



USAID
FROM THE AMERICAN PEOPLE

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

ANNOUNCEMENT

CALL FOR PARTNERSHIP CONCEPT PAPERS

Tropical Forest Alliance (TFA) 2020

in

Central and South America

UNDER EXISTING

GLOBAL DEVELOPMENT ALLIANCE ANNUAL PROGRAM STATEMENT

APS No.: APS-OAA-14-000001

PLEASE NOTE: This is an addendum to an existing announcement. All interested organizations should carefully review both this addendum AND the full announcement, which can be found here: <http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program>. Important information contained in the full worldwide announcement is not repeated in this specific addendum.

This program is authorized in accordance with Part 1 of the Foreign Assistance act of 1961, as amended.

Through this Addendum to the FY2014 Global Development Alliance (GDA) Annual Program Statement (APS) No. APS-OAA-14-000001 (the GDA APS), USAID is making a special call for the submission of Concept Papers focused on the Tropical Forest Alliance (TFA) 2020 in the Latin America region.

USAID is seeking to engage with interested parties to develop initiatives that can mobilize expertise, talent, funding, and other resources from both USAID and the private sector to invest in sustainable business practices that reduce tropical deforestation related to key agricultural commodities (including palm oil, soy, beef, and pulp and paper) by 2020.

Under this Addendum to the GDA APS, USAID **may** enter into one or more alliances of a 3 to 5 year duration in the Latin America region, with life of project award

amounts estimated in the range of \$2.5 million - \$8 million. The number of awards and amount of available funding is subject to change.

Unless otherwise stated herein, all terms and conditions of the GDA APS FY14 apply (<http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program>).¹

I. Background

Deforestation and land use change account for an estimated 14-20% of global greenhouse gas emissions. The Latin America region, and in particular South America, which contains a large percentage of the remaining forests on earth, has also experienced a very high annual rate of deforestation – 4 million hectares between 2000-2010.² Much of the deforestation in the Latin America region has been a result of the expansion of the agricultural frontier, both for crops and pasturelands.³

Agriculture commodities play an important role in contributing to deforestation and the associated greenhouse gas emissions throughout the region. Commodities such as beef, coffee, cocoa, palm oil, and soybeans are some of the principle drivers of deforestation. “Until recently, most of the deforestation was thought to be driven by small-scale producers seeking to provide for their families, however this has now changed due to the increasingly affluent nations consuming more, particularly meat and the resources needed to produce it (e.g., soybean meal).”⁴

In response to the challenges faced in Latin America and across the globe, the U.S. Government and the Consumer Goods Forum, a network of more than 400 companies with annual sales topping \$3 trillion, developed the TFA 2020 (<http://www.tfa2020.com/>). TFA 2020 partners include developing country and industrialized country governments, businesses, and civil society organizations that agree to undertake specific actions to address commodity-driven tropical deforestation. TFA 2020 partners are working together to accomplish the following goals:

- Improving planning and management related to tropical forest conservation, agricultural land use, and land tenure.

¹ As stated in APS No. APS-OAA-14-000001, the partnerships and alliances proposed in any Concept Paper should mobilize and leverage private sector resources at a minimum of 1:1. Proposed alliances that do not mobilize and leverage private sector resources at a value that equals or exceeds the level of funding being requested from USAID will not be considered under this announcement.

² Food and Agriculture Organization of the United Nations. 2010. Global Forest Resources Assessment.

³ Burgos, Rafael. 2011. Private sector strategy for the UN REDD Programme: LAC Regional Outlook. United Nations Development Programme.

⁴ *ibid.*

- Sharing best practices for tropical forest and ecosystem conservation and commodity production, including working with smallholder farmers and other producers on sustainable agricultural intensification, promoting the use of degraded lands, and reforestation.
- Providing expertise and knowledge in order to assist with the development of commodity and processed-commodity markets that promote the conservation of tropical forests.
- Improving monitoring of tropical deforestation and forest degradation to measure progress.

As part of the TFA 2020, the U.S. engages a full range of expertise across the government, and USAID is developing policy and programming to lead the effort on the ground.

A. *USAID Climate Change Strategy*

USAID engagement in TFA 2020 is one element of a broader USAID strategy related to climate change and development. In addition to a focus on land use changes that result from agricultural commodity production, USAID also seeks to integrate climate change considerations across all program sectors, as a principal component of the Agency's approach to sustainable development.

To this end, USAID published its four-year Climate Change and Development Strategy in January, 2012. The goal of USAID's Climate Change and Development Strategy is to enable countries to accelerate their transition to climate resilient, low emission, sustainable economic development. To accomplish this, USAID is pursuing three strategic objectives:

- Accelerate the transition to low emission development through investments in clean energy and sustainable landscapes;
- Increase resilience of people, places, and livelihoods through investments in adaptation; and
- Strengthen development outcomes by integrating climate change in Agency programming, learning, policy dialogues, and operations.

B. *USAID Strategic Priorities in Latin America*

The Climate Change and Development Strategy is well aligned with the Latin America and Caribbean (LAC) Bureau's vision of supporting transformational development by

promoting broad-based economic growth to reduce poverty. In support of this overarching vision, various operating units have defined environment-sector strategic priorities:

- *The LAC Regional Program, managed by LAC Bureau's Office of Regional Sustainable Development (LAC/RSD)*, is working to fill critical programmatic gaps and thereby supporting the LAC Bureau's second-term agenda and related goals. In particular, this Addendum aims to support the LAC Bureau's goal to "accelerate the transition to climate-resilient, low-emission, sustainable economic growth." Climate change poses a serious threat to prosperity and poverty reduction in the region, yet it also creates opportunities for innovation and for investments that will deliver long-lasting environmental and economic benefits. Expansion of the green economy and the creation of new markets for clean technology open the door to sustained growth. In recognition of the importance of these issues, LAC governments are increasingly calling for proven tools and methodologies to help them respond to climate change. Many of these adaptation or mitigation approaches are not site-specific and can be adopted region-wide. LAC/RSD is working to develop and disseminate technically sophisticated tools to build resilience and promote sustainable development in the region.
- *The South America Regional Environment program (SAR-Env)* is based in Lima, Peru. SAR-Env has the overall goal of "Amazon Biome Maintained," and its projects focus on improving biodiversity conservation and reducing greenhouse gas emissions caused by deforestation and forest degradation. SAR-Env implements programs in the Andean Amazon countries that support many USG interests. SAR-Env aims to enhance the key assets of biodiversity and natural resources, including carbon sequestration, in the region's vast forested areas while building local capacity for trade and environmental governance. The USG is interested in partnering with the private sector to preserve tropical forests and reduce deforestation. Throughout SAR-Env's programs, cross-cutting approaches address the USG dedication to empowering women and meeting the particular needs of traditionally marginalized populations, such as the Amazon's indigenous communities. The USAID Forward goals of procurement reform to build capacity and opportunities for local organizations are manifested in SAR-Env's approach, and SAR-Env is therefore particularly interested in building local capacity and engaging directly with local institutions as partners.

- *USAID/Brazil* has concluded a transformation process moving from a traditional assistance approach to a new modern concept of a Strategic Partnership Mission. The objective is to work more closely with the Government of Brazil as a partner and no longer as an assistance recipient. This new approach is crystallized in two main programs: Partnerships, which includes trilateral cooperation and collaborative work with the private sector through the *Mais Unidos* Group⁵; and Environment, focused on biodiversity conservation in protected areas of the Amazon region.
- *USAID/Colombia*, as a part of its Country Development Cooperation Strategy, has identified strengthening “Environmental Resiliency and Low Emissions Development” as the fourth of its Development Objectives (DO). Under this DO, USAID/Colombia will improve natural resources management (including legality, rehabilitation, and mercury reduction use in artisanal small-scale gold mining operations and the conservation of biodiversity), mitigation of greenhouse gases (including through low emission development strategies and increased access to clean and efficient energy), and increased resilience to the consequences of a changing climate (by use of better tools and processes for decision-making).
- *USAID/Guatemala*, as a part of its Country Development Cooperation Strategy, has identified “Improved Management of Natural Resources to Mitigate Impacts of Global Climate Change” as the third of its Development Objectives. Under this DO, USAID/Guatemala will support improved natural resource management, mitigation of the impacts of natural disasters, strengthening of institutions to enhance environmental governance, and collaboration with the GOG in the design of its Low Emission Development Strategy (LEDS). This will be implemented through market driven conservation and management strategies (including forest certification and reducing emissions from deforestation and forest degradation; REDD+), reducing vulnerability to the effects of global climate change, and strengthening environmental governance.
- *USAID/Paraguay’s* Country Development Cooperation Strategy supports sustainable economic development by promoting an environmentally sustainable approach to farming and cattle ranching, which are the primary drivers of Paraguay’s extremely high rates of deforestation. Cattle ranching and large-scale agriculture have a major impact on both forest types in Paraguay: the Gran Chaco in western Paraguay and the Atlantic Forest in eastern Paraguay. Therefore, USAID/Paraguay will work with producers and the private sector to

⁵ <http://maisunidos.org/en/>

promote the adoption of more sustainable agricultural practices, including the introduction of improved water, soil, and natural resource management practices and climate change adaptation systems.

II. Solicitation

This Addendum to the GDA APS seeks private sector partners to collaborate with USAID in Latin America on innovative, new programs that simultaneously advance the goals and objectives of the Tropical Forest Alliance 2020 and USAID's Climate Change Strategy AND the core business and philanthropic interests of the private sector partners.

Proposals supporting activities in USAID presence countries in South America (Brazil, Colombia, Paraguay and Peru) and/or Guatemala will be considered under this APS Addendum. Proposals may be directed at only one of the aforementioned countries, or can be regional in nature.

Background information on the individual country context and commodity driven deforestation can be found in Annex 1.

III. Evaluation Criteria

Proposed alliances will be evaluated based on the general criteria set forth in the GDA APS (http://www.usaid.gov/sites/default/files/documents/1880/2014_GDA_APS.pdf) in Section VI: Concept Paper Evaluation Criteria and Considerations. As stated in APS No. APS-OAA-14-000001 USAID expects to receive alliance proposals that mobilize and leverage private sector resources at a minimum of 1:1. In addition, Concept Papers should include the following information:

1. Clear definition of the alliance's objectives.
2. The proposed approach and activities, including an implementation timeline;
3. The anticipated outputs, outcomes, results, and impact. This should include a clearly defined theory of change with an explanation of how the proposed approach will contribute.
4. The roles and responsibilities of the core partners. This must include a description of the private sector partner's resource contributions and how those resource contributions will support specific alliance activities and contribute to particular outputs, outcomes, results, and intended impacts.
5. How the outcomes and results, as well as any activities that need to continue beyond the duration of a USAID award, will be sustainable without continued

USAID funding or involvement after the award ends.

6. How the proposed alliance will clearly and significantly contribute to achieving USAID's objective of investing in sustainable business practices that reduce tropical deforestation in Latin America associated with four key agricultural commodities (palm oil, soy, beef, and paper and pulp) by 2020. Proposed activities should contribute to at least one of the following four key areas of work:
 - a) Improving planning and management related to tropical forest conservation, agricultural land use, and land tenure.
 - b) Sharing best practices for tropical forest and ecosystem conservation and commodity production, including working with smallholder farmers and other producers on sustainable agricultural intensification, promoting the use of degraded lands, and reforestation.
 - c) Providing expertise and knowledge in order to assist with the development of commodity and processed-commodity markets that promote the conservation of tropical forests.
 - d) Improving monitoring of tropical deforestation and forest degradation to measure progress.
7. How the collaboration with the private sector will increase the reach, efficiency, effectiveness or sustainable impact of USAID's development assistance.
8. Description of how the private sector was consulted and engaged in the identification and definition of the targeted problems and challenges and the development of the alliance proposed in the concept paper, including contact information for the core private sector partner(s) involved in the alliance.
9. Brief description of the monitoring and evaluation approach to be used, including how success will be defined, the availability of baseline data, the use of control groups, or the definition and development of comparison groups, and counterfactuals.

Preference will be given to alliances that include private sector partners that demonstrate long-term commitment to the targeted region and a recognized business interest in the proposed concept. If USAID requests a full proposal, applicants will be given additional, specific evaluation criteria that speak to the subject matter of the concept.

Proposed alliances should be consistent with USAID legal and policy restrictions, including those set forth in USAID's Automated Directives System (ADS) and in the Foreign Assistance Act of 1961.

IV. Application Instructions and Review Process

USAID/LAC will be responsible for the review process and management of any awards issued under this addendum. Applicants are required to follow the Concept Paper instructions set forth in the GDA APS and submit Concept Papers using the Concept Paper Template (<http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program-0>). Information provided in Section I.E of that Template should address the objectives and criteria presented above.

Before submitting a Concept Paper, prospective applicants are encouraged to contact USAID/LAC (TFA2020LAC@usaid.gov). USAID/LAC can discuss the extent to which a proposed idea is appropriate and aligns with USAID's goals.

In addition, prospective applicants **must** connect the prospective applicant's private sector partners to USAID/LAC. Under the GDA APS, the USAID Point of Contact can have robust and extensive discussions with prospective private sector partners with regard to potential alliance ideas and activities so long as that partner is not seeking to receive and manage award funding from USAID.⁶

The completed Concept Paper Template (including the Concept Paper and required Supporting Information) should be sent to USAID/LAC (TFA2020LAC@usaid.gov) **with a copy to gda@usaid.gov**.

Concept papers must be submitted by **December 15, 2014 (5pm ET)** in order to be considered.

After review by the **LAC Bureau**, applicants will receive instructions from the **LAC Bureau** on whether to proceed with a full application.

For information regarding guidelines and procedures to submit a concept paper, please refer to the GDA APS which can be found at the following website: <http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program>. Additional information on alliances can be found at <http://www.usaid.gov/work-usaid/get-grant-or-contract/opportunities-funding/global-development-alliance-annual-program-0>.

⁶ Note: If the private sector partner is seeking to receive and manage USAID funding, the discussions will need to be more limited. Questions regarding the nature and scope of partner discussions prior to the submission of a concept paper, as well as any questions regarding the terms of the Global Development Alliance Annual Program Statement, can be directed to gda@usaid.gov or Ken Lee at kenlee@usaid.gov.

Questions regarding the general terms and requirements of the 2014 GDA APS can be directed to Ken Lee at gda@usaid.gov with copy to TFA2020LAC@usaid.gov.

Questions regarding the substance of this Addendum can be directed to TFA2020LAC@usaid.gov with copy to Ken Lee at gda@usaid.gov.

Annex 1

Background Information - TFA 2020 Latin America and Caribbean Bureau

I. Context - Tropical Forest Alliance 2020

In 2010, the Consumer Goods Forum made a commitment to “mobilize resources . . . to help achieve zero net deforestation by 2020.” The Tropical Forest Alliance 2020 (TFA 2020) was born out of discussions between the U.S. Government and the Consumer Goods Forum before, and during, the Rio + 20 Conference. TFA 2020 is a public-private partnership with the goal of reducing tropical deforestation associated with the supply chains of key global commodities, such as soy, beef, palm oil, and pulp and paper. It will achieve its goal via voluntary actions.

The United States and other partner countries, companies, and civil society organizations will work together to:

- Improve planning and management related to tropical forest conservation, agricultural land use, and land tenure.
- Share best practices for tropical forest and ecosystem conservation and commodity production, including working with smallholder farmers and other producers on sustainable agricultural intensification and promoting the use of degraded lands and reforestation.
- Provide expertise and knowledge that would assist with the development of commodity and processed-commodity markets that promote the conservation of tropical forests.
- Improve monitoring of tropical deforestation and forest degradation to measure progress.

II. Investment Trends in TFA 2020 commodities in the LAC region

According to the Global Forest Watch database, the Latin American countries with the greatest number of hectares of tree cover loss from 2001-2012 included: Brazil (#2 globally), Argentina (#10), Paraguay (#11), Bolivia (#12), Colombia (#14), Mexico (#15), Peru (#20), Venezuela (#25), Chile (#30) and Guatemala (#34).⁷

⁷ <http://www.globalforestwatch.org/countries/overview>

This document will explore the trends in TFA 2020 commodities (cattle/beef, soy, oil palm, and pulp and paper) in USAID-presence countries in Central and South America where the greatest amount of deforestation is taking place. This will help to assess potential current and future impacts on deforestation in this region to determine the best allocation of USAID resources in support of TFA 2020 goals.

A. *Cattle*

In terms of the aggregate area utilized for the production of cattle/beef, soy, and palm oil; beef/cattle is the most dominant commodity in South America, occupying 90% of the land. Globally, cattle production is responsible for an estimated 18% of all greenhouse gas emissions and within that, the deforestation caused by cattle ranching is responsible for the release of 340 million tons of carbon to the atmosphere every year, equivalent to an estimated 3.4% of total global emissions. Latin America is responsible for slightly more than 23% of all cattle production.⁸ Beyond forest conversion, cattle pastures increase the risk of fire and contribute to the degradation of riparian and aquatic ecosystems, causing soil erosion, river siltation and organic matter contamination.⁹

a. Brazil

Since 2003, Brazil has been the world's largest beef exporter with the largest commercial cattle herd. Brazilian production in 2011 was valued at more than \$23 billion USD, representing 54% of the overall production value in South America.¹⁰ In addition to beef, the Brazilian cattle industry is also an important leather exporter and is a major producer of other co-products (tallow, etc.).

From 1970 to 2006, Brazilian herds increased at a rate of more than 2% per year while total pasture area expanded at an overall rate of 0.07% per year.¹¹ The largest ranching operations are located in the central-western part of the country in the states of Mato Grosso, Mato Grosso do Sul, and Goiás, which account for nearly 30% of the cattle produced in Brazil. Minas Gerais (southeast region) and Pará (northern region) together produced slightly more than 20% of cattle in 2010. Trends indicate that these same areas will be important for future expansion.

⁸ FAO. (2014); Ganadería. Accessed on June 5, 2014:

<http://www.fao.org/americas/perspectivas/ganaderia/es/>

⁹ WWF. (2014); Unsustainable Cattle Ranching. Accessed on May 19, 2014:

http://wwf.panda.org/what_we_do/where_we_work/amazon/problems/unsustainable_cattle_ranching/

¹⁰ Hall, Simon Hall, Praveen Noojipady, Nathalie Walker, Ryan Sarsfield and Ruth Nogueron. (2014); Draft report: Selection criteria and country level analysis for identifying priority countries in South America for the Tropical Forest Alliance 2020 South America Strategy Working Group.

¹¹ Ibid.

Historically in Brazil, the cattle sector has been the main driver of deforestation, especially in the Amazon region. Studies have estimated that 70-80% of all historical deforestation in Brazil is a result of pastureland expansion.

Since 2009, a combination of government policies (forest code enforcement - see section III.A.) and industry-led initiatives (cattle moratorium - see section III.A.) have helped to reduce deforestation from cattle-raising. As a result of these various efforts, deforestation in the Amazon from the cattle sector is generally lower today than in the early 2000's, but is still considered unsustainable.¹²

b. Colombia

Livestock, mainly cattle, account for the majority of agricultural area in Colombia—approximately 38 million hectares. The cattle herd was estimated at about 23 million head in 2013. The majority of cattle are produced for beef (52% beef only, 44% beef and dairy), with a minor part (4%) for dairy production only.

Around 38% of Colombia's total land surface is used for cattle ranching. Large landowners comprise a small percentage of production. Most landholdings are small and run by rural families; 82% of cattle ranchers have less than 50 animals per farm.

In Colombia, most clearing for new pastures takes place in the Amazon (45%), followed by the Andes region (30%). From 2005 - 2010, nearly 90% of forest clearing in the Colombian Amazon was for cattle pasturelands (a doubling of the proportion from the period of 2000-2005).

Future trends point toward continued expansion of the sector. FEDEGAN, the national cattle association, projects an increase in the national herd size to approximately 56 million head by 2019. FEDEGAN aims to achieve this goal while at the same time decreasing current pasturelands by 10 million hectares through productivity gains and breeding. It is not yet clear how this will be implemented.¹³

¹² Walker, Nathalie, Sabrina A. Patel, and Kemel A. B. Kalif. (2013); From Amazon pasture to the high street: deforestation and the Brazilian cattle product supply chain. *Tropical Conservation Science* (3):446-467. Accessed on May 19, 2014: [http://tropicalconservationscience.mongabay.com/content/v6/TCS-2013_Vol_6\(3\)_446-467-Walker_et_al.pdf](http://tropicalconservationscience.mongabay.com/content/v6/TCS-2013_Vol_6(3)_446-467-Walker_et_al.pdf)

¹³ Nepstad, Daniel, Tathiana Bezerra, David Tepper, Katharine McCann, Claudia Stickler, David G McGrath, María Ximena Barrera, Sarah Lowery, Eric Armijo, Mary Lou Higgins, Joel Monschke, Roberto Gomez, Susana Velez, Miguel Tejada, Manuel Tejada, Tim Killeen, Karen Schwalbe, Alejandra Ruedas. (2013); Addressing Agricultural Drivers of Deforestation in Colombia: Increasing Land-Based Production While Reducing Deforestation, Forest Degradation, Greenhouse Gas Emissions and Rural Poverty. Accessed on May 16, 2014: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/274185/drivers_of_deforestation_in_colombia.pdf

c. Guatemala

Guatemala has one of the highest rates of deforestation in the world, losing 1% of its total forested area between 2006 and 2010 (more than 146,000 ha). However, this rate is lower than in previous periods (-1.43% from 1991 through 2001 and -1.16 % between 2001 and 2006).¹⁴

In the case of the expansion of cattle farming, the total area planted with annual crops versus pasture lands vary widely in each agricultural census, so it is very difficult to determine trends.¹⁵ In the most recent (2013) census, the Ministry of Agriculture estimates that pasture land accounts for 23% of total agricultural land use which represents an increase over the 2003 census.¹⁶

Most analyses of the drivers of deforestation in Guatemala have indicated that the main cause is due to small holder farmer migration and land clearing through the practice of slash and burn agriculture. To a lesser extent, livestock production and commercial agricultural are also considered to be drivers. The World Bank estimates that farm activities along with cattle ranching account for 89% of all land-use change in Guatemala.¹⁷

However, at a local level, other trends may dominate. For example, in the Petén Department, there is some evidence that large scale cattle ranching may be driving deforestation and in some cases, may also be connected to illicit activities.¹⁸

¹⁴ Regalado, Omar, Ximena Villagrán, Gerónimo Pérez, Edwin Castellanos, Genoveva Martínez and Diego Ince. Mapa de Cobertura Forestal de Guatemala 2010 y Dinámica de la Cobertura Forestal 2006-2010. Accessed on August 4, 2014: <http://www.marn.gob.gt/documentos/novedades/cobertura.pdf>

¹⁵ Zander, Markus and Jochen Dürr. (2011). Dynamics in land tenure, local power and the peasant economy: the case of Petén, Guatemala. Paper presented at the International Conference on Global Land Grabbing 6-8 April 2011. Accessed on August 4, 2014:

¹⁵ http://www.iss.nl/fileadmin/ASSETS/iss/Documents/Conference_papers/LDPI/15_Markus_Zander_and_Jochen_Durr.pdf

¹⁶ Instituto Nacional de Estadística. (2014); Encuesta Nacional agropecuaria 2013. Accessed on August 4, 2014: <http://web.maga.gob.gt/download/ena-2013.pdf>

¹⁷ World Bank. 2009. Guatemala Country Note on Climate Change: Aspects in Agriculture. Accessed on August 4, 2014: http://siteresources.worldbank.org/INTLACREGTOPURBDEV/Resources/840343-1319570618921/Agr_CC_Guatemala.pdf

¹⁸ Zander, Markus and Jochen Dürr. (2011). Dynamics in land tenure, local power and the peasant economy: the case of Petén, Guatemala. Paper presented at the International Conference on Global Land Grabbing 6-8 April 2011. Accessed on August 4, 2014:

¹⁸ http://www.iss.nl/fileadmin/ASSETS/iss/Documents/Conference_papers/LDPI/15_Markus_Zander_and_Jochen_Durr.pdf

d. Paraguay

Paraguay has two main forest zones, the Atlantic Forest (tropical and sub-tropical forests) in the eastern part of the country bordering Brazil and the Gran Chaco (a semi-arid lowland forest), which covers most of the western part of the country. Cattle ranching and large-scale agriculture has had a major impact on both forest types.

From 1989-2000, cattle ranching and mechanized agricultural expansion were the major drivers behind the loss of nearly 40% of the Atlantic Forests in the country.¹⁹ The Government of Paraguay recognized that if deforestation continued at the same rate, all of the remaining Atlantic Forests would be destroyed. As a result, in 2004 the Government of Paraguay enacted the “Zero Deforestation Law” (see section III.A.) for the eastern region of the country, which has had the effect of reducing deforestation rates by nearly 90% in the Atlantic Forests.

However, the expansion of cattle ranching in the western region of the country is still causing massive deforestation in the Gran Chaco area of Paraguay²⁰ which, along with parts of Argentina, Bolivia and a small area in Brazil, makes up the second largest forested area in South America after the Amazon. In 2013, the total forest loss in Paraguay’s Chaco region was 236,869 hectares - a rate of nearly 650 hectares per day and attributing for 98% of the total deforestation in the country. The University of Maryland released a comprehensive global deforestation map (Global Forest Change²¹) highlighting the alarming trend of forest’s loss in tropical regions. The description of deforestation in Paraguay highlighted as an example location notes that "Paraguay's Chaco woodlands. . .are experiencing rapid deforestation in the development of cattle ranches. The result is the highest rate of deforestation in the world."

Deforestation was concentrated in the western region in the Department of Alto Paraguay and especially in the Department of Boquerón, which registered the highest rates of deforestation in all of the Gran Chaco for the second successive year.²² Many organizations in Paraguay attribute this deforestation to the rapid expansion of soy on existing pasture lands in the eastern part of the country, which has had the effect of

¹⁹ UNEP. 2010. Only Scraps of the South American Atlantic Forest Remain—Eastern Paraguay. Accessed on May 27, 2014: http://na.unep.net/geas/getUNEPPageWithArticleIDScript.php?article_id=62

²⁰ Romero, Simon. March 24, 2012. “Vast Tracts in Paraguay Forest Being Replaced by Ranches.” New York Times. Accessed on May 21, 2014:

²⁰http://www.nytimes.com/2012/03/25/world/americas/paraguays-chaco-forest-being-cleared-by-ranchers.html?pagewanted=all&_r=0

²¹ <http://earthenginepartners.appspot.com/science-2013-global-forest>

²² Burton, John. February 20, 2014. Half a million hectares of Gran Chaco forest cleared in 2013. World Land Trust. Accessed on May 21, 2014: <http://www.worldlandtrust.org/news/2014/02/half-million-hectares-gran-chaco-forest-cleared-in-2013>

displacing cattle ranches to clear new lands in the Chaco. In addition, there has been an increase in foreign investment in Paraguay, especially in the Chaco where soil and climate are very suitable for livestock, land prices are very low, and there is a favorable legal framework to the conversion of forests to other uses by legal permits that are approved by the Secretary of Environment (SEAM) and National Forestry Institute (INFONA).

e. Peru

Cattle production in Peru is much lower than in other parts of South America, with an estimated 4.9 million heads of cattle in 2013. Most cattle (80%) are in the highlands and Amazon regions under semi-intensive or extensive production systems and the remaining 20% are found along the coast under intensive production systems:

- Coast: Cattle (often underweight) arrive to feedlots for a 90 day weight-gain period before sale to market.
- Highlands: Cattle are mainly raised for dual purposes – milk and beef. Production is sold in local markets and to supply feedlots on the coast. For many farmers, this is their only source of work and savings. Cattle are considered poor genetic quality, there is little technical advancement, and sanitary problems are chronic.
- Jungle: Farmers complement cattle raising with other economic activities. Cattle are primarily raised for meat production.²³

Although the cattle sector has not been a major driver of deforestation in the Amazonian region of Peru as with other countries in South America, it is expected that many of the same market dynamics taking place in other parts of the region could drive future expansion in Peru.²⁴

B. *Soy*

Over recent decades, soy has been undergoing the greatest expansion of any global crop. The area of land devoted to cultivating soy has grown from less than 30 million ha in 1970 to more than 100 million ha today. The fastest growth in recent years has been in South America (mainly Argentina, Paraguay, Brazil and parts of Bolivia), where production grew by 123% between 1996 and 2004. This occurred mainly in areas previously dedicated to less profitable activities such as cattle ranching, but also at the expense of native forests. Growing demand from the EU and, more recently, from China,

²³ USDA, Foreign Agriculture Service. (2013) GAIN report; Peru Beef Overview. Accessed on May 19, 2014: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Beef%20Overview_Lima_Peru_2-27-2013.pdf

²⁴ National Agricultural Census- CENAGRO, Resultados Preliminares. PCM. December 2012.

is the principal driver behind this expansion, though domestic markets are also significant.²⁵

a. Brazil

Brazil is the world's second-leading producer and exporter of soybeans and products (oil and meal). Most soybean oil production in Brazil targets the conventional food and feed markets (84%), while a smaller portion (16%) fulfills the growing demand for biodiesel.

Between 1990 and 2010, the soybean harvest area more than doubled in Brazil from 11.4 to 23.2 million hectares (an annual growth rate of 3.5%) which represents 35% of the total arable land area. Even though the most suitable lands for soybean production are located in the southern and central-eastern parts of Brazil, most of the production has taken place in the Cerrado ecosystem in central-western Brazil, particularly in the state of Mato Grosso (an area of 10.4 million hectares in 2010). This is mainly due to favorable technological, institutional and economic conditions for soy production in the state.

As a result, large swathes of Cerrado and Amazonian rainforest have been converted to soy and also replaced other land uses, which leads in turn to additional deforestation as cattle ranches were able to capitalize on rising land values and relocate/expand into frontier areas.²⁶

Pressure from environmental groups led to measures that halted the expansion of soy cultivation in previously forested areas. In 2006, ABIOVE (Brazilian Vegetable Oil Industry Association) and ANEC (Brazilian Grain Exporters Association), and their respective member companies, agreed to a “soy moratorium,” pledging not to trade and finance soy that has originated in deforested areas within the Amazon Biome after that date. Initially designed for a two-year period, the moratorium has been extended several times and is currently slated to expire in December, 2014.²⁷

Monitoring via remote sensing has shown that deforestation in the Amazon has significantly declined, which may be attributable in part to the moratorium.²⁸ However,

²⁵ WWF. (2014), The Growth of Soy: Impacts and Solutions. Accessed on May 15, 2014: file:///C:/Documents%20and%20Settings/ecushion/My%20Documents/Downloads/wwf_soy_report_final_feb_4_2014.pdf

²⁶ Pacheco, Pablo. (2012), Soybean and oil palm expansion in South America: A review of main trends and implications. CIFOR. Accessed on May 15, 2014: http://www.cifor.org/publications/pdf_files/WPapers/WP90Pacheco.pdf

²⁷ Associação Brasileira das Indústrias de Óleos Vegetais (ABIOVE). (2014), Soy Moratorium. Accessed on May 15, 2014: <http://www.abiove.org.br/site/index.php?page=soy-moratorium&area=MTEtMy0x>

²⁸ Friedrich, Bernardo, Theodor Rudorff, Marcos Adami, Daniel Alves Aguiar, Maurício Alves Moreira, Marcio Pupin Mello, Leandro Fabiani, Daniel Furlan Amaral and Bernardo Machado Pires.

as the moratorium does not extend to the Cerrado, deforestation continues to take place in this biome as a result of expanding soybean cultivation.

The Brazilian Ministry of Agriculture projects a future expansion of soy plantations from about 23 million hectares today to 26.5 million hectares by 2018-2019. It projects that this will be met by an annual increase in productivity of 2.43% and an annual increase in production area of 1.95%, primarily in the same parts of the Amazon and Cerrado. This will mean replacing livestock or other crops with soybeans, and is likely to result in conversion of native vegetation.²⁹

b. Colombia

Colombia is a minor soybean producer, with only 54,000 metric tons grown in 2012 (only slightly more than double the amount from when production began in the 1960s).

c. Guatemala

Guatemala is a net importer of soy (300,000 metric tons per year). Between 2002 and 2012, annual production of soy grew slightly, from 35,000 to 37,000 metric tons.³⁰ In April of 2012, the Soybean Producers Association of Guatemala (*Asociación Gremial de Productores de Soya - Agresoya*) announced plans to grow small-scale agricultural soy production by nearly 14 million hectares³¹, however, there is no indication that expansion at this scale has begun to take place.

d. Paraguay

Soy is the main agricultural commodity in Paraguay, occupying more than 80% of the agricultural land in the eastern region of the country.³² The country is the 6th largest producer globally (7.4 million metric tons in 2010) and the 4th largest exporter. In 2011,

(2011), The Soy Moratorium in the Amazon Biome: Monitored by Remote Sensing Images. *Remote Sensing*. 3:185-202.

²⁹ WWF. (2014), The Growth of Soy: Impacts and Solutions. Accessed on May 15, 2014: file:///C:/Documents%20and%20Settings/ecushion/My%20Documents/Downloads/wwf_soy_report_final_feb_4_2014.pdf

³⁰ FAOStat. (2014), Soybeans. Accessed on August 1, 2014: <http://faostat3.fao.org/faostat-gateway/go/to/browse/Q/QC/E>.

³¹ deGuate.com. April 12, 2012. Accessed pm August 1, 2014: http://www.deguate.com/artman/publish/ecofin_noticias/anuncian-la-siembra-de-soya-en-20-mil-manzanas-de-terreno.shtml#.U9uqivmWx6Y. Accessed on August 1, 2014.

³² Guereña, Arantxa and Quintín Riquelme. (2013); The Soy Mirage. The limits of corporate social responsibility: the case of the company Desarrollo Agrícola del Paraguay. Oxfam Research Reports. Accessed on May 21, 2014: <http://www.oxfam.org/sites/www.oxfam.org/files/rr-soy-mirage-corporate-social-responsibility-paraguay-290813-en.pdf>

the total amount of land dedicated to soy production was 2.8 million ha, a growth of more than 400% from 1991. The increases in soy production are almost exclusively from large industrial agricultural operations. During the aforementioned time period, larger farms (more than 1,000 ha) grew at a rate of near 1,700%; while smaller farms (20-50 ha) grew at a rate of slightly less than 6%. Paraguay's soy expansion is leading to increasingly concentrated land holdings in a country known for having some of the most unequal land distribution in the world.³³

Soy was initially grown in the eastern provinces of Alto Paraná (68 percent of which was under soy cultivation in 2010) and Itapúa. "Many Brazilian soy producers crossed the border, attracted by the low prices of land, more lax regulations on deforestation, and lower production costs. Soy cultivation later expanded to the central provinces of San Pedro, Caazapá and Caaguazú, displacing livestock activity towards El Chaco (in the north)."³⁴

Forest loss in Paraguay has primarily been driven by conversion to agriculture (mainly soy) and cattle ranching. As a result, only 13% of the original forested area of the Atlantic Forest remains in Paraguay, and those that remain are highly fragmented and degraded.

In 2004, there was a recognition that poor enforcement and a booming soy industry would lead to the loss of all of the Atlantic forest within a few years if nothing was done to slow deforestation rates. In response to this threat, a moratorium was approved (known as the Zero Deforestation Law) for two years, making it illegal to transform or convert any forested land in the Atlantic forests of eastern Paraguay.³⁵ According to WWF, rates of deforestation in the Atlantic Forest since the moratorium have dropped by 90%. The Government of Paraguay has extended the Zero Deforestation Law through 2018.³⁶ This law applies exclusively to the eastern region of the country. The western region or Chaco

³³ Elgert, Lauren. (2011); Can 'responsible' soy production justify the concentration of land in Paraguay? A critical analysis of five claims about environmental, economic, and social sustainability. Presented at: the International Conference on Global Land Grabbing II. October 17-19, 2012. Accessed on May 21, 2014: <http://www.cornell-landproject.org/download/landgrab2012papers/elgert.pdf>

³⁴ Elgert, Lauren. (2011); Can 'responsible' soy production justify the concentration of land in Paraguay? A critical analysis of five claims about environmental, economic, and social sustainability. Presented at: the International Conference on Global Land Grabbing II October 17- 19, 2012. Accessed on May 21, 2014: <http://www.cornell-landproject.org/download/landgrab2012papers/elgert.pdf>

³⁵ Hutchison, Sarah and Lucy Aquino. (2011); Making a pact to tackle deforestation in Paraguay. WWF. Accessed on May 21, 2014: http://www.wwf.org.uk/what_we_do/safeguarding_the_natural_world/forests/forest_work/atlantic_forest/at_lantic_forest_in_paraguay.cfm?4866/Making-a-pact-to-tackle-deforestation-in-Paraguay

³⁶ WWF. (2013); Paraguay extends Zero Deforestation Law to 2018. Accessed on May 21, 2014: <http://wwf.panda.org/?210224/Paraguay-extends-Zero-Deforestation-Law-to-2018>

does not have a prohibition for deforestation (except for the requirement in the Forest Law of maintaining 25% of each property under forest reserve).

e. Peru

Peru is not a soybean producer. Rather, the country imports soy from the United States, Bolivia, and other countries, mainly for poultry feed.

C. *Palm Oil*

Most palm oil is produced in Indonesia and Malaysia, which together make up 85% of all global production. However, in the last decade, there has been significant growth in the number of plantations in the Latin America region, making it the 4th largest producer of palm oil behind Indonesia, Malaysia and Africa.³⁷

Latin America is expected to experience continued growth in this sector. Although most of the current production is for domestic food markets, a portion of the future increase in palm oil production is expected as a result of biodiesel demand, mainly for export to the European Union and Mexico, but also due to national blending mandates.

a. Brazil

Although Brazil is not currently a major producer of palm oil (0.5% globally), a study by the Brazilian agricultural agency, EMBRAPA, found that more than 30 million hectares of land in Brazil are suitable for oil palm plantations; almost all of it located within the Amazon region.³⁸ Many of these lands are forested, and are unlikely to be developed, but it does show the massive potential for expansion of the sector.

The *Programa Nacional de Produção e Uso de Biodiesel* (PNPB) established a 5% biodiesel blend mandate and targeted the expansion of vegetable oil crops to meet this mandate, including expanding sustainable family-farm cultivation of oil palm in the Amazon region. The Government of Brazil has established agroecological zones to encourage development mainly on degraded pastures and other altered areas. Between 2010-2012, most large-scale oil palm expansion has taken place in the state of Pará,

³⁷ Greyson, Jon and Jeanne Stampe. (2012), Palm Oil Investor Review: Investor Guidance on Palm Oil, the role of investors in supporting the development of a sustainable palm oil industry. Accessed on May 13, 2014: <http://www.rspo.org/file/Palm%20Oil%20Investor%20Review%20Web%20Version.pdf>

³⁸ Sahoko Yui and Sonia Yeh. (2013), Land use change emissions from oil palm expansion in Pará, Brazil depend on proper policy enforcement on deforested lands. *Environmental Resource Letters*, 8: 044031. Accessed on May 14, 2014: http://iopscience.iop.org/1748-9326/8/4/044031/pdf/1748-9326_8_4_044031.pdf

increasing the cultivated area from 70,000 to 120,000 hectares³⁹ and this trend is expected to continue. Archer Daniels Midland, mining company Vale, Petrobras Biofuels and several other major companies have announced significant Amazon palm oil deals or expressed an interest to expand production in the region.⁴⁰

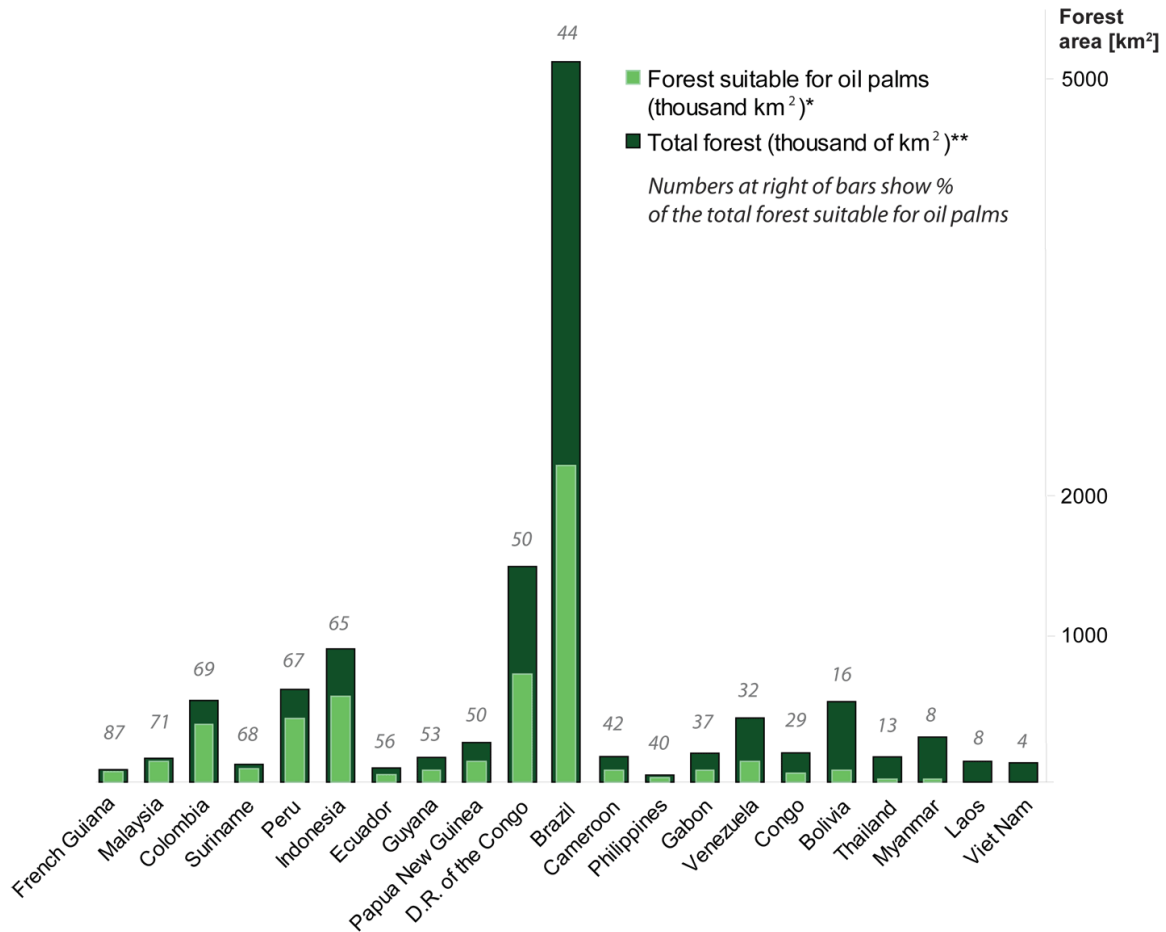


Figure 1. Forest suitable for oil palms per country. Source: Forest suitable for oil palms (Sickler et al, 2007).

b. Colombia

Colombia is the fifth largest producer of palm oil globally with a planted area of approximately 360,500 ha (which accounts for less than 1% of the total agricultural lands in Colombia). Smallholders account for 30-50% of the palm oil production. About one-

³⁹ Reis de Carvalho, Claudio Jose. June 20, 2012. EMBRAPA. Expansion of oil palm cultivation in the Amazon: potential impacts on carbon fixation and water Use. Presented at: Ecology, Evolution and Sustainable Use of Tropical Biodiversity: Symposium 33: Environmental Services in Amazonia. Abstract Accessed on May 14, 2014: <http://www.alice.cnptia.embrapa.br/bitstream/doc/959200/1/S33OC04.pdf>

⁴⁰ Butler, Rhett. June 14, 2011. Could palm oil help save the Amazon? mongabay.com. Accessed on May 14, 2014: http://news.mongabay.com/2011/0614-amazon_palm_oil.html

third of plantations are on landholdings with areas greater than 1,000 ha, while another third are between 200 and 1,000 ha. Approximately 40% of Colombia's palm oil production is used to meet the demands of domestic food manufacturers with an equal proportion supplying the local biodiesel market. The remaining 20 percent is exported.⁴¹

The Colombian government has identified palm oil as a key economic sector and a priority for national agricultural development and the country's biofuel program (with a B20 national target by 2020). The Colombian oil palm farmers association (FEDEPALMA) has plans to maintain Colombia's position as the largest palm oil producer in South America by increasing annual production sixfold by 2020.⁴² Palm oil expansion is promoted by government incentives, including tax holidays, tax-free zones, tax reductions from investments in productive assets and credit incentives for plantation establishment and maintenance.⁴³

Most oil palm plantations (39%) can be found in the eastern zone of Colombia with additional areas found in the northern (28.5%) and central zones (28%). The western zone contributes only 4.5% of the cultivated area in the country.

Two separate studies of the expansion of the palm oil sector expansion in Colombia (Garcia-Ulloa et al, 2012 and Castiblanco, et al 2013) determined that past expansion of the sector has mainly taken place on pasture lands, and to a lesser extent, croplands, and that this trend is likely to continue in the future. The same 2013 study also modeled where in Colombia future oil palm expansion is likely to take place and found that under current conditions, much of the expansion is likely to occur in the central and in northern zones of Colombia in the areas of Tolima, Cundinamarca, Antioquia, Bolivar and Córdoba. A smaller new expansion zone is predicted along the colonization front of the Northern Amazon region. Approximately 13% of new plantations are expected to replace

⁴¹ Castiblanco, Carmenza, Andrés Etter and T. Mitchell Aide. (2013), Oil palm plantations in Colombia: a model of future expansion. *Environmental Science & Policy*, 27: 172–183. Accessed on May 13, 2014: http://ac.els-cdn.com/S146290111300004X/1-s2.0-S146290111300004X-main.pdf?_tid=df38d26c-dacf-11e3-821f-00000aacb35d&acdnat=1400007389_92e6cce9fc2de52e3f21ad330a68ea16

⁴² Garcia-Ulloa, J., Sloan, S., Pacheco, P., Ghazoul, J. and Koh, L. P. (2012), Lowering environmental costs of oil-palm expansion in Colombia. *Conservation Letters*, 5: 366–375. Accessed on May 13, 2014: <http://onlinelibrary.wiley.com/doi/10.1111/j.1755-263X.2012.00254.x/pdf>

⁴³ Nepstad, Daniel Nepstad, Tathiana Bezerra, David Tepper, Katharine McCann, Claudia Stickler, David G McGrath, María Ximena Barrera, Sarah Lowery, Eric Armijo, Mary Lou Higgins, Joel Monschke, Roberto Gomez, Susana Velez, Miguel Tejada, Manuel Tejada, Tim Killeen, Karen Schwalbe, Alejandra Ruedas. (2013); Addressing

⁴³ Agricultural Drivers of Deforestation in Colombia: Increasing Land-Based Production While Reducing Deforestation, Forest Degradation, Greenhouse Gas Emissions and Rural Poverty. Accessed on May 16, 2014: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/274185/drivers_of_deforestation_in_colombia.pdf

natural vegetation areas (i.e. forests, shrublands and savannas), primarily in the eastern part of the country.⁴⁴

c. Guatemala

In 2013, oil palm occupied 120,000 hectares in Guatemala, an equivalent of about 4% of the total arable land⁴⁵ translating to approximately 350,000 metric tons of crude palm oil production. This represents an increase of slightly more than 30% since 2003. However, most of this growth took place between 2010 and 2013.⁴⁶ Oil palm planted area represents approximately seven percent of the potential area suitable for production in the country (estimated at a total of 700,000 hectares by Ministry of Agriculture, Livestock, and Food - MAGA). Guatemala is one of the most efficient producers of palm oil (seven metric tons per hectare, versus most other country producers at between three and four metric tons per hectare).⁴⁷

Oil palm is the 4th most important crop in Guatemala – far behind sugarcane, the leading agricultural commodity. Most Guatemalan palm oil is exported (84% in 2010).⁴⁸ It is principally used in the food industry, although the Palmgrower’s Association of Guatemala (*Gremial de Palmicultores de Guatemala*; GREPALMA) is interested in expanding its use for biodiesel.

Most oil palm cultivation takes place in the departments of Izabal, and Alta and Baja Verapaz (mainly in the Motagua and Polochic river valleys) in the eastern part of the country and along the southern coast. Cultivation also takes place in the departments of Quiché and southern Petén. According to GREPALMA, the crop has been established mainly in areas that were previously used for livestock or the production of other crops

⁴⁴ Ibid

⁴⁵ Gremial de Palmicultores de Guatemala. (2014); La Palma de Aceite en Guatemala. Accessed on August 4, 2014: http://www.grepalma.org/index.php?option=com_content&view=article&id=82&Itemid=117

⁴⁶ FAOStat. (2014), Oil Palm. Accessed on August 4, 2014: <http://faostat3.fao.org/faostat-gateway/go/to/browse/Q/QC/E>

⁴⁷ USDA, Foreign Agriculture Service. (2013). Guatemala Biofuels Annual Update on Ethanol and Biodiesel Issues. Accessed on August 4, 2014: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_Guatemala%20City_Guatemala_8-2-2013.pdf

⁴⁸ Guereña, Arantxa and Ricardo Zepeda. (2013); “The Power of Oil Palm: Land grabbing and impacts associated with the expansion of oil palm crops in Guatemala: The case of the Palmas del Ixcán company,” Oxfam America Research Backgrounder series. Accessed on August 4, 2014: <http://www.oxfamamerica.org/static/oa4/the-power-of-oil-palm.pdf>

such as cotton and bananas⁴⁹. Some NGOs have raised concerns that that this expansion has also resulted in deforestation, particularly in the Petén.⁵⁰

Several Guatemalan oil palm companies (including NaturAceites, AgroFrancia, AgroAceite, Nacional Agro Industrial, and AGROCARIBE) have already obtained some level of certification through Rainforest Alliance's Sustainable Agricultural Network Seal.⁵¹ In addition, four of the largest palm oil growers (AgroAceite, Agrocaribe, NaturAceites, and Santa Rosa) are members of the RSPO, but as of yet, none have received certification.⁵² In February 2014, the NGO Solidaridad announced a new project that seeks to bring 51,000 ha of the oil palm production area into compliance with the RSPO standards in order to better access international markets.⁵³

d. Paraguay

Paraguay is not a major palm oil producer and there does not appear to be potential for future production.

e. Peru

According to Peru's Ministry of Agriculture (MINAGRI), oil palm production in Peru totaled fewer than 58,000 hectares as of 2012, and is mainly concentrated in the Amazonian regions of San Martín (49%), Ucayali (26%) and Loreto (23%).⁵⁴ It is likely that this number is an underestimate since MINAGRI does not use satellite imagery to estimate or verify the number of total hectares and there are cases of large undocumented plantations that have been discovered on previously forested lands.⁵⁵

⁴⁹ Gremial de Palmicultores de Guatemala. (2014); La Palma de Aceite en Guatemala. Accessed on August 4, 2014: http://www.grepalma.org/index.php?option=com_content&view=article&id=82&Itemid=117

⁵⁰ Foucart, Stéphane. July 12, 2011. "A race for land is destroying the Guatemalan rainforest." The Guardian. Accessed on August 4, 2014: <http://www.theguardian.com/environment/2011/jul/12/guatemala-rainforest-deforestation-farming-foucart>

⁵¹ Sustainable Farm Certification International (2014); Current Rainforest Alliance Certified™ or Verified™ Operations <http://sustainablefarmcert.com/certified-producers-2/>

⁵² Roundtable on Sustainable Palm Oil. (2014); Member Country Guatemala. Accessed on August 4, 2014: <http://www.rspo.org/en/member/listing/country/Guatemala>

⁵³ Solidaridad. (2014). Solidaridad begins programme for certification of the palm oil industry in Guatemala. Accessed on August 4, 2014: <http://solidaridadnetwork.org/solidaridad-begins-programme-certification-palm-oil-industry-guatemala>

⁵⁴ Perú Ministerio de Agricultura. (2012), Palma Aceitera: Principales Aspectos de la Cadena Agroproductiva. Accessed on May 13, 2014: <http://agroaldia.minag.gob.pe/biblioteca/download/pdf/agroeconomia/corregidopalma.pdf>

⁵⁵ La Región. 3 de Septiembre de 2013. Accessed on May 29, 2014: <http://diariolaregion.com/web/2013/09/03/yo-soy-quien-firma-las-resoluciones-de-desbosque-y-en-el-caso-de-tamshiyacu-no-hemos-autorizado-nada/>

A 2011 study by Gutierrez-Velez et al found that 72% of oil palm expansion (204.5 square kilometers) in the palm oil producing region of Peru from 2000 to 2010 occurred at the expense of forests, representing about 1.3% of total deforestation in Peru during the same period. The study indicated that expansion into forested regions came mostly from industrial plantations and not by smallholders.⁵⁶ These plantations include those run by Grupo Romero, which converted 7,000 hectares of Amazon rainforest to oil palm during a seven-year period. Approximately half of all palm oil plantations in Peru are currently managed by small producers but that share is likely to fall since most expansion in the sector is expected to take place at the industrial scale.

The Government of Peru had a 10-year biofuels strategy (2000-2010) that outlined plans for oil palm expansion, but it is unclear whether this is still being implemented or if it will be updated. Peru has a B2 biodiesel blending mandate in place with a future target of 5%. It is clear that the Government of Peru expects demand (especially for biodiesel) to continue to drive palm oil expansion in the future. The Minister of Agriculture was quoted as saying that the Ministry has identified 600,000 hectares of degraded land in the current oil palm producing region suitable for future expansion. At the same time, a Ministry of Agriculture report presents conflicting information stating that a land registry has not yet been conducted in order to identify suitable degraded lands.⁵⁷

D. Pulp and paper

In 2011, South American production of paper and paperboard exceeded 15 million tons and production of pulp for paper exceeded 21 million tons. Brazil is the largest regional exporter of both paper/paper board (55%) and pulp (62%).

a. Brazil

In 2010, Brazil was the world's 4th largest producer globally of pulp and the 10th largest producer of paper. Pulp and paper represented 3.4% of exported products (in value) in 2010. From 1979 through 2009, the amount of wood pulp production per year in Brazil grew from 2 to 14 million metric tons and paper production grew from approximately 3 million to nearly 10 million metric tons per year.⁵⁸

⁵⁶ Gutiérrez-Vélez, Víctor H, Ruth DeFries, Miguel Pinedo-Vásquez, María Uriarte, Christine Padoch, Walter Baethgen, Katia Fernandes and Yili Lim. (2011), High-yield oil palm expansion spares land at the expense of forests in the Peruvian Amazon, *Environmental Resource Letters*, 6: 044029 (5pp). Accessed on May 13, 2014:

⁵⁶http://iopscience.iop.org/1748-9326/6/4/044029/pdf/1748-9326_6_4_044029.pdf

⁵⁷ La Agencia de Noticias SERVINDI. June 13, 2013. Perú: Cultivos de palma aceitera propician deforestación de bosques naturales. Accessed on May 13, 2014: <http://servindi.org/actualidad/89325>

⁵⁸ Fracaro, Guilherme, Esa Vakkilainen, Marcelo Hamaguchi and Samuel Nelson Melegari de Souza. (2012); *Energy Efficiency in the Brazilian Pulp and Paper Industry*. *Energies* (5):3550-3572. Accessed on

Brazilian eucalyptus trees take six years to be harvested, while in more temperate climates they may take anywhere from 10-20 years. This gives Brazil a distinct advantage over other large pulp and paper producing countries which are mostly located in temperate regions of the globe (United States, China and Chile).

Most pulp and paper production comes from eucalyptus and pine plantations located in the central-eastern part of the country. Most operations are located in the states of Bahia, Minas Gerais, Espírito Santo, São Paulo and Paraná, which are also the areas where the remnants of the Mata Atlântica (Atlantic Forests) are located. Population expansion, land clearing for agriculture (in particular, coffee), ranching, and forest plantations are all historical drivers of deforestation in the Mata Atlântica. Current regulations prohibit the clearing of the remaining forest to establish tree plantations.

Market forces, primarily the expectation of increasing wood pulp demand from China have resulted in plans for large investments. Companies such as Klabin SA, Suzano Papel e Celulose and Chile's Empresas CMPC SA have announced plans to invest more than \$10 billion USD through 2020, mostly in the same areas of the country. This would account for 20 million metric tons of production and making Brazil the second largest pulp producer in the world.⁵⁹

b. Colombia

Colombia is a small producer of pulp and paper, with only 133,000 ha of land in timber plantations in 2006 (1.6% of the regional total).⁶⁰ The pulp and paper industry does not appear to be a major driver of deforestation in Colombia.

c. Guatemala

Guatemala produces very small amounts of paper annually (less than 30,000 metric tonnes) and almost no pulp.⁶¹ The pulp and paper industry is not a driver of deforestation in Guatemala.

May 19, 2014:

<file:///C:/Documents%20and%20Settings/ecushion/My%20Documents/Downloads/energies-05-03550.pdf>

⁵⁹ Rogerio Jelmayer. Brazil's Wood Pulp Producers Look to Bulk Up.” The Wall Street Journal. August 19, 2013. <http://online.wsj.com/news/articles/SB10001424127887324144304578624011413293692>

⁶⁰ International Tropical Timber Association. (2009); Encouraging Industrial Forest Plantations in the Tropics: Result of a Global Study.

[file:///C:/Documents%20and%20Settings/ecushion/My%20Documents/Downloads/\[en\]_ITTO_TS33.pdf](file:///C:/Documents%20and%20Settings/ecushion/My%20Documents/Downloads/[en]_ITTO_TS33.pdf)

⁶¹ FAOStat. (2014); Accessed on August 1, 2014: <http://faostat3.fao.org/faostat-gateway/go/to/browse/F/FO/E>

d. Paraguay

There is limited production of pulp and paper in Paraguay, although there are a few industrial and small scale plantations in the country (43,000 ha in 2005; mainly eucalyptus). The expansion of the industrial forest sector and the pulp and paper industry is not a driver of deforestation in Paraguay.

e. Peru

Although timber extraction is a major driver of deforestation in Peru, most is for firewood (household use) or in the form of round wood and sawn timber/plywood. There are not many plantation forests located in Peru for the purpose of pulp and paper production.

However, Peru's Forestry Law "*Ley Forestal y de Fauna Silvestre*"⁶² contains a section entitled "*Plantaciones forestales y sistemas agroforestales*" which seeks to promote plantation forestry. The *Plan Nacional de Reforestacion* contains a map of lands where pine and eucalyptus can be planted. However, this not currently an important sector of the economy.⁶³

⁶² http://dgffs.minag.gob.pe/rlffs/pdf/29763-norma_legal_final.pdf

⁶³ Plan Nacional de Reforestacion (Peru):
http://www.agrorural.gob.pe/dmdocuments/bnsf/plan_nacional_de_reforestacion.pdf