

# Agriculture and Forest Commodities

From Drivers of Deforestation to Sustainability Champions

---

September 2014



## About Forest Trends and the Katoomba Group

**Forest Trends** is an international non-profit organization whose mission is to maintain, restore, and enhance forests and connected natural ecosystems, which provide life-sustaining processes, by promoting incentives stemming from a broad range of ecosystem services and products. Specifically, Forest Trends seeks to catalyze the development of integrated carbon, water, and biodiversity incentives that deliver real conservation outcomes and benefits to local communities and other stewards of our natural resources.

Forest Trends analyzes strategic market and policy issues, catalyzes connections between producers, communities and investors, and develops new financial tools to help markets work for conservation and people.

[www.forest-trends.org](http://www.forest-trends.org)

**The Katoomba Group** seeks to address key challenges for developing markets for ecosystem services, from enabling legislation, to the establishment of new market institutions, to strategies of pricing and marketing, and performance monitoring. It seeks to achieve the goal through strategic partnerships for analysis, information-sharing, investment, market services, and policy advocacy. The Katoomba Group includes over 180 experts and practitioners from around the world representing a unique range of experience in business finance, policy, research, and advocacy.

[www.katoombagroup.org](http://www.katoombagroup.org)

# **Agriculture and Forest Commodities**

From Drivers of Deforestation to Sustainability Champions

---

September 2014

**Author: Sarah Lowery**

Contributors: Michael Jenkins, Rupert Edwards, David Tepper, and Jennifer Baldwin

## Acknowledgements

We would like to thank the Gordon and Betty Moore Foundation for their generous sponsorship of *Katoomba XIX – Scaling up Sustainable Supply Chains*, including much input and support from Avecita Chicchon, Heather Wright, Leonardo Fleck and Mark Reeve.

We thank our partners – Agrottools, the Brazilian Roundtable on Sustainable Livestock (GTPS), the Amazon Environmental Research Institute (IPAM), Earth Innovation Institute (EII), Fundo Vale, Proforest, Paraná's Secretary of the Environment and Water Resources, Solidaridad, The Nature Conservancy (TNC), and the US Agency for International Development – for their contributions (financial or otherwise) to make *Katoomba Iguaçu* a success. In particular, we thank Sheila Guebara and Eduardo Brito Bastos (GTPS); Andrea Azevedo and Paulo Moutinho (IPAM); Dan Nepstad (EII); Ruth Nussbaum (Proforest); Jeroen Douglas and Roberto Codas (Solidaridad); David Cleary, Erin Myers Madeira and Greg Fishbein (TNC); Natalie Walker and Barbara Bramble (National Wildlife Federation).

We are grateful to all our moderators and panel participants; their expertise and input were invaluable for a lively and productive discussion. We would also like to thank the following people for their review and comments on this document: Luiz Fernando do Amaral (Rabobank Brazil); Christopher Wells (Santander); Ruth Nussbaum (Proforest); Dan Nepstad (EII); Heather Wright and Avecita Chicchon (Moore Foundation); and Jonathan Foley (University of Minnesota).

(The participation or quotes of the above individuals does not imply their endorsement or acceptance of any or all of the opportunities presented in this document.)

Finally, we thank Jennifer Baldwin, Suzy Dobbartin, and Gretha Suarez (Forest Trends) for their tireless logistics efforts. We thank Jennifer Rea (Moore Foundation) and Sophia Watkins (Harvard University) for taking notes during the event. And we are grateful to the Forest Trends' Communications Team for making this report visually appealing and easily accessible by various audiences.

Special Thanks to Our Donor!





## Early Efforts to Introduce Sustainability into Supply Chains

Large consumer-facing companies such as those on the Board of Directors for the Consumer Goods Forum have committed to achieve zero net deforestation by 2020. Individual companies such as Unilever and Nestlé have ambitious targets for zero deforestation sourcing of raw materials. McDonald's announced in January 2014 that it will begin purchasing verified sustainable beef in 2016. Complementary efforts by agricultural producers and processors also seek to reduce deforestation in supply chains. In Brazil, the four largest meatpackers committed to zero deforestation in their supply chains in 2009, and soy producers implemented a moratorium in 2006 on increasing soy production via expansion into the Amazon forest.

Environmental Non-Governmental Organizations (NGOs) such as Greenpeace have focused the global spotlight on companies (and their suppliers) that destroy critical wildlife habitat, forests, and biodiversity. Various NGOs also work directly with producers to assist them in changing practices to increase production and reduce environmental impact. Country-level roundtables are very engaged with producers and others in supply chains; for instance, the Brazilian Roundtable on Sustainable Livestock (GTPS by its Portuguese acronym) is working with many partners in sustainable livestock pilots across five Brazilian states. Multi-stakeholder commodity roundtables for soy, sugar, and palm oil have created international certification standards for environmental and social performance of their supply chains, including deforestation cutoff dates. Government support via public policies, monitoring of deforestation, innovative tax transfer programs (e.g., the Green Municipalities program in Pará State, Brazil), increased protected areas, etc. has also been a critical component of advancing sustainable supply chain efforts.

But much remains to be done, including coordinating – and greatly expanding upon – these efforts. Thus, key stakeholders gathered in Foz do Iguaçu, Brazil for *Katoomba XIX – Scaling up Sustainable Supply Chains* (March 2014) with the ambitious goal of identifying ways to produce more food, fuel and fiber while also reducing emissions and deforestation from agricultural expansion. Over 200 representatives from the



cattle and soy industries, financial institutions, government agencies, deforestation experts, and civil society organizations participated (see Appendix for a list of participant organizations and the Forest Trends' website for the event's [agenda](#)).

During the three intense days of *Katoomba Iguazu*, there was remarkably high energy, active participation, and sometimes surprising consensus between diverse parties such as Greenpeace and Monsanto, small-scale ranchers and McDonald's, and farmers and Santander. *Katoomba Iguazu* stakeholders identified several viable opportunities and pathways through which to scale up sustainable supply chains:

1. **A territorial approach** to defining and measuring environmental and social performance milestones – such as country- and state-wide deforestation targets – together with increased agricultural productivity that can decrease transaction costs of farm-by-farm certification, give commodity buyers a means to purchase much larger quantities of sustainable goods, and – very importantly – create more positive incentives for sustainability;
2. **Integrated public-private financing** that can reduce risks for the private sector (e.g., producers, processors, others in the supply chain, and commercial financial institutions) to invest in sustainable agriculture, provide incentives and/or rewards for sustainability (e.g., in high-performing countries and states), and leverage climate finance;
3. **A bottom-up approach** to global sustainable supply chains that includes: (a) Creation of a multi-national, landscape view of sustainability and deforestation that allows stakeholders to better understand deforestation leakage across countries and develop local solutions; and (b) Identification and effective engagement of key markets such as China and India that can play an enormous role in the quest for sustainability.

## Our Focus on Sustainability – Setting the Scene

With a burgeoning and wealthier population expected to reach over 9 billion by 2050, global food demands are expected to double (unless there are dramatic changes in population growth and dietary change with this increasing wealth).<sup>1</sup> Meeting these growing demands, if they occur, will be a tremendous problem for the global environment. Agriculture already occupies 40 percent of land on earth, garners 70-80 percent of the freshwater consumed, and emits twice the greenhouse gases (GHGs) of any other economic sector. Agricultural land has expanded substantially – especially into rainforests – in the past 40 years and will continue to do so unless checked. For instance, the amount of land dedicated to soy in Argentina is anticipated to increase by 1 million hectares by 2020, primarily into the Gran Chaco (Sebastian Senesi, Universidad de Buenos Aires; see Box 1).

### Box 1. The Gran Chaco

The Gran Chaco is a vast plain that spans northern Argentina, southeastern Bolivia, northwestern Paraguay, and a portion of the Brazilian states of Mato Grosso and Mato Grosso do Sul. This 850 thousand kilometers<sup>2</sup> of wooded grassland is the second-largest eco-region in South America (after the Amazon).

Source: Riveros, Fernando. "The Gran Chaco". A bulletin of the Food and Agriculture Organization of the United Nations. Accessed April 22, 2014. <http://www.fao.org/ag/AGP/AGPC/doc/Bulletin/Granchaco.htm>

Our global agricultural system must break from the path of the previous "Green Revolution" and learn how to deliver more nutrition on existing lands with fewer chemicals, less energy, and less water to meet our needs. For example, we can look to countries like Israel, which is far more water efficient than the global average

<sup>1</sup> Unless otherwise noted, Jonathan Foley (University of Minnesota) presented the information in the first two paragraphs of this section (Our Focus on Sustainability – Setting the Scene) in his opening remarks at *Katoomba Iguazu*.

because it utilizes drip irrigation technologies. We must also re-think the best use of farmland, as roughly 45 percent of agriculture products are used not to feed people but to feed animals or create biofuels. And we must also reduce waste (30-50 percent of all food grown is wasted) in order to deliver more of the food that is already grown to the people who need it. With better agricultural practices, more efficient ways to use land / water / energy resources, and improved diets and habits, we can feed the world without over-burdening the environment.

Global supply chains for commodities like beef, soy, palm oil, and pulp and paper are critical pieces of this puzzle, of course. These supply chains have some incentives to produce sustainably (e.g., decreasing reputational risk, increasing security of supply, etc.) but these are not sufficient to quickly catalyze the necessary large-scale supply chain transformations to conserve resources and increase production (especially in the face of short-term economic and financial gains from clearing forests and other ecosystems for agricultural production). (See Box 2 for a definition of sustainable agriculture.)

### Box 2. Sustainable Agriculture

*Katoomba Iguaçu* discussions did not attempt to define sustainable agriculture. There was some discussion around the terms – and feasibility of achieving – zero deforestation or net zero deforestation supply chains, but no conclusion was reached. For a worthwhile discussion of definitions (e.g., zero versus zero net deforestation), see Sandra Brown and Dan Zarin's article in *Science*, November 2013: "What Does Zero Deforestation Mean?"

For the purpose of this document, we define sustainable agriculture to include:

- a) A substantial decrease in deforestation or ecosystem conversion (in the case of grasslands) caused by expanding agriculture (perhaps achieving 95 percent reduction over several years – e.g., low deforestation/ecosystem conversion); and
- b) Improved agricultural practices that increase "production, strengthen farmers' resilience, reduce agricultural greenhouse gas emissions and increase carbon sequestration.. [and also] strengthens food security and delivers environmental benefits"<sup>a</sup> (climate-smart agriculture).

Thus, sustainable agriculture in this text means low deforestation/ecosystem conversion, climate-smart agriculture.

We also note that standards and criteria set by certification groups such as the global commodity roundtables include environmental restrictions on new plantings in cleared primary forest or High Conservation Value areas after 2005 (Roundtable on Sustainable Palm Oil), new plantings in high conservation value areas after 2008 (Bonsucro) and a deforestation cutoff date of 2009 (Round Table for Responsible Soy), as well as the application of best agricultural practices, social, financial, legal and transparency criteria for certification.<sup>b, c, d</sup>

<sup>a</sup> "Climate-Smart Agriculture: a Call to Action." Brochure. World Bank. Accessed December 12, 2013. [http://www.worldbank.org/content/dam/Worldbank/document/CSA\\_Brochure\\_web\\_WB.pdf](http://www.worldbank.org/content/dam/Worldbank/document/CSA_Brochure_web_WB.pdf)

<sup>b</sup> *RSPO Principles and Criteria for Sustainable Palm Oil Production*, (revised) April 2013. Accessed January 24, 2014. <http://www.rspo.org>

<sup>c</sup> *RTRS Standard for Responsible Soy Production* Version 2.0. Accessed January 24, 2014. <http://www.responsiblesoy.org/index.php?lang=en>

<sup>d</sup> *Bonsucro Production Standard Including Bonsucro EU Production Standard*. Version 3.0, March 2011. Accessed February 24, 2014. <http://bonsucro.com/site/production-standard/>

Suppliers, processors and other actors' at *Katoomba Iguaçu* emphasized the need for positive incentives – especially to complement existing punitive measures – to make sustainable production competitive and commercially viable. For instance, producers – from commercial companies to small-scale and traditional communities or farmers – who are making great strides towards sustainability are frustrated by the lack of incentives (e.g., tax incentives, reduced bureaucracy and costs to access finance, less expensive finance, guaranteed purchasing, price premiums) or substantial demand for their products.

They are also discouraged that many environmental laws that might reward them for decreasing deforestation (e.g., the Forest Code in the Brazilian Amazon requiring 80 percent of all land to be preserved as forests; the Paraguayan law requiring conservation of 25 percent of all land as forests; etc.) are rarely enforced, which puts them at a disadvantage compared to their forest-clearing neighbors. Furthermore, the failure of buyers and companies further down the supply chain to exclude unsustainable products from their supply base – and thereby maintaining a market for unsustainable producers – similarly hurts sustainable producers and upholds already powerful financial incentives to clear forests and other ecosystems for agriculture.

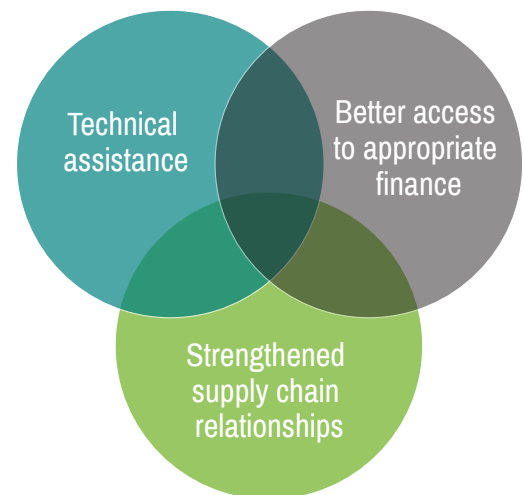
The private sector alone will not achieve sustainable supply chains at the pace or scale needed to conserve our natural capital and provide for the desires of our growing population. Government support via strong environmental enforcement, positive incentives, and reducing risks for private firms is critical. And civil society is well-positioned to work with both public and private actors to test out viable models and pilots in sustainable agriculture, effective “sticks and carrots” for sustainability, financial mechanisms, etc.

The following opportunities identified with stakeholders at *Katoomba Iguaçu* include these vital partners.

## 1 Territorial Approach to Achieve Scale

Various pilot projects and local level initiatives encourage sustainable production and processing of commodities. For instance, The Nature Conservancy, Marfrig and Walmart are working together on a sustainable beef supply chain project in São Felix do Xingu (Pará State, Brazil) that supports sustainable cattle intensification and will allow transparent and responsible sourcing of beef. Another example is the partnership between Rabobank and Monsanto that gives producers access to finance and fixed prices for inputs if they meet Rabobank's sustainability criteria. To be successful (and depending on local needs and capabilities), Francisco Bedushci Neto (Instituto Centro da Vida) emphasized that “pilots should focus on providing technical assistance related to sustainable methods/practices, assisting actors access financing, and strengthening relationships between producers, buyers and other supply chain actors” (see Figure 1).

Figure 1. Key components of support to foster sustainable supply chains



In order to scale up these efforts to achieve greater levels of sustainability more quickly and cheaply, Dan Nepstad (Earth Innovation Institute) introduced a Territorial Performance System approach that seeks to link three related initiatives to achieve this goal: sustainable supply chains; progress by jurisdictions on Reducing Emissions from Deforestation and forest Degradation (REDD+)<sup>2</sup>; and domestic policies and programs related to agriculture, land-use, the environment, finance and others.

<sup>2</sup> UN-REDD Program states that, “‘REDD+’ goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.” Accessed February 24, 2014. <http://www.un-redd.com/AboutREDD/tabid/582/Default.html>



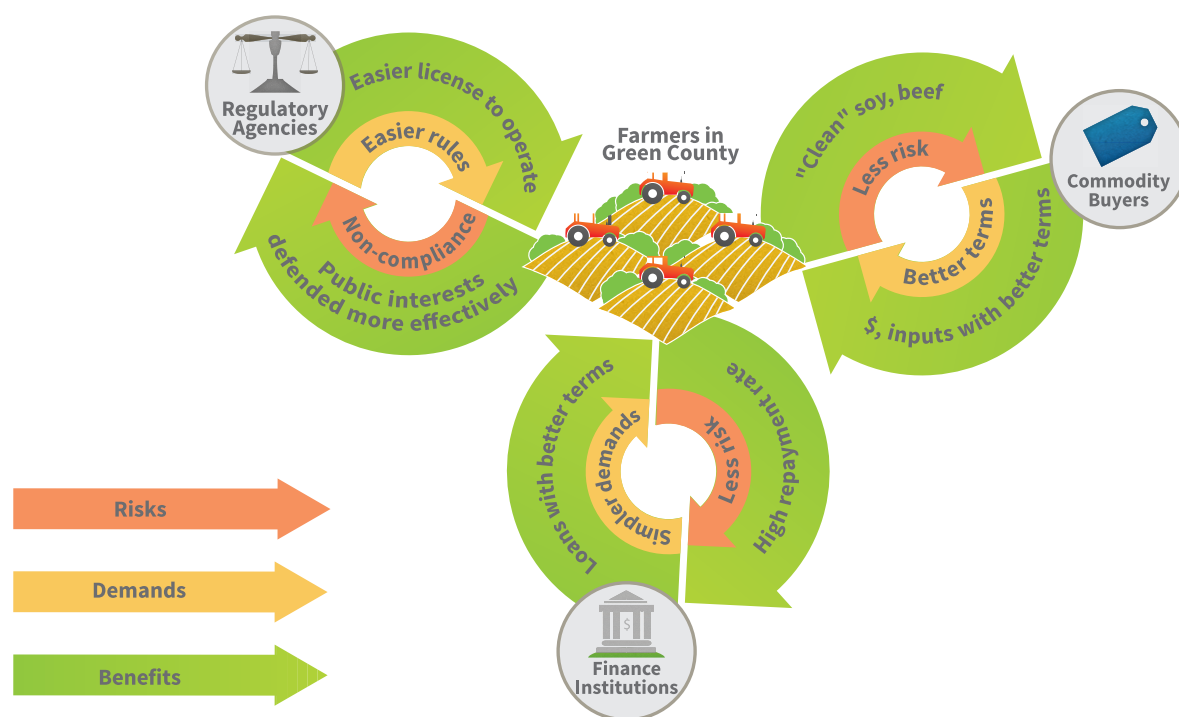
Currently, supply chain participants, especially producers, face a myriad of obstacles to operate sustainably. First, there are often substantial bureaucratic rules just to operate. Second, there are multiple definitions of sustainability and various environmental laws and regulations with which producers are expected to comply (and these definitions and regulations can be at odds with each other). Third, most of the incentives for sustainability are punitive rather than rewarding (i.e., many sticks and few carrots). Thus, despite fear of law enforcement, it is often least costly to continue with business as usual – including forest-clearing practices.<sup>3</sup>

The Territorial Performance System Approach seeks to address these barriers and scale up sustainability by offering a few key performance metrics at the territorial level (e.g., rate of deforestation, reports of slave labor, and compliance with environmental laws) that would be used to:

1. Identify sustainable jurisdictions (and thus, large quantities of sustainable commodities), and
2. Link these jurisdictions to tangible benefits for their sustainability progress.

For instance, financial institutions could benefit from fewer transaction costs (e.g., as they would not have to review the sustainability component in a loan application) and could offer better loan terms and/or less bureaucracy to farmers in the territory during the loan process. Public finance in particular could be designed to better serve these farmers as a reward for their sustainability. Also, commodity buyers and/or traders would benefit from having a whole sustainable territory from which to source commodities to meet their zero net deforestation or other targets, and they could give better access to their markets and/or better prices for commodities from the jurisdiction. Figure 2 illustrates how three key sets of actors could provide incentives for producers in territories that are achieving their deforestation and other goals.

Figure 2. Greater Incentives for Farmers with Territorial Approach<sup>4</sup>



<sup>3</sup> More information on the Territorial Performance System approach can be found in: Nepstad, D., S. Irawan, T. Bezerra, W. Boyd... Tepper, D., and S. Lowery. "More food, more forests, fewer emissions, better livelihoods: linking REDD+, sustainable supply chains and domestic policy in Brazil, Indonesia and Colombia." *Carbon Management* 2, Vol. 6 (2013): 639-658.

<sup>4</sup> Nepstad, D., McGrath, D., Stickler, C., Alencar, A., Azevedo, A. Swette, B., et al. "Slowing Amazon deforestation through public policy and interventions in beef and soy supply chains." *Science*, 6 June 2014: 344 (6188), 1118-1123.

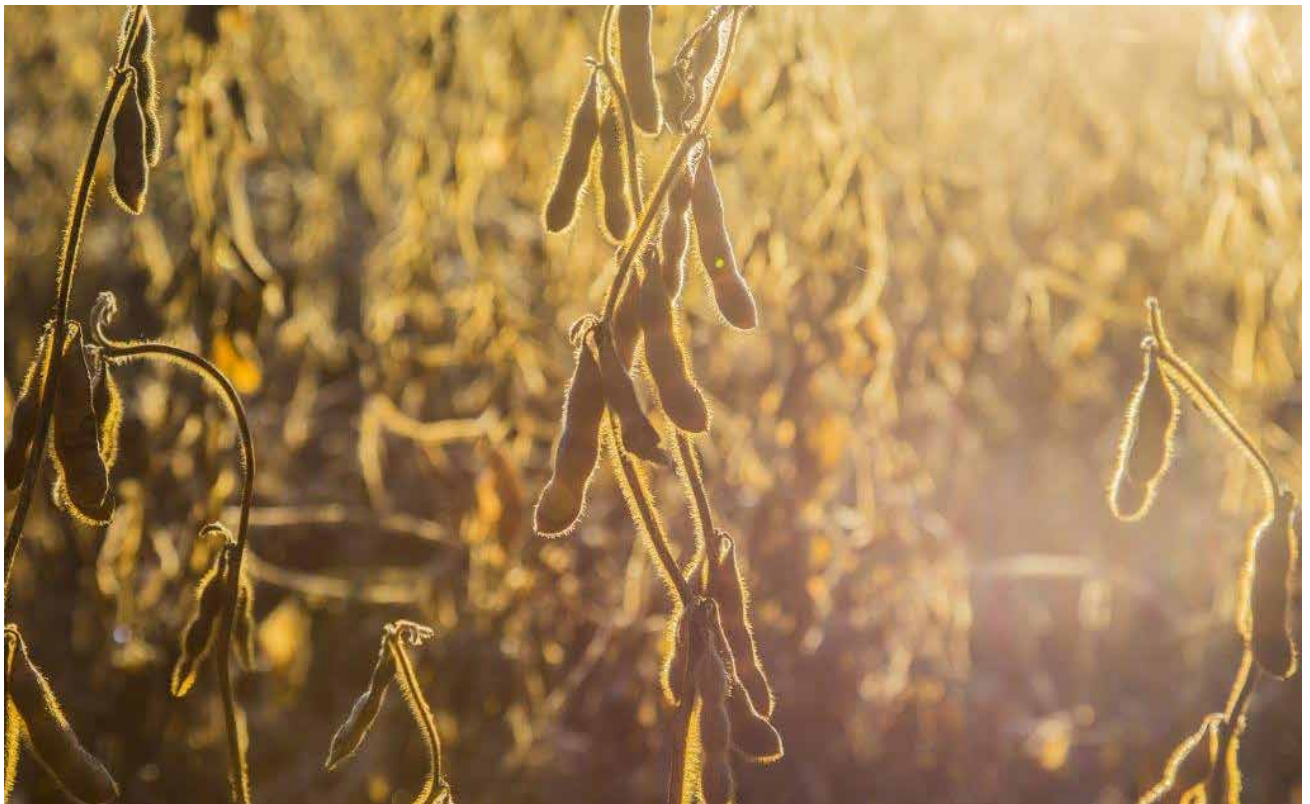
In addition, the Territorial Performance System approach presents the opportunity to:

- Achieve scale in sustainability more quickly and cost-effectively than farm-level certification in many places (especially those with strong jurisdictional governance);
- Utilize jurisdictional REDD+ baselines and monitoring, reporting and verification (MRV) systems to not only attract REDD+ payments for performance but to also create the certification of low deforestation commodities;
- Provide a performance metric(s) that financial institutions, banks and agribusinesses can use as they seek to manage risk within their portfolios and support lending and financial products for sustainable agriculture actors;
- Create a positive investment story in high-performing regions rather than the current “risk management” approach that has led some companies to discontinue purchasing from areas with deforestation – e.g., the Amazon; and
- Create a framework that can be utilized by other regions, especially if the experience and progress in Brazil (where momentum is being built and stakeholders are aligning around this vision) can be captured and used to inform other regions’ development of similar approaches.

This Territorial Approach gained traction with participants at *Katoomba Iguaçu* who saw great potential for it to provide much-needed incentives for – and a quicker path to – scaled-up sustainable supply chains.

## 2 Integrated Public-Private Financing to Support Sustainability

Supply chain actors and financial institutions are struggling with how to finance a transition to sustainable supply chains. Public-private financial architecture can provide solutions.



Producers, processors and others in supply chains face many financial barriers to investing in sustainability. First, there are high opportunity costs of leaving forests standing or other ecosystems intact (although these costs would often decrease dramatically if environmental laws were enforced). Second, many actors – especially smallholders and those without land tenure – often face generic financing barriers common in the agriculture sector (e.g., difficulty accessing credit; high cost of capital; etc.). And third, substantial financing barriers exist related specifically to sustainable production, such as higher upfront and variable costs, yield risks, uncertainty regarding benefits, etc.<sup>5</sup> Such financing barriers – together with myriad other factors, such as a large focus on short-term financial gain – reinforce the tendency to seek production increases through expansion into forested areas rather than improved practices on existing farmland (even when sustainable practices are economically attractive).

To support sustainable supply chains, it is critical to find ways through which farmers can access capital: at reasonable rates; for the longer-term timeframe that is needed for investments into more productive and sustainable agriculture; and at an appropriate debt-to-equity ratio so as not to overburden farmers with debt that they won't be able to repay if a drought or El Niño effect suddenly reduces yields. One promising vehicle through which to do so is current government spending on agriculture, which is over USD 160 billion in just 54 low- and middle-income countries.<sup>6</sup> If even a portion of this spending were realigned to support sustainable production (including addressing access to capital issues and at least some of the opportunity costs of forests/ecosystems), much greater strides towards sustainable supply chains could be made.

Other public policy tools that can provide financial support for sustainability to supply chain actors include tax instruments (e.g., exemptions), Payments for Ecosystem Services and regulatory mechanisms (e.g. simplified licensing) (Ronaldo Seroa da Motta, State University of Rio de Janeiro).

Financial institutions often find it challenging to lend to farmers, especially smallholders, for reasons including lack of: credit history, land title, collateral, ability to produce economic or financial analyses that demonstrate financial viability of requested loan, ability to demonstrate compliance with laws, etc. Additionally, if the requested loan is meant to finance a new production technique, banks may find it even more difficult to offer the loan. “Innovative financial tools for new sustainability investments in new technologies tend to be riskier than traditional lending for well-known agricultural production techniques” (Luiz Fernando do Amaral, Rabobank Brazil).

Sustainability is usually one of many criteria that determine whether banks such as Santander and Rabobank Brazil, for example, offer a loan – and what the loan's interest rates will be. Such criteria include: cost of capitalization, credit history, reputational risk, type of product, grace period, sustainability, quality of management, market conditions, etc. Sustainability issues can sometimes be a bottleneck for farmers because of difficulties in gathering information. For instance, Santander's environmental risk team spends roughly half its time looking at agribusiness firms, although these firms account for much less than half its loan portfolio (Christopher Wells, Santander). Also, since sustainability is one of many criteria that determine loan conditions, it is difficult to find cases where a company or a farmer can get better terms exclusively because of good sustainability performance.

Opportunities exist for public finance to reduce risks for private financial institutions to engage in agriculture, particularly in this new world of sustainability. For instance, guarantees by governments or development finance institutions (e.g., the Inter-American Development Bank; International Finance Corporation; etc.) can give assurance to commercial banks that most or all loans for sustainable agriculture will be repaid, increasing banks' propensity to lend to producers or processors undertaking newer sustainable production practices. If the Territorial Performance System approach is undertaken (as outlined previously), this could be used

<sup>5</sup> For a more in-depth discussion of these barriers, see: Lowery, Sarah, David Tepper, and Rupert Edwards. *Bridging Financing Gaps for Low Emissions Rural Development through Integrated Finance Strategies*. Forest Trends' Public Private Co-Finance Initiative. Washington, DC. February 2014.

<sup>6</sup> Ibid





to reduce transaction costs and provide less bureaucracy and/or easier access to public finance – such as Brazil's Low Carbon Agriculture Program (ABC by its Portuguese acronym) – that could be even more attractive for farmers than reduced interest rates.

Tackling non-compliance with environmental and other regulations at a broader level could increase farmers' access to finance. If a whole geography (i.e., municipality, state, country) is seen as a sustainability risk-free zone by all stakeholders, financial institutions could more easily include them in their portfolios, adopting lighter sustainability due diligence processes and reducing the burden for individual producers. "Less time checking and proving compliance would mean more time pursuing sustainability innovations" (Luiz Fernando do Amaral, Rabobank Brazil).

International climate finance and REDD+ can also provide incentives or rewards for the Amazon's contribution to global climate services, including via 'performance based payments' (e.g., from bilateral or multilateral sources including the UN Green Climate Fund). Protection of forests and ecosystem services should qualify for both climate adaptation and mitigation funding. And Payments for Ecosystem Services – including REDD+ but also payments for watershed services, biodiversity offsets, etc. – are instruments that can alter real economy decisions and ensure that sustainable land use (including sustainable agriculture) becomes financially viable for landholders. Mauro Lucio Costa, a rancher from Paragominas' Producers Union stated it simply, "Why conserve forests if it is not profitable? We need mechanisms that value the forest."

### 3 A Bottom-Up Approach to Global Sustainable Supply Chains

*Katoomba Iguaçu* was deliberately held on the border of three giants in the cattle and soy sectors – Brazil, Argentina, and Paraguay – and much of the discussion focused on production in these countries, especially Brazil. But stakeholders also highlighted the critical importance of looking globally at opportunities and barriers to achieving large-scale sustainable land use, such as deforestation leakage and markets that have not yet begun to demand sustainable commodities.

**Deforestation leakage** – Brazil, including states such as Mato Grosso, is lauded for its impressive reductions in deforestation in recent years, even as agricultural production increased. However, *Katoomba Iguazu* stakeholders suggested that an overlooked result of that success is deforestation leakage into other countries. For instance, Alejandra Cámara (Bunge) noted that 1.5 million hectares of the Gran Chaco region in Argentina, Paraguay and Bolivia have been deforested due to (among other reasons) agricultural expansion in the past four years; and in 2013 alone, 500 thousand hectares of forest were lost to land conversion. Half of all deforestation in the Chaco is taking place in Paraguay (Cámara).

Agriculture – and especially grazing livestock – has greatly changed the ecology of this wooded grassland (see Box 1 for a description of the Chaco). “The Chaco is land of good potential... Its transformation in so short a time from a relatively unspoiled savannah and woodland landscape to an overgrazed semi-desert with patches of unsustainable cropping is a reflection of human greed and lack of concern for sustainable natural resource management, not of any inherent fragility of the Chaco.”<sup>7</sup>

This dynamic in the Chaco highlights the need for a multi-national, landscape view of sustainability and deforestation in addition to local solutions.

**Key markets** – Demand for beef, soy and other commodities is rising globally but particularly quickly in countries such as China and India, which have large populations rising out of poverty. Stakeholders at *Katoomba Iguazu* highlighted the need to identify and effectively engage these key markets – including governments and consumers – that can play an enormous role in the quest for sustainability. For instance, China was the second-largest global net importer of embodied deforestation from 1990-2008 in palm oil, soy, beef and leather.<sup>8</sup>

There appears to be political will in China to address social and environmental issues associated with their international investment and trade. Possible ways to engage Chinese demand in the sustainability discourse are (a) indirectly through the solidification of regional laws that Chinese companies are obligated to follow and (b) directly through the adoption of sustainable financing parameters (like the parameters employed by the Inter-American Development Bank) by major Chinese financial institutions, such as China Agricultural Bank and others. It is encouraging to see the Chinese government recently starting more rigorous implementation of several relevant policies, including its Green Credit Policy, Guidelines for Environmental Protection in Foreign Investment and Cooperation, and green public procurement policies. In addition, there has been intense public debate in China recently around the use of genetically modified organisms (GMOs) and possible negative effects on humans; this could be used as a starting point to talk more broadly about sustainable commodities, including non-GMO, organic agriculture. (Rose Niu, the Paulson Institute.)

## Next Steps on the Path to Sustainability

To capitalize on the three opportunities described above, the following actions were identified:

**1. The Territorial Performance System Approach** – To bring this approach to fruition successfully, we must develop consensus around a framework towards sustainability, including: clear definitions for what we are trying to achieve (e.g., low deforestation? zero deforestation?), clear geographic boundaries and scope, staged timeline for meeting various goals, metrics/indicators to measure success, regional ownership, reference levels, ways of transacting benefits, and aligned local, regional, and national initiatives.

Incentives should be aligned between regulatory frameworks and finance. Incentives favoring farmers in high-producing communities could be varied – such as better finance, improved technical support, lowered bureaucratic barriers, lower taxes, etc. – and offered at multiple stages so actors do not have to wait months

<sup>7</sup> Riveros, Fernando. “The Gran Chaco”. A bulletin of the Food and Agriculture Organization of the United Nations. Accessed April 22, 2014. <http://www.fao.org/ag/AGP/AGPC/doc/Bulletin/Granchaco.htm>

<sup>8</sup> European Commission, 2013. *The impact of EU consumption on deforestation: Comprehensive analysis of the impact of EU consumption on deforestation*. Study funded by the EC, DG ENV, and undertaken by VITO, IIASA, HIVA and IUCN NL.





or years for their reward for improved practices. Penalties for noncompliance should also be included (e.g., agricultural credit should be cut when production is not meeting standards).

A robust and transparent monitoring system for metrics/indicators of success must be in place; for instance, official data on deforestation, labor standards, productivity/efficiency, soil health, carbon, water, etc. must be accessible for this system (and preferably at a global or national rather than regional level).

Finally, the Territorial Performance System approach should be implemented by aligning with initiatives that are already working at a territorial scale – e.g., the State of Pará through its “Green Municipalities” program; Brazilian states such as Acre and Mato Grosso that have taken on deforestation reduction targets; etc. – and then (utilizing these rich experiences, successes and lessons learned) developing interventions with such existing initiatives in various regions, given local realities.

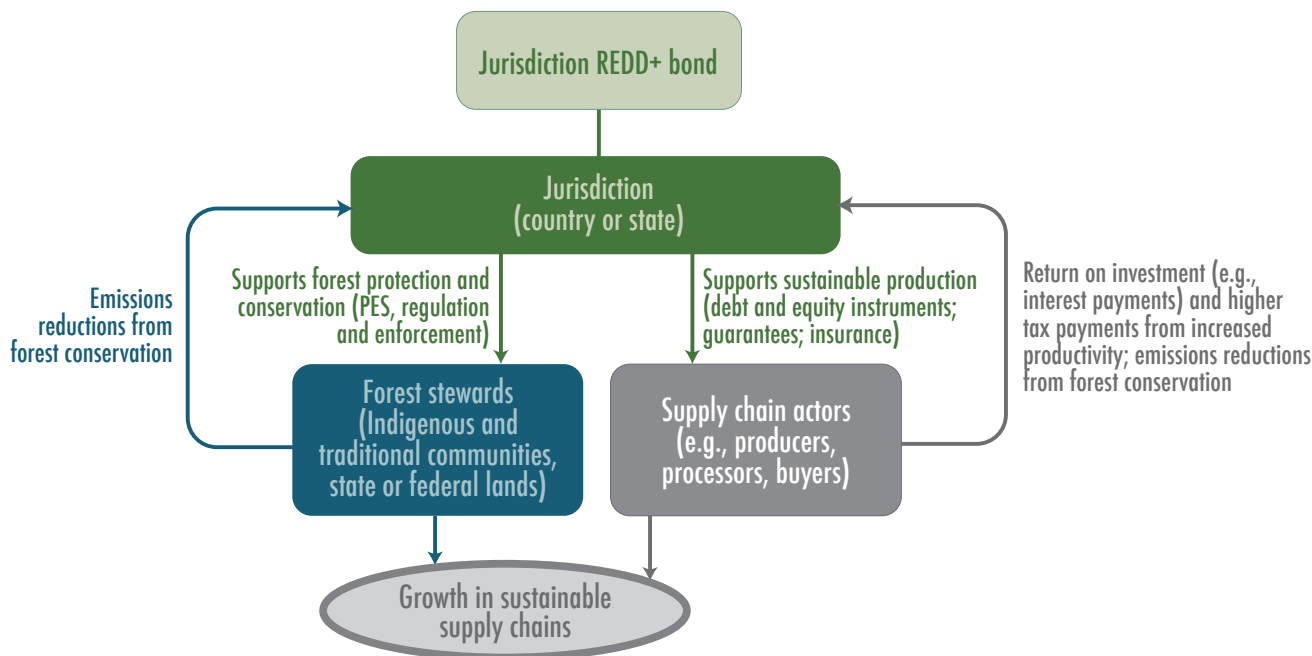
**2. Integrated Financing Structures** – To achieve scale in sustainable supply chains, we must look towards new ideas for rewarding sustainability, such as by realigning existing domestic agricultural finance and by finding areas of interest overlap between sectors such as REDD+ and agriculture. REDD+ can be a means through which the international community values the global public goods provided by tropical forests, and doing so can shift the fundamental economics of forests so governments can also comfortably commit their own resources to invest in conservation and sustainable agriculture (just as they invest in transport infrastructure or industrial development more broadly). Commitments both from the international community and forest country governments can in turn harness the existing private sector financing flows and catalyze further private sector investment into sustainable land use, including for agriculture, starting with those jurisdictions or territories that have already made the most progress.

Bonds have been proposed as ideal instruments to tap the world's major savings pools (beyond limited bank project finance or alternative investment asset classes) in order to meet the need for trillions of dollars in financing for low-carbon energy and sustainable food production.<sup>9</sup> The outstanding volume of bonds labeled as “green” has increased dramatically to USD15 billion in 2013.<sup>10</sup>

A promising new mechanism that can leverage REDD+ Payments for Performance (PFP) to attract additional capital at a low cost for jurisdictions is through a REDD+ bond (Rupert Edwards, Forest Trends).<sup>11</sup> Countries (or jurisdictions within those countries backed by their national governments) that are meeting REDD+ and other Territorial Performance System criteria can contract PFP from donor governments like Norway, Germany, the UK and/or the US (or in future, the UN Green Climate Fund). The jurisdiction can also issue “plain vanilla” bonds to capital markets at similar interest rates as federal bonds (e.g., investment-grade tropical forest country governments have recently had long-term USD borrowing rates of around 4-7% to raise funds for investing in their domestic economies and infrastructure). PFP can be used to offset most or all the interest costs of the bond.

This structure: (1) Allows public funds to be leveraged so that jurisdictions can tap into the trillions of dollars in private funds (sovereign wealth, pension, social impact funds); (2) Gives the jurisdiction a low, zero or even negative cost of capital; and (3) Provides financing today for conservation activities (including rewarding Indigenous and traditional communities for their ecosystem stewardship), sustainable forestry, and sustainable supply chains (including through needed debt or equity investments) (see Figure 3).

Figure 3: Use of Proceeds from a Jurisdictional REDD+ Bond (illustrative)



<sup>9</sup> In relation to forest protection, see for example: Cranford, M., Parker, C. and Trivedi, M. *Understanding Forest Bonds*. Global Canopy Programme, 2011. Oxford, UK. Accessed February 25, 2014. <http://www.globalcanopy.org/materials/understanding-forest-bonds>.

<sup>10</sup> Climate Bonds Initiative. 2012. *Bonds and Climate Change: The State of the Market in 2012*. Accessed February 25, 2014. [http://www.climatebonds.net/wp-content/uploads/2012/05/CB-HSBC\\_Final\\_30May12-Single.pdf](http://www.climatebonds.net/wp-content/uploads/2012/05/CB-HSBC_Final_30May12-Single.pdf)

<sup>11</sup> Edwards, Rupert, David Tepper and Sarah Lowery. *Jurisdictional REDD+ Bonds: Leveraging Private Finance for Forest Protection, Development and Sustainable Agriculture Supply Chains*. Forest Trends' Public Private Co-Finance Initiative. February 2014



To further develop integrated public-private financial mechanisms, we must:

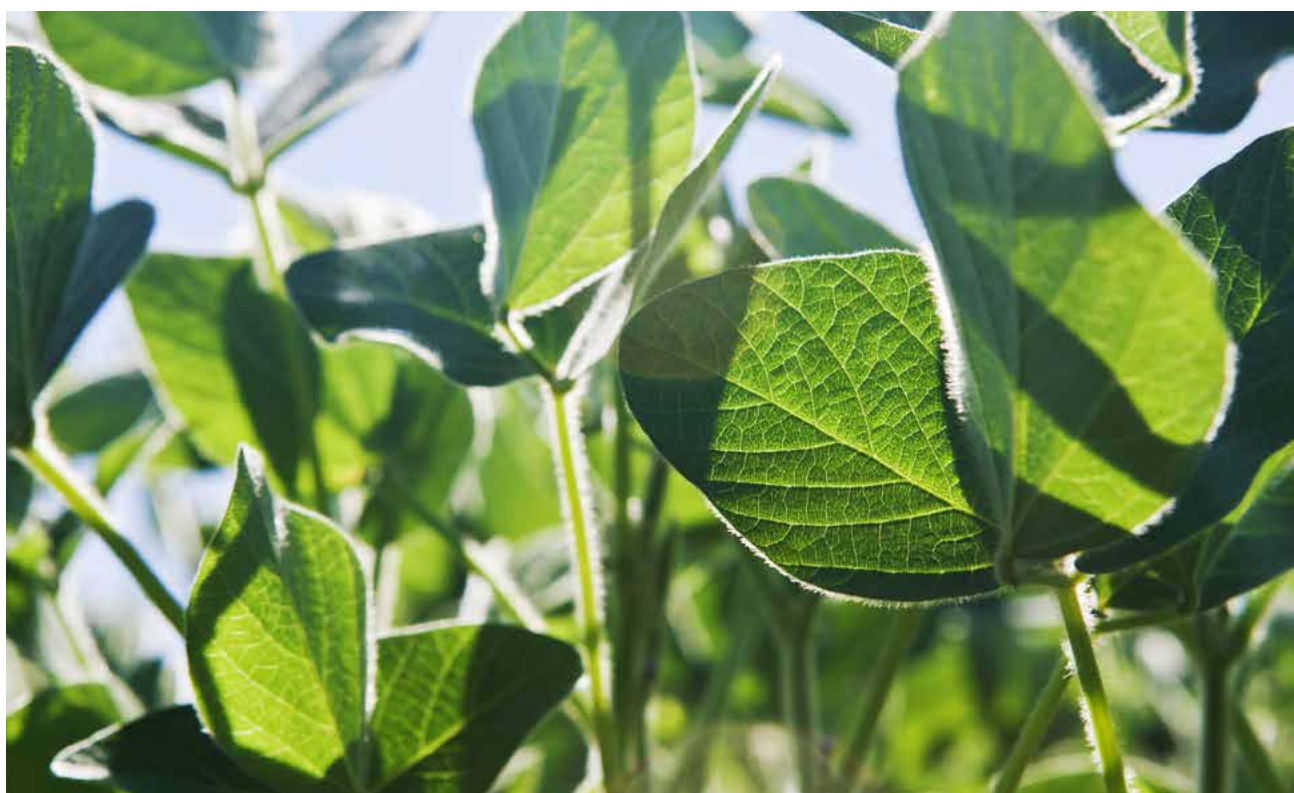
- Identify tangible, innovative ways that current financing could be realigned/restructured to allow better access for farmers and to support sustainable supply chains;
- Test stakeholders' interest in – and the feasibility of – such mechanisms through discussions that increase understanding and meaningful dialogue between public and private sectors so policymakers are equipped to deploy finance via an architecture that reassures early-stage capital players that investing in ambitious REDD+, forest and land-use activities will pay off; and
- Build such financial architecture with continuous and critical stakeholder engagement – from forest country government ministries, producers and other supply chain actors, donor governments, development finance institutions and private investors regarding their priorities and preferred structures.

These steps should enhance the attractiveness of financial architecture for all parties and increase investment into/through these new mechanisms that support sustainable supply chains.

**3. A Bottom-Up Approach to Global Sustainable Supply Chains** – We must look beyond projects and even jurisdictions to see environmental impacts of production across eco-regions and find landscape-level solutions.

For the identified **leakage** into the Chaco, for instance, Guillermo Terol (Agricultural Development of Paraguay – DAP by its Spanish Acronym) suggested gathering together the small number of landholders that control most of land under conversion in the Chaco in Paraguay. Discussions would focus on the environmental effects of deforestation and agriculture, as well as solutions that the key stakeholders would identify and commit to undertake. This could have a large and fairly immediate impact in developing viable solutions.

To engage **key markets** in the quest for sustainable supply chains, *Katoomba Iguaçu* participants recommended holding a Katoomba-like event in China focused on the country's potential role in encouraging sustainability



and decreasing deforestation in major supplier countries like Brazil (soy and beef) and Argentina (soy). An important attribute of such an event would be a neutral space in which stakeholders can candidly discuss barriers, opportunities, successes and lessons learned.

## Concluding Ideas

We are clearly in a window of opportunity to move forward these various innovative actions at scale. *Katoomba Iguaçu* participants agreed that the timing of the event was strategic and that regular meetings (perhaps yearly) would help participants stay connected and highlight progress towards scaling up sustainable supply chains (like the Chatham House Illegal Logging Stakeholder Consultation and Update Meeting, which just held its 23rd meeting). For instance, discussions at the event uncovered a real opportunity to connect initiatives with similar goals (e.g., REDD+ and sustainable supply chains) in order to find synergies and develop viable mechanisms to better reward sustainable production and land use. More appropriate and accessible financing is one tool to do this, as is the Territorial Performance System approach that creates large-scale, jurisdiction-wide certification of commodities and provides a platform through which to offer such financial mechanisms.

It is also important to note that Payments for Ecosystem Services such as REDD+ will be needed alongside sustainable supply chain efforts. As Mauro Lucio Costa (Paragominas Producer's Union) said, "We want the market to pay for good, legal practices but this is the responsibility of the state." The benefits of conserving forests, restoring ecosystems, and protecting biodiversity must be valued and compensated via support by our governments, a point emphasized by Carlos Klink, Brazilian Secretary of the Environment, in his closing remarks at *Katoomba Iguaçu*.

Integrated action (including policy, finance, and large-scale commitments from businesses) across the forests/ ecosystems and agricultural frontier is ambitious, but the enthusiasm from all actors at *Katoomba Iguaçu* indicates that the moment is right for action.



## Appendix – Participant Organizations

Adecoagro (Brazil)  
 Agrotools (Brazil)  
 Aliança da Terra (Brazil)  
 Asociación Cultural para el Desarrollo Integral (ACDI) / Cultural Association for Integrated Development (Argentina)  
 Associação Brasileira das Indústrias Exportadoras de Carnes (ABIEC) / Brazilian Association of Beef Exporters  
 Banco Continental (Paraguay)  
 Banco Santander (Brazil)  
 Biofilica (Brazil)\  
 Bunge Limited  
 Cargill (Brazil)  
 Castrolanda Agricultural Cooperative (Brazil)  
 CDP (United Kingdom)  
 Center for Sustainability and the Global Environment, University of Wisconsin (United States)  
 Climate and Land Use Alliance (Brazil)  
 Cocamar (Brazil)  
 Company for the Development of Environmental Services, Acre State (Brazil)  
 Conservation International (Brazil, United States)  
 Desarrollo Agrícola del Paraguay (DAP) / Agricultural Development of Paraguay  
 Earth Innovation Institute (Brazil, Colombia, United States)  
 Ecología Conciencia y Desarrollo Sustentable (ECONDS) / Conscious Ecology and Sustainable Development (Argentina)  
 Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA) / Brazilian Enterprise for Agricultural Research  
 Environmental Defense Fund (United States)  
 Food and Agribusiness Program, University of Buenos Aires (Argentina)  
 Forest Trends (United States)  
 Funbio (Brazil)  
 Fundação Getulio Vargas (FGV) / Getulio Vargas Foundation (Brazil)  
 Fundación Natura / Nature Foundation (Colombia)  
 Fundo Vale (Brazil)  
 Geoplus Geotecnologia e Informática / Geoplus Geotechnology and Informatics (Brazil)  
 German International Cooperation (GIZ – Paraguay)  
 Global Canopy Program (United Kingdom)



Global Environment Facility (GEF)  
Global Forest Coalition (Paraguay)  
Gordon and Betty Moore Foundation (United States)  
Green Municipalities Program, Pará State (Brazil)  
Greenpeace International  
Global Roundtable for Sustainable Beef (GRSB - Netherlands)  
Grupo de Trabalho Amazônico (GTA) / Amazon Working Group (Brazil)  
Grupo de Trabalho de Pecuária Sustentável (GTPS) / Brazilian Roundtable on Sustainable Livestock  
Grupo Maggi (Brazil)  
Imaflora (Brazil)  
Imazon (Brazil)  
ING Bank (Argentina)  
Institute on the Environment, University of Minnesota (United States)  
Instituto Centro de Vida (ICV) / Center of Life Institute (Brazil)  
Instituto de Conservação e Desenvolvimento Sustentável do Amazonas (IDESAM) / Conservation and Sustainable Development Institute of Amazonas State (Brazil)  
Instituto de Pesquisa Ambiental da Amazônia (IPAM) / Amazon Environmental Research Institute (Brazil)  
Instituto Internacional para Sustentabilidade (IIS) / International Institute for Sustainability (Brazil)  
Instituto LIFE (Brazil)  
Inter-American Development Bank (United States)  
International Finance Corporation (United States)  
JBS (Brazil)  
Jiusan Group (Brazil)  
Katoomba Group (International)  
Ludavino Lopes Advogados (Brazil)  
Marfrig Global Foods  
McDonald's Corporation (Global)  
Meridian Institute (United States)  
Ministry of Climate and Environment (Norway)  
Ministry of the Environment (Brazil)  
Monsanto (Brazil)  
National Wildlife Federation (United States)  
Nestlé Global  
Netherlands Embassy (Brazil)  
Nexus Socioambiental (Brazil)

Núcleo de Economia Socioambiental (NESA) da Universidade de São Paulo / Center for Social and Environmental Economics (NESA) at the University of São Paulo (Brazil)

Paraguay Agricultural Corporation (PAYCO)

Paulson Institute (United States)

Presidencia Comisión de Agricultura y Ganadería Honorable Cámara de Diputados / Agriculture and Livestock Commission, House of Representatives (Argentina)

ProForest (United Kingdom)

Public Prosecutor (Mato Grosso do Sul, Brazil)

Rabobank (Brazil)

Rainforest Alliance (Argentina, United States)

Round Table for Responsible Soy (RTRS - Argentina)

Safe Trace (Brazil)

Sindicato de Produtores Rurais de Paragominas / Paragominas' Rural Producers Union (Brazil)

Sindicato e Organizacao das Cooperativas do Estado do Paraná (OCEPAR) / Union and Organization of Cooperatives of Paraná State (Brazil)

SNV Netherlands Development Organisation

Solidaridad Network (Paraguay)

Sudameris Bank (Paraguay)

Sustainable Trade Initiative (IDH - Netherlands)

Syngenta (Argentina)

The Nature Conservancy (Brazil, United States)

United Nations Environment Programme

Universidade Federal de Viçosa (Brazil)

Universidade Federal do Paraná (Brazil)

University of Utrecht (Netherlands)

US Agency for International Development (United States)

Valente Volpe Representações Ltda. (Brazil)

Verified Carbon Standard (United States)

Walmart (Brazil)

Wildlife Conservation Society (Colombia)

World Resources Institute (United States)

WWF-Brazil



## The Family of Forest Trends Initiatives

---

### Ecosystem Marketplace

A global platform for transparent information on ecosystem service payments and markets

### Water Initiative

Protecting watershed services through markets and incentives that complement conventional management

### Forest Trade & Finance

Bringing sustainability to trade and financial investments in the global market for forest products

### BBOP

Business and Biodiversity Offsets Program, developing, testing and supporting best practice in biodiversity offsets

### the katoomba group

Building capacity for local communities and governments to engage in emerging environmental markets

### Communities and Markets

Supporting local communities to make informed decisions regarding their participation in environmental markets, strengthening their territorial rights



Using innovative financing to promote the conservation of coastal and marine ecosystem services

### Public-Private Co-Finance Initiative

Creating innovative, integrated, and efficient financing to support the transition to low emissions and zero deforestation land use

Learn more about our programs at [www.forest-trends.org](http://www.forest-trends.org)

# Forest Trends

1203 19th Street, NW, 4th floor  
Washington, DC 20036

[www.forest-trends.org](http://www.forest-trends.org)

