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*Cluster 2: Development Governance*

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## **Transforming Environmental Values through Ecosystem Payments: Ecuador's *Socio Bosque* Programme**

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# TRANSFORMING ENVIRONMENTAL VALUES THROUGH ECOSYSTEM PAYMENTS: ECUADOR'S SOCIO BOSQUE PROGRAMME

## ABSTRACT

*In 2008, the national government of Ecuador introduced the Programa Socio Bosque (Forest Partner Programme). Under the programme, direct payments to forest inhabitants incentivized the conservation of global and national scale ecosystem benefits threatened by Amazon deforestation, with a particular focus on maintaining global climate regulation and biological diversity. Uptake of past programs and compliance with regulation was historically complicated by a lack of legitimacy amongst communities targeted by these policies. A voluntary program now with over 90,000 beneficiaries, Socio Bosque has instead directly fostered local participation in the investment of payments and monitoring of compliance. However, complementary returns for from carbon markets have been less than expected and the consistency of government payments is at risk from Ecuador's turbulent political climate. This paper discusses the capacity of payment-based programmes to drive long-term, sustained change in environmental management values beyond simply meeting the opportunity costs of avoiding deforestation and short political life-cycles. Similar programmes can learn from Socio Bosque's vulnerabilities and strengths to highlight livelihood co-benefits of conserving forest ecosystem benefits while meeting immediate needs through incentives, such as tying payments to long-term livelihood investments and community compliance monitoring.*

**KEYWORDS:** *East Timor, Indonesia, International Relations, Peacebuilding, Peacekeeping, Timor-Leste, Transitional Justice, United Nations*

## Introduction

In 2008, the national government of Ecuador introduced the *Programa Socio Bosque* (trans. Forest Partner Programme). Under the programme, direct payments to forest inhabitants incentivized the conservation of global and national scale ecosystem benefits threatened by Amazon deforestation, with a particular focus on maintaining global climate regulation and biological diversity. A voluntary program covering 900,000 hectares of land and now with over 90,000 beneficiaries (Krause and Loft, 2013), Socio Bosque has sought to address legitimacy failures of past regulation by directly fostering local participation in the investment of payments and monitoring of compliance.

However, assuring finance to compete against unstable opportunity costs driving land conversion can be uncertain, especially given volatile carbon trading markets and Ecuador's turbulent political history. The future of the Socio Bosque programme will require alternative sources of sustainable finance to ensure its immediate future, but ultimately must be designed to transition local managers to a land management ethic that can find value in ecologically sustainable development. This paper discusses the programme in the context of current research on market-based innovations in global environmental governance, drawing lessons from Socio Bosque for similar programmes on how embedding local preferences and values in payment design can secure the normative change required for this transition.

In recent years, much discussion has revolved around how best to manage the global public goods provided by our ecosystems. This focus is often around the multitudinous contribution of forests to human well-being that go unrecognized by market dynamics, such as sequestering the transboundary carbon emissions of distant human activities; regulating healthy water cycles for downstream urban and agricultural consumption; or 'banking'

biodiversity to secure ecosystem resilience and future bio-resources. For decades government roles in maintaining the contribution of environmental integrity to human and economic well-being have been increasingly emphasized in broad international development commitments, including the 1989 Indigenous and Tribal Peoples Convention of the International Labour Organization, the 1994 UN Convention to Combat Desertification (UNCCD), and the 2001 Cotonou Agreement for co-operation between the European Union and African, Pacific and Caribbean countries (Cordonier Segger, 2004).

Sustainable goals are, in the main, an attempt to balance ecosystem health and poverty alleviation - as Ecuadorian President Rafael Correa put it: “If the poor don’t receive direct benefits from conservation, conservation won’t be sustainable” (Pres. Rafael Correa, 2011, cited in Walsh, 2011). Ecuador’s Socio Bosque programme offers a means to provide such mutual benefits through direct government payments for fulfilling forest protection goals, seeking mutual benefits for both conservation and poverty alleviation.

### **The role of payments for ecosystem services in tropical forest conservation**

Sustainable forestry management in the tropics has had difficulty getting traction, as continuous long-term production from standing forests typically runs counter to cut-and-move-on logic driven by abundant land, low timber value, and capital requirements for long-term planning (Vincent, 1992; Wunder, 2006). Furthermore, a vast body of literature indicates conventional approaches urging the value of sustainable forest logging are rarely considered an alternative to land-use conversion, especially for agriculture (Wunder, 2006).

Payments for ecosystem services are one attempt to recognise values of sustainable forest management by providing security of ongoing income with minimal investment by paying for the broader ecosystem benefits of community, downstream or global importance. Other government incentive programmes have had some success in securing lasting, community-wide change in management ethics after payment schemes withdrawal, such as in China’s Grain for Green Program (Cao et al., 2009), or in Australia’s BushCare program (Salzman, 2005). By highlighting the value of ecologically sustainable management, incentives can embed permanent livelihood improvements and have a demonstration effect, securing uptake of alternative land management techniques. By involving communities in specific livelihood improvements, payments can leverage social change, amplifying their impact further than if they targeted only rational economic opportunity costs. Payments must also be designed to incorporate known barriers to change, such as up-front capital costs, uncertain land tenure, or lack of information.

### **Carbon markets have not proven a sufficient alternative to deforestation regulation**

In the Amazon, command and control regulations to conserve the environment have often proved very difficult to monitor and enforce, especially in developing countries where governance in remote or densely forested areas is weak, and funding and staffing resources are limited. Illegal logging and land clearing in contravention of government bans are often significant sources of income not only for forest inhabitants, but also intruders or settlers from outside, and is often undertaken with the aid of local officers (Otsuki, 2011; Wendland, Naughton and Suarez, 2010). The economic incentive for non-compliance often out-competes the weak threat of enforcement from central authorities.

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Conventional market mechanisms have also provided little reward for sound ecosystem management compared to more intense exploitation. Economic benefits for protecting most ecosystem benefits are often small and thinly spread across many recipients or concentrated in few, while the costs of sustainable management and conservation are borne sharply by the land stewards (MA, 2005). Conventional markets are widely recognized as incapable of compensating for these costs without intervention, well captured in Sir Nicholas Stern's influential contention that our poor history of addressing climate change presented the "greatest and widest-ranging market failure ever seen" (Stern, 2006: i). Markets do not value public goods like climate regulation, and managing land to secure our climate is not rewarded.

New market-based mechanisms have sought to redress these failures, with four main types of schemes dominating including carbon sequestration and storage, biodiversity protection, watershed protection, and landscape beauty (e.g. tourism operators pay communities to maintain wildlife habitats) (Wunder, 2006). The Socio Bosque programme addresses failings of regulation and markets through a combination of public participation and financial intervention. Payments for forest conservation are set to compete with the opportunity cost of not converting the land, high enough to have already built a strong base for voluntary subscription - by October 2010, over 500,000 hectares of forest and over 80,000 individual beneficiaries were committed to Socio Bosque contracts (de Koning et al., 2011: 537).

One popular proposal for the future is that the Socio Bosque forests eventually become eligible for under the UN Collaborative Programme for Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+), whereby developed countries purchase shares in the sequestration capacity of forests to meet emission standards in their home countries and finance forest conservation livelihoods (de Koning, et al. 2011: 539; UN-REDD, 2009). However, with the current US carbon credit price plummeting from US\$20.00 per tonne in 2008 to US\$6.00 by 2010, the stability of livelihoods borne supplemented by international carbon markets alone are unstable (Bellassen and Gitz, 2008; Peters-Stanley et al., 2011). Further to the unreliability of the carbon market, there is much concern that under REDD+, forests will become commoditized property of overseas investors, with ownership of credits effectively wresting control of forest use from local people (Reed, 2011; Van Dam, 2011). One prominent Latin American NGO described Socio Bosque as little more than "an investor portfolio for the carbon market", prioritizing unpredictable shareholder values over local development needs (Acción Ecológica, 2010: 83).

Local 'user-fee' transactions with direct beneficiaries of forest ecosystem services are also possible financing alternatives. Already in Ecuador's capital, Quito, the government redirects water taxes and user fees to fund local protection of the upstream El Condor Biosphere Reserve in recognition of the forest's role in regulating and supplying clean water to the city and large industrial users. By 2007 the project reported raising \$5 million for conservation action (Krchnak, 2007). However, remote parts of the forest are unlikely to have wealthy or willing downstream beneficiaries, and user-fees may simply transfer disadvantage by incurring costs on similarly vulnerable urban and forest communities.

### **Participation and investment obligations to realise long-term improvement and monitoring**

Socio Bosque seeks to tie community-driven outcomes to payments that redress these instability, equity and monitoring issues. The contracts for payments require submission to

the national government of an investment plan developed by community and individual family participants, documenting the decision process. This ostensibly reduces misinformation and benefit exclusion amongst communities, which further minimizes the risk of non-compliance and the extent of monitoring required. The 20-year contract period is designed for more predictable and reliable income than alternatives such as clearing for pasture and agriculture or timber sales (de Koning, et al., 2011). From the required plans detailing investment of programme funds, around 20% of community and 23% of individual family funds are allocated for conservation and territorial strengthening activities, bolstering monitoring and guarding of forest by decentralizing responsibility to local scales in Socio Bosque forests (de Koning et al., 2011: 537).

Socio Bosque makes a normative decision of rewarding forest dwellers as providers of potential services, rather than threatening penalties for breaching deforestation regulations. This raises the dilemma of whether it is fair for the public to pay actors *not* to undertake detrimental actions. However, Ecuador has chosen to prioritize local development over downstream beneficiaries, such as urban and industrial water users, recognizing deforestation as not always motivated by opportunism but often to meet basic needs (de Koning et al, 2011).

The programme has a strong focus on complementary poverty alleviation rather than solely environmental outcomes, forgoing the complexities of divining the precise, efficient, and marketable value of ecosystem services to determine reward. This is where the programme diverts from mainstream economic ‘payment for ecosystem services’ concepts (see Muradian and Kumar, 2009). Many valuation systems focus on establishing a market price for individual ecosystem services, such as calculating fine-grain carbon stock (e.g. Hett, Heinemann and Messerli, 2011, on preparing Laos for REDD+), or analysing the replacement value of lost watershed services (e.g. Salzman, 2005: 135 on Catskill watershed restoration in the USA). Instead under Socio Bosque the only variable in payments is the land plot size, meaning that same sized areas receive the same amount of payments regardless of the quality of services provided. By choosing simplicity of implementation, the programme has sought to maximize accessibility and equity for participants, but also risks inefficient achievement of environmental goals by not distributing resources according to more specific ecosystem importance.

It could be said that inefficiency is actually a goal of the program, by targeting the poorest private and communal landholders with government incentives for conservation regardless of the tradability of their assets or possession of prime environmental land. Essentially, Socio Bosque encourages all participants to maintain the services they are able to contribute, regardless of quality or significance. Using readily available information and transparent criteria, what the programme loses in efficient targeting it may gain in broader uptake. This was a conscious decision as differentiating between recipients based on scientific detail was feared by programme designers to generate community ill-will and potentially render the programme politically unviable (de Koning et al., 2011).

### **Clarifying ownership is required to progress equitable access**

One of the clear equity weaknesses in the programme is that participants are only eligible if the community or family has recognized tenure over the land (or, in the case of inhabitants of national reserves, are recognized owners preceding nationalization). This may exclude

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significant stakeholders, including original customary rather than individual family owners of now nationalized lands (e.g. Kenfield, 2007, on indigenous challenge for privatized land in Brazil), immigrant settlers on indigenous lands (e.g. Otsuki, 2011, on settler forest incursions in Brazil), or households without defined rights to collective ownership (Krause and Loft, 2013). Furthermore, the programme also presumes that where land tenure exists it is uncontested.

In Ecuador and much of the Amazon, land claims often overlap. Efforts to distinguish title ownership between farmers, indigenous people and settler communities have in the past escalated to violence (Wendland, Naughton and Suárez, 2010). Solutions to similar problems in Brazil sought to prevent further incursion through negotiating secure tenure for existing forest settlers. However these efforts were often confounded by an inability to monitor the illegal on-selling of titles to new settlers before encroaching further into the forest. Furthermore, the Amazon is often regarded by interlopers as an open-access resource to benefit all regardless of formal national, private or community titles (Otsuki, 2011). The legal apparatus and enforcement reach of the government is limited, particularly in the deep forests of developing Ecuador, and it often falls upon communities or families to defend their land from contesting claims.

Investment plans are intended to direct funds to monitoring activities and documentation of the distribution of compliance benefits amongst all members of the community. This reduces internal community contest, and heightens the capacity of the programme to detect infractions. However, a recent study of 101 individuals in five Socio Bosque communities found 60% respondents did not know the amount of incentives their community received, and only 44% stated incentives were managed democratically (Krause, Collen and Nicholas, 2013).

If Socio Bosque premises its success on a system where tenure and access is agreed upon amongst relevant stakeholders, it must also enfranchise legal agencies in the area to help communities monitor and negotiate both external and internal land tenure conflict that leads to inequitable access to benefits.

### **Alternative livelihoods**

Many communal land management regimes already maintain sustainable practices, particularly where deforestation may not occur for cultural reasons (such as sites of spiritual importance) or lack of profitability in clearing (such as marginal hillsides). However, poverty alleviation is the strongest driver of deforestation in Socio Bosque communities (de Koning et al., 2011). Payment schemes can be designed to capitalize on local values but must realize ongoing livelihood value from conservation, or face the politically complicated and economically unfeasible position of continually maintaining subsidies to compete with poverty alleviation benefits stemming from deforestation.

A major strength of the programme design is that its payments strive to produce multiplier effects, incentivizing and monitoring local socio-economic investment through its novel requirements for an investment plan approval before payments can be made. Complementary industries are thus fostered through the programme to address income as a driver of deforestation, such as by investing in developing non-timber forest product trade (e.g. medicines, dyes, or shaded coffee), and eco-tourism (de Koning et al., 2011). The parallel

realization of self-organized, alternative income streams could ultimately reduce reliance on payments to prevent timber trading or clearing for agriculture.

Unlike failed ‘command-and-control’ regulations and taxes where top-down land use decisions may be foisted on unwilling participants, Socio Bosque incentives generate nationwide conservation plan applications of farmer households and local and indigenous communities (de Koning et al., 2011). Enhancing local political and organizational capacity through participation in the decision-making process, Socio Bosque has strived to establish, and in many cases re-establish, links between local development and forest conservation.

Between 2008 and 2011, Socio Bosque had paid \$US 6,151,900 in incentives across 1,563 individual and collective contracts (Krause and Loft, 2013). An independent study found a slight majority (53%) of communities reporting benefits to the community from participating in Socio Bosque, and only 43% of individual households reported their families had received benefits (Krause, Collen and Nicholas, 2013). This suggests there remain mismatches in either perceptions of or actual benefits stemming from the programme, such as from tenure or monitoring as discussed above.

### **Legal stability required to survive domestic political change**

Much of the detail on Socio Bosque in this paper is sourced from a 2010 article jointly authored by Conservation International and Ecuadorian national representatives (de Koning et al., 2011). In light of the article’s compelling commendation of the programme design, it is also important to discuss the stability of the programme’s national overseers. The focus of Socio Bosque is ensuring local compliance, but there must also be assurance that the government has the capacity and the will to maintain payments in the long-term. Under a typical Socio Bosque contract, communities are subject to 15 specific conditions with contravention penalized by suspension, termination and fund restitution, whilst the state is only subject to three conditions (Ramos, 2010: 46).

Considering the Ecuadorian government is empowered to expropriate land and claim ownership of mineral resources (Constitution of the Republic of Ecuador, 2008: Ch. IV, Art. 261), Socio Bosque contracts must also include obligations for the State. It is important to limit the ability of Ecuador’s powerful to overrule Socio Bosque in changing political winds, particularly as the country has produced seven presidents and two constitutions between 1996 and 2006, and endured an attempted violent coup in 2010 against current President Correa (Walsh, 2011). Further to this, opportunity costs of land conversion will vary across space and time, and if the value of alternative land-use increases there must be certainty that Ecuador will not only be politically bound, but also financially able to continue to afford the payment scheme.

Financing commitments and defensible tenure rights must be concreted before situations similar to Ecuador’s Yasuní-ITT Initiative become widespread throughout the country. Here Ecuador is requesting global payments worth half the value of the Ishpingo-Tiputini-Tambococha (ITT) oil reserves beneath the Yasuní National Park, on the grounds that social and environmental benefits for global stakeholders, notably biodiversity conservation and climate mitigation, are not sufficient to qualify Ecuador withholding the value of these resources from its people – around US\$7.2 billion worth of oil (Walsh, 2011; Larrea, 2010). In this context of shifting environmental and economic priorities, two primary options are

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available to sustain Socio Bosque's conservation and poverty alleviation goals: 1) an alternative non-state supported source of funding, such as a local user-fee system or global beneficiary-pays system; or 2) a shift in local ethics towards conservation and maintaining services (where this does not already exist).

### **Conclusion: Payments as a lever for normative land management change**

While the unreliability of international and national financing may undermine the long-term sustainability of payment schemes to promote conservation, Socio Bosque's parallel goals of developing community organizational capacity and conservation-compatible industry may serve to re-centre sustainable forest management at the heart of local economic development. Relying solely on volatile state or irrational international markets to maintain opportunity cost payments risks the long-term stability of ecosystem friendly development. Cohesive communities with defensible claims to their land may be the strongest, most stable unit of foundation from which to transition from conditional payments as a temporary deterrent, towards the long-term recognition of ecosystem health as a foundation of social and economic development.

Programme design elsewhere can learn from Socio Bosque's vulnerabilities and barriers to change exposed over its recent history. Without strategies to embed lasting, sustained change in how people use the forest, incentives risk reconversion when opportunity costs are not met or political support for incentives wanes. By highlighting the multifunctional benefits of forests while dealing with immediate livelihood needs, forest communities can build sustainable livelihoods in harmony with stable ecosystem benefits. However, challenges to payment benefits due to unclear tenure or unmonitored ownership challenges from within and outside targeted communities must be remedied.



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