate foreign direct investment as a novel development strategy (Edelman 1999).

The PSA programme, introduced in the wake of a third SAP under influence from the World Bank, which demanded an end to state subsidies for forest management as a conditional for a new series of loans, signified an intensification of this neoliberalization within the environmental sector. Explicitly described by many advocates as a 'market-based mechanism' (see e.g. Heindrichs 1997; Pagiola et al. 2002; Brandon 2004), the programme was self-consciously designed to move forest policy 'away from deficit-plagued, subsidized operations that are only able to survive with the aid of state "alms" and toward a form of profitable, competitive land use based on sound business principles' (Heindrichs 1997, p. 23). In quintessential neoliberal fashion, the programme was also designed to shift the locus of resource control and financing from the state towards non-state actors – particularly the 'private forestry sector' – in order to 'put into practice ideas such as administrative decentralization' and 'mixed public and private financing' (Heindrichs 1997, pp. 11, xi). The structure of the Fondo Nacional de Financiamiento Forestal (National Fund for Forestry Financing, or FONAFIFO), the 'parastatal' agency charged with programme administration, reflects this aim, with two of its five managing directors drawn from the private sector (Heindrichs 1997). In an explicit strategy to achieve 'maximum decentralization' (Heindrichs 1997, p. 43), moreover, FONAFIFO is largely autonomous in its design and administration and receives its funding directly from the payments it brokers in order to provide managers with 'a vital interest in identifying and developing new sources of funding' (Heindrichs 1997, p. 43).

Costa Rica's NCCS continues this neoliberal emphasis. The principal means of financing the plan, stated explicitly at several points, is building on the current PSA programme to access international carbon markets. As the Strategy explains, 'carbon markets are the opportunity to establish links between climate change and the competitiveness of national strategies', while '[a]ppropriate financial instruments and carbon markets provide effective incentives for developing countries' (Dobles 2008, p. 20). In conjunction with this, the national carbon neutrality initiative is intended as a branding mechanism to leverage 'C-Neutral' products and services through 'the sustained creation of value for target customers in the market or

segment of interests, which proves to be superior to the value offered by the competition' (Dobles 2008, p. 14). In this effort, 'industries and all commercial activities should use carbon neutrality as a business tool, improving competitiveness, profitability, management and customer service quality' (Dobles 2008, p. 22).

On the other hand, Costa Rica in general has long resisted the extreme neoliberalization implemented in other places and retains a strong state presence in many sectors of society (Edelman 1999). In terms of environmental governance, this is evidenced by continued reliance on the state-centred fortress model for managing the majority of protected areas (Fletcher 2012a). Within climate policy specifically, despite common official rhetoric pronouncing PSA a paradigmatic market-based mechanism, in reality the state directly regulates the programme in a number of ways, most significantly in that a large portion of the programme's funding (about 40 per cent) is generated through national fuel tax and water taxes while only about 1 per cent is actually financed through the voluntary market exchanges intended to form the programme's basis (Daniels et al. 2010; Fletcher & Breitling 2012). Both the NCCS and carbon neutrality initiative appear to reinforce this dynamic, placing the national government at the centre of activity, even in terms of efforts to harness international markets for climate change funding. Hence, Costa Rica's climate governance regime displays the same hybrid neoliberal–welfare state structure evidenced throughout the society at present (Fletcher 2012a; Fletcher & Breitling 2012).

All of this occurs within the context of a global environmental governance system that has itself become increasingly neoliberalized over time, characteristically promoting the quintessential neoliberal tenets outlined above with respect to natural resource management in countless locations around the world, as a rapidly growing body of research documents (see e.g. Heynen et al. 2007; Igoe & Brockington 2007; Brockington et al. 2008; Brockington & Duffy 2010; Arsel & Büscher 2012; Roth & Dressler 2012). As in the case of Costa Rica, however, this neoliberalization is invariably partial and context-specific, involving articulation and accommodation with pre-existing local socio-economic institutions (see Harvey 2005; Dressler & Roth 2010; Büscher & Dressler 2012).

In line with this analysis, researchers have highlighted an increasing neoliberalization within global climate change discourse and policy in particular (see Fletcher 2012b). Oels (2005) for instance, observes that global discourse concerning climate change underwent a decisive shift in the 1980s and 1990s, particularly following the 1997 Kyoto Summit, towards increasing neoliberalization (or 'advanced liberal government', as she, following Rose [1999], labels it). Expanding upon this analysis, While and colleagues (2009) describe a multi-stage shift in climate change discourse consonant with changing environmental policy in general. Like Oels, the authors describe climate change discussion as centred on a state-led 'prevention and

control' approach in the 1970s (While et al. 2009, p. 5). In the 1980s, however, concern over climate change became incorporated into the emerging sustainable development discourse, in terms of which the issue became fused with concerns to sustain economic growth within a neoliberal framework 'characterized by flexibility, ambiguity and a lack of prescription in target-setting' (While et al. 2009, p.7). The authors then identify a further wave of neoliberalization in the 1990s 'characterized by experimentation with market-based "new environmental policy instruments"' (ibid.) such as carbon trading and PES – a process that has intensified in recent years as climate change has become 'the new "master concept" of environmental regulation' generally (While et al. 2009, p. 2).

Neoliberalization within climate change policy is demonstrated most starkly, perhaps, by the Kyoto Protocol (Oels 2005), which has promoted (1) an emphasis on the creation of markets for trade in environmental services (Bumpus & Liverman 2008); (2) commodification of resources in order to 'price nature's services' (Bumpus & Liverman 2008, p. 132); (3) privatization through assigning individual property rights for emissions production; (4) a decentralized governance structure involving loose coordination by transnational institutions; (5) reliance, by and large, on voluntary mitigation measures adopted by discrete nation-states or 'sub-national units' (regions, cities, etc.) (While et al. 2009); and finally, (6) the increasing influence of 'non-nation state actors' (e.g. NGOs) within climate politics (Okereke et al. 2009).

Beyond the State

In relation to this last dynamic, while the national state, as noted above, remains central to climate change policy, climate governance in Costa Rica increasingly included a variety of non-state actors as well. This is due, in large part, to the fact that, consistent with neoliberal policy in general (Levine 2002), funds for climate action administered by IFIs as well as private donors are increasingly directed specifically towards non-state actors as an ostensibly more efficient and flexible alternative to cumbersome and bureaucratic state agencies (Okereke et al. 2009). Prominent non-state players in Costa Rica include, of course, FUNDECOR, the NGO mentioned above as responsible for administering PSA in the Sarapiquí region. As noted earlier, Costa Rican conservation has long been strongly influenced by a number of prominent international NGOs, including such powerhouses as Conservation International (CI), The Nature Conservancy (TNC), World Wide Fund for Nature (WWF) and the Natural Resources Defense Council (NRDC), as well as others less well known outside the country, and many of these have become involved in climate mitigation and adaptation projects as the global emphasis in environmental governance (and funding) becomes increasingly

focused on climate change specifically (While et al. 2009). The internationally renowned agricultural research institute Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) is also involved in a number of initiatives, including a reforestation project developed jointly with NRDC and an innovative effort to reduce emissions from milk and beef production by capturing methane and engaging in other energy saving measures vis-à-vis cattle raising. A domestic civil society group called 'co2Neutral2021' composed of self-styled 'young professionals' has established itself as a watchdog of sorts to monitor the government's progress towards carbon neutrality and promote their own initiatives in this effort.

Elements of the private sector have entered the climate arena as well. The recently formed National Ecotourism Chamber of Commerce (CANAECO), composed of prominent domestic tourism operators, has established an agreement with FONAFIFO to promote 'Climate Conscious Travel' by urging operators to compensate for their clients' emissions both en route to and within the country through paying into the PSA programme. CANAECO's board of directors includes representatives of Nature Air, a domestic carrier claiming to be the 'world's first certified carbon neutral airline' on the basis of their offsetting of emissions through PSA, in addition to Mapache, a car rental agency that pursues a similar strategy. Such initiatives make up the small portion of the PSA programme funded through voluntary payments by domestic businesses, including a number of private hydroelectric dams as well as several beverage manufacturers with an interest in securing clean water sources (Blackman & Woodward 2010). There are also innumerable independent conservation and reforestation projects implemented on privately held land throughout the country.

In addition to this work by non-state actors at the domestic level, Costa Rican climate policy is strongly shaped by various international interests. The World Bank has long been particularly influential, having helped to establish the PSA programme, as noted above, and continuing to mould it both through research and advising (see e.g. Pagiola 2008) and through finance; currently about 40 per cent of PSA funding comes from World Bank loans and grants from the Global Environment Facility (GEF), an institution created by the World Bank in conjunction with the United Nations Environment and Development Programs (Daniels et al. 2010). The German International Development Bank (Kreditanstalt für Wiederaufbau) funds approximately 10 per cent of PSA for carbon sequestration in the north of the country as well (Blackman & Woodward 2010).

The US government has also been quite influential in climate change policy (and many other aspects of Costa Rican politics) for some time. As previously noted, USAID helped spur PSA development through the FORESTA project that created FUNDECOR, and the organization has recently renewed involvement through the Tropical Forest Conservation Act (TFCA), which provides funds for forest

protection in less developed countries specifically linked to carbon sequestration via a new generation of debt-for-nature swaps. Costa Rica has been targeted twice by this programme thus far, first in 2007 with a pledge of US$26 million in debt forgiveness over sixteen years, then again in 2010 with a second commitment of US$27 million more (USAID 2012). All of this money is to be administered as part of the Costa Rica Por Siempre (Costa Rica Forever) fund for domestic conservation enhancement jointly managed by CI, TNC and the Costa Rican National Biodiversity Institute (INBio), another 'parastatal' entity responsible for inventorying the nation's natural resources (see Evans 1999). The US government is also promoting a Low Emissions Development Strategy (LEDS) through its State Department presence in San José with a modest (US$1.5 million) fund primarily directed towards energy efficiency improvements in the agriculture and transport sectors responsible for the majority of the country's emissions.

The Promise of REDD+

As in much of the rest of the (particularly less developed) world, stakeholders throughout Costa Rica are placing much of their faith for future climate action in the emerging Reducing Emissions from Deforestation and Forest Degradation Plus (REDD+) initiative. Costa Rica was, in fact, one of the original architects of this initiative, having first proposed in conjunction with Papua New Guinea a simpler RED plan focused only on avoiding emissions from deforestation before the 2005 Conference of the Parties (COP) 11 meetings in Montreal (Governments of Papua New Guinea and Costa Rica 2005). This proposal urged the UNFCCC 'to take note of present rates of deforestation within developing nations, acknowledge the resulting carbon emissions, and consequently open dialogue to develop scientific, technical, policy and capacity responses to address such emissions resulting from tropical deforestation' (Governments of Papua New Guinea and Costa Rica 2005, p. 2). It concluded by highlighting 'the climatic importance of deforestation and facilitat[ing] meaningful discussion by suggesting some possible approaches. Parties must effectively address the significant emissions resulting from deforestation and the associated implications relative to lasting climatic stability. Time is of the essence' (Governments of Papua New Guinea and Costa Rica 2005, p. 10). In subsequent meetings this proposal was expanded to include issues of land degradation (the second D) as well as conservation and enhancement of existing forest stocks (the +) and was thus eventually promoted as an expanded REDD+ initiative, endorsed by the UNFCCC in 2007 at COP13 in Bali and finally adopted as policy at COP16 in Cancun. In terms of global governance the initiative is supported both by the UN through its collaborative initiative on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD Programme)

(http://www.un-redd.org) and by the World Bank through the Forest Carbon Partnership Facility (FCPF). Commonly cited World Bank estimates suggest that global financing for REDD+ will reach at least US$30 billion by 2020 (see e.g. Phelps et al. 2010).

Hence, Costa Rica along with many other less developed nations around the world is hoping to tap this greatly anticipated new source of funds for its climate change initiatives. While the specific architecture of the REDD+ mechanism remains under discussion, Costa Rica is among a number of countries awarded funding (in this case US$3.4 million) though the FCPF's 'REDD Readiness' initiative to develop the rigorous measuring, reporting and verification (MRV) procedures requisite to programme implementation. As Daniels et al. (2010, p. 2124) observe, REDD+ 'will undoubtedly include using PES as a mechanism to address deforestation', and this is particularly true with respect to Costa Rica, whose Readiness Plan states quite explicitly that the PSA programme 'will act as a basis of Costa Rica's REDD+ Strategy' (Government of Costa Rica 2010, p. 9). Hence, the majority of REDD+ funds are likely to be managed by FONAFIFO, which hopes to use this money to address the perennial excess demand by landowners for inclusion in PSA. FUNDECOR is also hoping to access REDD funds for its PSA projects in Sarapiquí through an agreement with another NGO called Pax Natura (which, despite its similar name, appears to have no relation to Arias' Peace with Nature initiative) to broker avoided deforestation credits on the voluntary carbon offset (VCO) market (see Bumpus & Liverman 2008).

Programme officials claim, however, that the majority of REDD funds will be directed towards indigenous communities, which are able to register much larger parcels than individual landowners and which have been largely excluded from the benefits of many development initiatives in the past. Costa Rica's REDD Readiness Plan, consonant with World Bank requirements, was in fact drafted with indigenous consultation and calls for creation of a REDD+ board of directors comprising FONAFIFO's current board and two additional members, one drawn from 'civil society' and the other representing the Association of Comprehensive Indigenous Development (ADII). Hence, indigenous peoples, long marginalized within national politics (see Evans 1999), may be able to harness REDD+ to gain a more central position within environmental governance discussions. On the other hand, significant concerns have been raised internationally concerning the potentially negative impacts of REDD+ development on indigenous communities generally (e.g. Newswire 2011).

As Phelps and colleagues (2010) observe, the emphasis on national-level accounting in most REDD+ discussions may have important ramifications for the future of environmental governance generally, possibly functioning to reverse the dominant neoliberal trend towards decentralization, noted above, increasingly promoted over the past several decades, by recentralizing forest governance in the hands of the state institutions responsible for MRV implementa-

tion. This, indeed, seems likely to occur in Costa Rica, where, as noted above, REDD policy is intended to be directed primarily by the national government via FONAFIFO.

Still, most authorities continue to envision REDD as an intensification of neoliberal policies. As the Costa Rican REDD Readiness Plan states, while some stakeholders, including indigenous groups and civil society representatives, demand that REDD policy 'would not exclusively target global carbon markets for the reward of avoided deforestation and enhancement in forest carbon stocks', the majority of stakeholders apparently 'agree that the compensation for the reduction of emissions or improvement of stocks in privately owned forests is more viable through local and global market mechanisms' (Government of Costa Rica 2010, p. 9).

Bumps on the Road

Notwithstanding all of the ambitious national plans and concrete local actions detailed above, it is apparent that the Costa Rican government has taken few tangible steps thus far actually to implement its carbon neutrality proposal. The civil society group co2neutral2012 in fact claims that since the plan's introduction the country's emissions have risen substantially, declaring in 2009:

> [W]e believe that few effective measures have been implemented to reduce carbon emissions since the Peace with Nature declaration. Indeed, Costa Rica's greenhouse gas emissions have continued to grow at alarming rates. If the country continues on its current unsustainable development path, its emissions will increase by at least 33% by 2021. (Roberto Jimenez, press release, 9 August 2009)

While no comprehensive assessment of Costa Rica's carbon footprint has been undertaken since, this trend does not appear to have reversed in subsequent years (Long 2011). Hence, the nation's status as global role model for climate change action pegged to its neutrality pledge remains a largely unrealized potential at present. There are a number of significant obstacles, indeed, to actualizing this potential. The first and foremost of these concerns money. Direccion de Cambio Climático officials claim that neutrality could in fact be realistically achieved by as early as 2014 if sufficient funding were available. Costs estimates vary but they are all quite high. According to an evaluation conducted by the prestigious business school INCAE, attaining neutrality would cost in the order of US$7.8 billion (Long 2011, p. 22). Pedro Leon, former head of the PCN office, has cited even larger figures: around US$10 billion for investment in clean energy production with an equivalent amount needed to build an efficient system of mass public transport.

Such funds are clearly far beyond anything that the Costa Rican state could possibly hope to mobilize on its own (Long 2011). From

the outset, indeed, the government has been quite candid that carbon neutrality cannot be achieved without substantial financial assistance from international donors. The NCCS states bluntly that 'the totality of the cost' for implementing the Strategy 'cannot be covered domestically' (Dobles 2008, p. 23). Hence, the Strategy seeks, as one of its key components, to 'Exert international influence and Attract financial resources', explaining, 'In order to implement the strategy, an access to new and additional financial resources is required, including official funds, concessions toward developing countries, and carbon markets' (Dobles 2008, pp. 18, 20).

In effect, while proclaiming the goal of carbon neutrality, the initiative has from the beginning left itself a face-saving way out of sorts, in that failure to achieve its aim could always be blamed on the international community's unwillingness to support the effort with sufficient financial backing. Hence, some civil society groups contend that 'the pledge was less about emissions and more about public relations' (Long 2011, p. 23). Meanwhile, in 2012 Climate Action Tracker downgraded its evaluation of Costa Rica's performance to merely 'Sufficient' because the nation has made its carbon neutrality initiative 'conditional to external support'.

Second, there are important questions of measurement with respect to neutrality calculations. As Gössling (2009) observes, this is a central issue in any carbon neutrality initiative. In Costa Rica's case, perhaps the most significant measurement issue concerns energy production. The nation is widely viewed as 'a world leader in renewable energy use' (NRDC 2007, p. 1) because most (currently 93 per cent) of its domestic energy is produced without fossil fuels, the majority of this (about 80 per cent of the total) generated by hydroelectric dams (ICE 2009). Hydropower, especially, is generally considered 'clean' energy with zero GHG emissions (Fletcher 2010). Yet in reality hydroelectric dams, particularly in tropical environments, tend to produce substantial emissions, primarily from the methane produced by submerged vegetation released during reservoir drawdown or spill-over (see Mäkinen & Khan 2010). These emissions, however, are neither measured nor taken into account in calculating Costa Rica's carbon balance (Fletcher 2010). Given that the nation's electricity demand is projected to increase by 6 per cent per year for the foreseeable future, and that the majority of this is to be met with increased hydroelectricity production (ICE 2009), including such emissions in neutrality calculations would probably make it quite difficult for the country ever to achieve its goals (Fletcher 2010).

What is taken into account in neutrality calculations depends as well upon how entities 'define their system boundaries' (Gössling 2009, p. 21). The Kyoto Protocol, for example, does not require any specific parties to assume responsibility for emissions from international air transport, while the UN World Tourism Organization's (UNWTO) more recent Davos Declaration, intended to address the tourism industry's climate implications (see UNWTO 2007), demands

'that destinations would only be responsible for emissions released during the tourists' stay' (Gössling 2009, p. 21). Yet revenue generated through international tourism arrivals constitutes one of Costa Rica's most important revenue streams (Honey 2008). Hence, groups such as CANAECO believe that international air transport should be included in Costa Rica's carbon assessment if it is to constitute a meaningful measure.

A third significant issue concerns the extent to which PSA, the main instrument of carbon mitigation at present and the foundation upon which future REDD+ policy is to be based, is in fact responsible for the reduction in deforestation rates commonly attributed to it. Sánchez-Azofeifa et al., for instance, contend that this reduction is actually more due to

> previous forest conservation policies in Costa Rica, including a 199[6] legal restriction on forest clearing . . . All of the prior policies, including the creation of national parks and biological reserves and the 199[6] law, have very effectively lowered deforestation . . . The success of these previous programs subsequently left the PSA program with little forest clearing to prevent. (2007, p. 1172)

Hence, Daniels and colleagues (2010, p. 2124) conclude that while PSA may have some impact on deforestation in particular locations, 'At the national level, PES had virtually no additional impact on lowering deforestation because forest would have been conserved on PES sites even without payments.' If such assessments are correct, future expansion of the programme in relation to REDD+ funding may be less impactful than anticipated.

Fourth, Costa Rica may have difficulty accessing REDD+ funds even if they materialize on a global scale. PSA, as previously noted, has long been intended to capitalize on international carbon markets by attracting foreign buyers for its carbon offset credits. Yet in reality such buyers have largely failed to appear; the only significant contribution to the programme thus far was from Norway in 1997 (Sánchez-Azofeifa et al. 2007). Overall, as mentioned above, only about 1 per cent of the programme is actually financed by the voluntary transactions envisioned to form its main foundation (Blackman & Woodward 2010). As a result, the programme has been forced to increase reliance on the state-mandated taxes and IFI grants or loans that were eventually to be superseded by self-sustaining markets (Fletcher & Breitling 2012).

REDD+ markets may be even more difficult for Costa Rica to access. The nation's forests are relatively small by world standards, not even appearing in the global 'top ten' (Mollicone et al. 2007, p. 2). Limited REDD+ funds, therefore, are likely to be prioritized elsewhere where they can achieve greater impact. This is compounded by the fact, noted at the outset, that Costa Rica's deforestation rate is currently zero or even negative in some estimates, calling into question the additionality that can be claimed for REDD+ initiatives. In response to

this concern, the government asserts that 'the perception that there is no deforestation in Costa Rica is wrong. Despite the fact that in Costa Rica forest coverage is being recovered (net deforestation is negative), forests are still being lost (there is gross deforestation)' (Government of Costa Rica 2010, p. 10). This means that even if forest is expanding overall it is still being lost in certain areas. Hence, avoided deforestation within the country is calculated with respect to specific regions rather than the nation as a whole. In this way, it is hoped that a case can be made for additionality. It remains to be seen, however, whether the international community will find this argument sufficiently convincing.

Conclusion

In the above, I have outlined the current state of the climate change governance regime in Costa Rica, centred on the government's ground-breaking pledge to achieve carbon neutrality to coincide with the nation's bicentennial celebration. I described the origins of this campaign in Costa Rica's long-standing efforts to address environmental degradation, through such measures as the development of the national park system and PSA programmes, resulting in the reversal of the serious deforestation previously rampant throughout the country. I contextualized these environmental initiatives within the nation's evolving governance structure, in general towards increasing neoliberalization in line with SAPs promoted by influential IFIs, yet balanced by the state's continued pervasive presence in many societal sectors. Finally, I outlined various obstacles in the path to carbon neutrality and how stakeholders are addressing these.

From its long track record of proactive environmental action, it is clear that Costa Rica possesses the political will to organize a substantial climate response if authorities commit themselves to this goal. Whether the nation will be able to achieve carbon neutrality truly in any meaningful sense, however, is a far more difficult question. It is apparent that significant action in whatever form will depend, fundamentally, on mobilization of substantial international financial resources which, given the glacial movement of recent UNFCCC negotiations, appear less and less likely to materialize. Hence, as with the international climate governance regime as a whole, the future remains uncertain for this erstwhile global leader in progressive climate action.

Notes

1 This claim was subsequently pre-empted by the Maldives' vow to achieve carbon neutrality by 2020.
2 While NGOs are commonly considered advocates of civil society autonomous from both national states and capitalist markets, critics increasingly contend

that NGOs' dramatic rise over the last several decades has been part and parcel of neoliberalization, helping to promote the principles of decentralization and devolution central to neoliberal doctrine (see e.g. Chapin 2004; Levine 2002).

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