



EVALUATING THE RESULTS OF OUR WORK

**Transforming Small-Scale
Non-Timber Forest Production
Into Competitive Enterprise**
A Case Study of Work with Brazil
Nut Producer Associations
(Madre de Dios, Peru)

Community Forestry Case Studies
No. 6/10

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Acronyms

AFIMAD	Indigenous Forestry Association of Madre de Dios
AGROEMPRENDE	Agricultural entrepreneurship program of Peru's Agriculture Ministry
AIDER	Association for Research and Integral Development
ASCART	Association of Brazil Nut Harvesters of the Tambopata National Reserve
CFE	Community Forest Enterprise
CIFOR	Center for International Forestry Research
FSC [®]	Forest Stewardship Council [®]
IIAP	Peruvian Amazon Research Institute
MIF	Multilateral Investment Fund (member of Inter-American Development Bank Group)
NTFP	Non-timber forest product
PROCOMPITE	Peruvian government initiative to support productive competitiveness, managed by regional governments
RONAP	Organic Nut Collectors of the Peruvian Amazon
USAID	United States Agency for International Development

The Multilateral Investment Fund (MIF), a member of the Inter-American Development Bank (IDB) Group, is the largest provider of technical assistance for private-sector development in Latin America and the Caribbean. Its core beneficiaries include micro and small businesses, small farms, and poor and vulnerable households. It designs and finances pilot projects to test pioneering approaches to building economic opportunity and decreasing poverty.

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The Rainforest Alliance works to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behavior.

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PREFACE

Over the last two decades, countries across the tropics have devolved increasing authority over natural forests to local actors. The ability of those actors to manage forests sustainably and make forestry a competitive land-use choice has therefore taken on a growing importance. In response to this changing landscape, a range of efforts around the globe are supporting community-based forest management by working to improve the capacity of local people to manage their natural resources and develop local enterprise. In spite of the abundance of manuals, methodologies and other tools to guide technical assistance, there is a relative paucity of systematic analyses of the results of such efforts: experiences, lessons learned and recommendations for improving assistance to local forestry development.

This case study is one of 10 produced under “Forest Conservation through Certification, Markets and Strengthening of Small and Medium-sized Forest Enterprise,” a five-year project supported by the Multilateral Investment Fund (MIF), a member of the Inter-American Development Bank (IDB) Group. Led by the Rainforest Alliance, the project involves approximately 100 community operations and small and medium-sized enterprises (SMEs) in Guatemala, Honduras, Mexico, Nicaragua and Peru. The project’s central aim is to improve local livelihoods through sustainable forestry and enterprise development. Although the support needs, contexts and development levels of partner communities vary tremendously, the project’s unifying strategy is to improve business capacities, market access and financial support for enterprise development in order to secure sustainable forest management and livelihood development.

The case studies in this series were carefully selected to cover all five countries where the project is active, and to reflect the full range of participants—from highly incipient community operations, to second-tier business alliances among multiple well-developed, certified enterprises. Special attention was also paid to ensuring representativeness with respect to forest ecosystems (temperate and tropical), tenure arrangement (permanent and concession) and production focus (timber and non-timber). In all of the studies, the impact of Rainforest Alliance technical assistance on enterprise development was analyzed, including a critical assessment of priorities for future assistance. Beyond enterprise-specific examples, two studies take a more thematic approach, analyzing experiences with markets for lesser-known species and financial mechanisms.

Taken together, the 10 studies support the growing body of research demonstrating that community-

based production forestry can be an effective approach to conserving forest resources while also generating significant social and economic benefits for marginalized communities. At the same time, however, these studies tell a more nuanced story. The diversity of contexts and enterprises represented sheds light on the development of community forestry in its many forms—towards multiple and sometimes contested goals—while chronicling both successes and failures. As such, each case stands on its own to inform similar cases around the world, while also forming a part of the broader story this series tells about the variable trajectories of community forestry development.

Although a guiding goal of many projects—including the present one—is to achieve financial sustainability for community forest enterprise, the importance of external technical assistance in building local capacities is also clearly fundamental. However, the effectiveness of such assistance is not always optimal, which is why each case includes an assessment of the results of the Rainforest Alliance technical assistance that was received. In several cases, insufficient data and/or a lack of indicator consistency—not to mention confounding external factors (storms, market fluctuations, political upheaval and social conflict) and the absence of truly scientific controls—make it impossible with full confidence to attribute change solely to Rainforest Alliance support, especially given the active presence of other actors at all project sites. This caveat notwithstanding, it is clear that, in each case, project interventions produced concrete results. The studies aim to extract lessons from these results and recommend ways forward.

Finally, while the bulk of these studies have been prepared and published by staff of the Rainforest Alliance, they would not have been possible without the collaboration and dedicated efforts of many others including a host of government agencies, civil society partners, academic institutions and private sector actors. Above all, the communities themselves must be recognized and congratulated for the time that they invested in assisting with the compilation and review of these studies. All contributors are specifically acknowledged in each separate case study. Although the contributions of all of these actors are fundamental, the content of these studies is the sole responsibility of the Rainforest Alliance, except where other institutions have taken a co-publishing role.

The table on the following page presents a breakdown of the 10 case studies that were produced as part of this project.

No.	Case Study	Location	Key Themes
1	Awas Tingni community	North Atlantic Autonomous Region, Nicaragua	<ul style="list-style-type: none"> • Indigenous community forestry • Incipient forest enterprise development • Social and institutional foundations for community forestry
2	Moskibatana non-timber forest product (NTFP) enterprise	Muskitia, Honduras	<ul style="list-style-type: none"> • Indigenous community forestry • NTFP management and Forest Stewardship Council® (FSC®) market development • Development of a new forest enterprise
3	Ejido El Largo	Chihuahua, Mexico	<ul style="list-style-type: none"> • Integrated forestry development planning • Community forest enterprise competitiveness
4	CAIFUL agroforestry cooperative	Río Plátano Biosphere Reserve, Honduras	<ul style="list-style-type: none"> • Local forest enterprise development • Benefits of forest enterprise at the community scale
5	Analysis of forest management in community concessions	Maya Biosphere Reserve, Guatemala	<ul style="list-style-type: none"> • Impacts of certified community forestry silvicultural and management systems • Investments by community enterprises in conservation and monitoring
6	Brazil nut production and enterprise	Madre de Dios, Peru	<ul style="list-style-type: none"> • NTFP enterprise development • Financial and administrative capacity building
7	TIP Muebles	Oaxaca, Mexico	<ul style="list-style-type: none"> • Commercial cooperation among community forest enterprises • Furniture value chain development
8	Tres Islas native community	Madre de Dios, Peru	<ul style="list-style-type: none"> • Indigenous community forestry • Landscape approach • Incipient forest enterprise development
9	Building markets for lesser-known species	Maya Biosphere Reserve, Guatemala	<ul style="list-style-type: none"> • Development of new markets for lesser-utilized commercial timber species • Diversification of a second-tier community forestry business model
10	Financial mechanisms for community forest enterprises	Regional	<ul style="list-style-type: none"> • Design, operation and impacts of mechanisms to increase forestry producer access to credit

Transforming Small-Scale Non-Timber Forest Production into Competitive Enterprise



Walter Pacaya, indigenous Brazil nut harvester from the Amahuaca tribe, with a *coco* (seed pod)

Photo by David Dudenhofer

The Brazil nut is one of the world's most widely consumed non-timber forest products (NTFP). It is also one of a relatively small number of globally traded commodities that is helping to save threatened forests. Harvested from the fruit-fall of giant *Bertholletia excelsa* trees, Brazil nut extraction involves little more than collection of pods ('*cocos*') from the forest floor, a practice which has been found to increase the abundance of Brazil nut trees across the landscape. Unlike other well-known nuts like almonds or cashews, Brazil nut cannot be grown in plantations; harvesting can only be sustained in closed canopy Amazonian rainforest. Thus the Brazil nut industry is a linchpin of forest conservation strategy across its range.

The Madre de Dios region, in southeastern Peru, is an important center of Brazil nut harvesting, processing and enterprise. At present, more than 1,000 individuals in Madre de Dios hold Brazil nut concessions granted by the government. Meanwhile, hundreds of members of indigenous groups (called "native communities" in Peru) harvest Brazil nuts from communally owned forests.

The scale of the industry in the Madre de Dios economy is significant. In 2014, a total of 4,300 metric tons of shelled Brazil nuts were exported from the region, corresponding to nearly US \$31 million in sales. Approximately 15,000 people, or almost 12.5 percent of the population of the Madre de Dios region, are directly employed in the Brazil nut industry. For most people involved, activity around Brazil

nut accounts for more than half of family income. Significantly, nearly a third of the concession holders are women, and women also make up a disproportionate share of the labor force in the processing industry.

In a region with one of the highest deforestation rates in the world, the conservation of biodiversity-rich natural forest through harvest and sale of a single non-timber forest product (NTFP) stands out as a compelling counterpoint. Yet pressures to convert Madre de Dios' forests for mining, ranching or plantation development continue to mount. One of the chief strategies to hold back such pressures is to increase the economic competitiveness of the enterprises that rely on maintenance of the natural forest.

For over a decade, the Rainforest Alliance has been working in Madre de Dios with a range of partners to strengthen forest resource management and enterprise to ensure the conservation of the region's extraordinarily biodiverse rainforests. Support for this work has come principally from USAID and the present MIF project.

A cornerstone of the Rainforest Alliance's forestry work has been assistance to various partners and organizations in the Brazil nut industry. This case study examines work with three organizations of Brazil nut harvesters, known by the acronyms for their names in Spanish: AFIMAD, ASCART and RONAP. Together these three organizations represent 259 people who are involved in the sustainable

management of 89,501 hectares of rainforest. The three organizations represent very different groups of people and face a diverse set of challenges, but all have managed to improve forestry practice, social organization and enterprise administration with technical assistance. The case study focuses on ASCART as it experienced the most significant change over the period of analysis, and since its experience can be taken as an example for other Brazil nut producer associations in the future.

The central finding of this case study is that small-scale NTFP producers can form second-tier enterprises that can achieve financial viability and significantly improve incomes for members. Furthermore, such improvements can be achieved over a relatively short period of time, as long as there is dedicated support from numerous partners, and that support focuses on building solid foundations for good enterprise governance. As evidence, during the period of analysis, the study found that ASCART:

- Increased total enterprise assets by more than 160 percent, including a five-fold increase in fixed assets through infrastructure upgrades, and a 23 percent increase in cash reserves.
- Increased member incomes by more than 17 percent due to improved processing efficiencies and access to better markets.
- Decreased processing costs by nearly 50 percent due to improved efficiency and technology upgrades, while increasing yields by 11 percent.
- Created 61 new jobs and expanded contracting of workers to 9 months per year, a significant achievement in an industry that usually only provides work for 3 months a year.
- Accessed financing of more than US \$140,000 to operate and expand its enterprise operations.
- Provided members with more than US \$100,000 in working capital.
- Diversified its business model to provide processing services to five new companies, one of which is the exclusive provider of Brazil nut to the US supermarket giant Costco.

All this was possible because ASCART made significant improvements in enterprise administration and internal management that have been central to the transformation of its business model and newfound success.

Taking the specific case of ASCART as a reference, this study concludes that:

- Once the foundational base of social organization and good governance is in place, dramatic improvements in business performance can be made within a relatively short time period.
- Small associations of marginalized NTFP producers can access and successfully manage relatively large loan funds, as long as credits are applied strictly according to a business

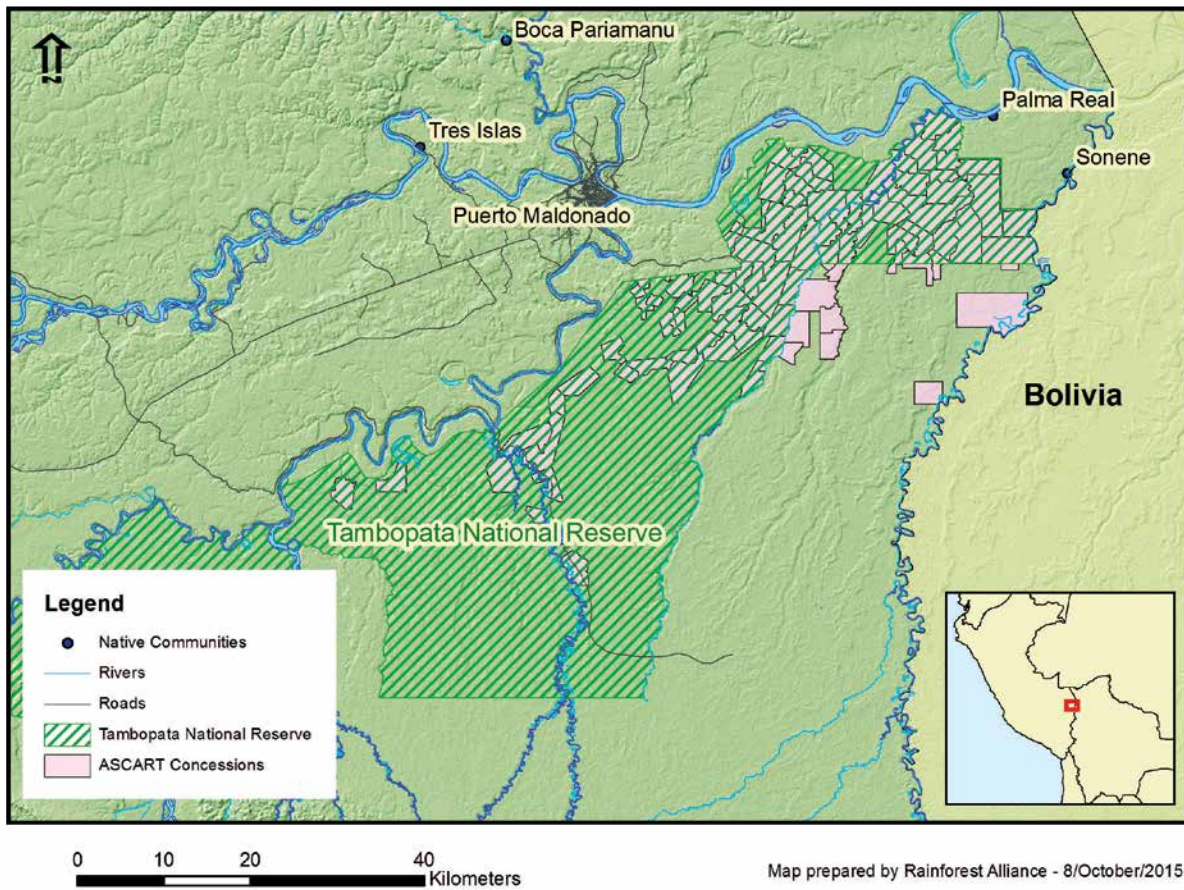
and investment plan vetted by members and supported by external partners.

- Diversification of services, improved efficiencies and quality control can result in significant increase in both second-tier enterprise performance and improved benefits for members.
- Increased competitiveness among a second-tier group does not necessarily translate as decreased employment or competition between member producers.

For this reason, the case of ASCART can be taken as guidance indicating next steps for AFIMAD and RONAP as they move to build on progress noted herein, should they opt to follow the same business model.

The following recommendations are advanced for future work with ASCART, AFIMAD and RONAP:

- While improvements in enterprise governance have been made, all three associations need to strengthen governance based on proper implementation and enforcement of bylaws and member agreements.
- Despite progress made in recent years, ASCART's members will need further technical assistance to consolidate their Brazil nut production chain, storage, presentation and quality.
- ASCART also needs support in convincing all of its members that by delivering their nuts to its processing plant, they can improve their household economies while contributing to the association's consolidation and commercial development.
- All three associations need further help to develop their administrative capacities, particularly their ability to apply for and manage credits.
- Enterprises need to diversify production through the development of value-added products such as Brazil nut snacks or oil.
- There is a need for mechanisms to promote the region's Brazil nuts on an international level by marketing their special characteristics, as compared to nuts from Bolivia or Brazil.
- An effort should be made to inform people in Peru's Brazil nut industry about different certification schemes, since many remain unaware of the potential benefits.
- Associations should work more actively together and with government agencies to consolidate protection of Brazil nut forest tenure and monitor the impacts of Brazil nut harvesting.
- It is important to work with newly-titled native communities that harvest and sell Brazil nut to ensure that they take steps to conserve forest resources as part of wider land-use plans, in order to maintain their Brazil nut forests in the face of significant land-use conversion pressures.



Map
Puerto Maldonado,
the Tambopata
National Reserve
and concessions
belonging to
ASCART members

Introduction

Just 50 years ago, the Madre de Dios region in southeast Peru was a remote, sparsely inhabited corner of the Amazon Basin, unconnected by road to the rest of the world. Today, forest cover in the region still stands at around 90 percent, most of which lies within national parks and other protected areas.

But pressures on Madre de Dios's forests are mounting fast, particularly since the completion of the Inter-Oceanic Highway. The highway links Lima to Brazil, and runs through the region's capital, Puerto Maldonado. Since the Madre de Dios sections were constructed (between 2003 and 2011), the road has brought an influx of migrants, and sharply increased rates of deforestation. The local conservation group, AIDER, found that Madre de Dios lost more than 400,000 hectares in the last 10 years, projecting that if current trends continue, more than double that amount will disappear by 2030.

One of the chief drivers of forest loss is illegal gold mining. As gold prices skyrocketed over the last decade, thousands of small-scale operations — nearly all illegal and unregulated — moved into the region and deforested large areas along road and river corridors. An analysis by the Carnegie Institution for Science found that during 1999-2012, the geographic extent of gold mining increased by 400 percent, resulting in deforestation of

nearly 50,000 ha (Asner et al. 2013). In addition to destroying forest, such unregulated mining operations typically pose grave threats to human health: Peru's Environment Ministry found that mining operations have dumped an estimated 3,000 tons of mercury into Madre de Dios's waterways since 2000 (Alvarez et al. 2011).

At the same time, illegal logging continues to drive forest degradation and threaten local communities. In a 2012 report called "The Laundering Machine," the Environmental Investigation Agency chronicled widespread corruption in the Peruvian forest



A small-scale
mining operation
in Madre de Dios
*Photo by
David Dudenhoefer*

After collecting *cocos* from the forest floor, harvesters cut them open with machetes to remove the 10 to 25 Brazil nuts held inside

Photo by David Dudenhofer



A Brazil nut coco, or seed pod

Photo by David Dudenhofer



Brazil Nut Harvesting and Trade

The Brazil nut has a long history throughout its native range in the Amazon Basin. Amerindian indigenous groups have harvested the nut for hundreds, if not thousands, of years. One of the first Europeans to lay eyes on a Brazil nut was Juan Álvarez Maldonado, who in the 1560s led a Spanish expedition from highland Peru into what is now the Madre de Dios region. After several years afield, and having lost most of his men to disease and battle, Maldonado returned to Cusco bedraggled and half insane, claiming to have found the lost Inca city of Paititi. While this turned out to be fantasy, stories of his troops surviving on Brazil nuts for weeks on end are more plausible: the nut is rich in oils, protein and a host of important nutrients.

Since at least the 1930s, the Brazil nut industry has been an important part of Madre de Dios's economy. Starting in the 1940s, the government began granting individual concessions to Brazil nut harvesters. To date, more than 1,000 people in Madre de Dios have been granted concessions, which currently cover close to 1 million hectares in the region. Hundreds of people in indigenous villages – called 'native communities' in Peru – also harvest Brazil nut in communally managed forests. Producers are known locally as *castañeros*, after the common name for the Brazil nut in South America: *castaña*.

The industry employs thousands of workers each year. From January to April, most of them live in the forest semi-permanently, gathering up the cannonball-sized fruit pods ('*cocos*'),

sector, presenting evidence that up to 90 percent of the mahogany exported from the country was of illegal origin. As one of the three key timber-producing regions in the Amazon, Madre de Dios figured prominently in the report (Urrunaga et al. 2012).

In the midst of this frontier country, the Brazil nut industry offers a compelling and sustainable alternative narrative. Harvested from the fruit-fall of the giant canopy emergent *Bertholletia excelsa*, the survival of this globally traded NTFP relies on the maintenance of large tracts of natural forest. It is, moreover, an industry that is largely in the hands of marginalized smallholders and indigenous communities. Significantly, a majority of producers involved in the trade are women.



History of Brazil Nut Production in Madre de Dios

Though indigenous people have been harvesting Brazil nuts since pre-Columbian times, the Brazil nut industry began in Peru in the early 1930s, at the end of the rubber boom. Collection and drying is still done much as it was during the early twentieth century. However, forest tenure, value chain development and marketing have evolved over the decades, as outlined below:

1930-1940: Beginnings of commercial Brazil nut harvesting. Limited markets and no forest tenure.

1940-1974: Formal concessions of up to 40,000 ha are established and exportation of the nuts begins. They are first transported by river, but following the establishment of air transport in the 1960s, large processing plants are built in the region.

1975-1992: Consolidation. Three companies control the region's Brazil nut production and export. A union of processing-plant workers is formed by 300 women.

1993-1999: Decentralization. A downturn in market prices leads large companies to abandon the business. About 10 medium-sized trading companies take their place. Processing of nuts becomes decentralized.

2000 – Present: Sustainable development. The Forestry and Wildlife Law of 2000 marks a new approach, including the granting of Brazil nut concessions for 40 years. Indigenous communities with Brazil nut stands increasingly gain permanent title over ancestral forests. Growth of management planning for Brazil nut concessions. A diversity of new companies enter the business. *Castañeros* begin forming associations to meet the requirements of the international market, improve quality, and earn seals such as Voluntary Forest Certification, Certified Organic and Fairtrade.

that lie scattered on the forest floor. Harvesters crack *cocos* open with machetes, extract the approximately 10-25 nuts inside, then pack and transport large sacks of nuts out of the woods to processing centers, usually by river.

Thousands more people work in the region's processing plants, in Puerto Maldonado or other towns, where the Brazil nuts are boiled, shelled, dried, and sorted. Significantly, nearly a third of the concession holders are women, and women also make up a disproportionate share of the labor force for the nut-processing industry.

All told, around 15,000 people, or almost 12.5 percent of the region's population, work in the Brazil nut industry in Madre de Dios. For most, their work with the NTFP represents more than half of household annual income. At the regional level, moreover, the scale of the industry is significant. In 2014, 4,289 metric tons of shelled Brazil nuts were exported from Madre de Dios, with a value equivalent to US \$30,963,558.

Yet the future of the Brazil nut industry is uncertain. Sharply increased pressure from illegal gold mining, cattle ranching and plantation development are placing the economic logic of Brazil nut at risk. Meanwhile, the historically strong tenure basis for the industry is weakening. About half of Madre de Dios's land is under some form of protection, as national parks or other conservation areas. Brazil nut concessions are located both within and outside of protected areas. (More than 20 percent of the Tambopata National Reserve, for example, is under concession contracts, and about 1 percent of the Bahuaja Sonene National Park is concessioned.)

Within protected areas, tenure is largely secure, but outside protected areas, as well as in newly-titled indigenous lands, conflicting land-use arrangements are putting new pressures on Brazil nut forests. A 2012 paper by CIFOR found that new and overlapping use rights are increasingly being granted on existing Brazil nut concessions in Madre de Dios, including those that permit agricultural development and mining (Chavez et al. 2012). The study found that more than 80,000 hectares within concession areas have already been titled for other uses.

Meanwhile, market demand for the nut is falling. Its share of the world nut market has continued to drop since the 1970s and is now less than 2 percent of the global edible nut trade. Far from the days when it enjoyed favored status as the "Christmas nut" in nineteenth century Britain, Brazil nut is increasingly filler material: demand typically only increases when there are supply problems with preferred nuts such as cashews, almonds and pistachios.

Considerable price volatility does not help matters. For many *castañeros*, the past few years have

Brazil nut concessions are home to an array of wildlife, such as *agoutis*, the key seed disperser of *Bertholletia excelsa* (along with *castañeros*)

Photo by David Dudenhoefer



been a rollercoaster. Between 2009 and 2011, the average market price for Brazil nuts jumped from \$1.85 to \$4.60 a pound. By the end of 2013, however, the price had plummeted back down to less than \$2.00. Meanwhile, transport costs have grown considerably. Put simply, the industry is less profitable than before.

In response to such growing pressures, groups of *castañeros* have formed associations over the past decade. In essence, the logic of these second-tier groups is to extend producer control up the value chain for increased benefits. As with most rural value chains, most of the profits in the Brazil nut trade are concentrated among processing, wholesale, and export companies. *Castañeros*, who have traditionally sold their nuts in the shell to middlemen or the companies that process them, have typically received only a fraction of the export value.

By forming associations, *castañeros* aim to collectively improve forest management and productivity, increase the efficiency and quality of processing operations, build business capacities and penetrate better markets. In seeking better markets, moreover, some associations have helped members earn group certifications under international standards such as FSC, Fairtrade and various organic labels.

However, like small forest producer organizations throughout the tropics, *castañero* associations have generally weak organizational capacity and administrative skills, suboptimal infrastructure and limited marketing skills. Furthermore, when groups were founded, they lacked the capital to purchase their members' Brazil nuts, and to provide them with the kinds of advances that large companies and middlemen offer. Such advances are critical at the start of each year, when *castañeros* need cash to purchase food, fuel and other supplies to undertake the harvest.

Recognizing these constraints, and the need to strengthen the economic logic of the Brazil nut trade in the face of mounting conversion pressure,

the Rainforest Alliance has assisted three Brazil nut associations in Madre de Dios since 2010: the Indigenous Forestry Association of Madre de Dios (AFIMAD), the Association of *Castañeros* of the Tambopata National Reserve (ASCART), and the Organic Nut Collectors of the Peruvian Amazon (RONAP).

Technical assistance to these groups has focused on achieving greater business capacity, increased efficiency, access to finance and improved markets. The remainder of this case study analyzes the associations' histories and needs, presents the support delivered by Rainforest Alliance and partners, and documents notable results of this work during 2010-2014.

Brazil Nut Associations

In spite of their shared goals, AFIMAD, ASCART and RONAP are very different organizations. All of AFIMAD's members are indigenous, whereas ASCART's and RONAP's members are *mestizo*, whose families moved to the region over the past century. While AFIMAD's members own their forests communally and live close to Brazil nut harvesting areas, most members of ASCART and RONAP live in the regional capital of Puerto Maldonado, far from their concessions.

AFIMAD is an association of indigenous communities. Brazil nuts have long been an important source of income for members for 'native communities' in Madre de Dios. AFIMAD began organizing and training *castañeros* in two native communities in 2008 (Palma Real and Boca Pariamanu) to earn a Certified Organic seal, which they achieved in 2009. Since then, members of two more communities (Sonene and Tres Islas) have joined AFIMAD and achieved organic certification for their Brazil nuts. All four achieved Fairtrade certification in 2012. AFIMAD currently has a membership of 196 individuals in the four communities. As it has grown, it has needed to expand its capacities, needs which have guided Rainforest Alliance's assistance, presented below.

RONAP was founded in 2003. RONAP began with a total of 42 members with concessions either in the Tambopata National Reserve or directly adjacent to it. RONAP was Certified Organic and Fairtrade until two years ago, through its partnership with the company Candela Peru, which purchased, processed and exported RONAP nuts. The organization underwent a crisis in 2011-2012, when 30 members left the group over losses resulting from poor management during 2008-2011. RONAP then ended its partnership with Candela, and its members consequently lost their certifications. However, with support, RONAP reached a turning point during this study period, when it began establishing new business links and underwent organizational strengthening with technical assistance from the Rainforest Alliance.



By shelling and marketing Brazil nuts in bulk, associations can increase the incomes of their members

Photo by David Dudenhofer

	Number of Members in Organizations over Time								Date Founded	Forest Area
	Founders	2010	2011	2012	2013	2014	W	M		
AFIMAD	75	75	141	141	141	196	39	157	19/02/08	24,468 ha
ASCART	56	42	42	20	38	38	15	23	15/09/01	32,882 ha
RONAP	42	58	68	38	26	25	12	13	26/04/03	32,152 ha

Table 1
Summary of AFIMAD, ASCART and RONAP membership and forest areas under management

ASCART was founded in 2001 with 56 members. Concessionaire forests are located inside the Tambopata National Reserve and the adjacent Bahuaja Sonene National Park. Some ASCART members left the association in 2012, largely due to the perception that the commitments demanded by it were greater than the benefits to be gained. However, with strong leadership and the support of the Rainforest Alliance and other organizations, ASCART has turned things around in recent years, and most of those members have rejoined. That process of change is the centerpiece of this case study's analysis and is presented in detail below.

Together, these three Brazil nut organizations represent 259 people who are involved in the sustainable management of 89,501 hectares (see Table 1). Despite the differences in membership and the tenure and location of their forests, all three groups share similar organizational structures, with governing councils that include an

elected president, vice-president and/or secretary and a treasurer. All also contract the services of accountants and other professionals.

Rainforest Alliance Technical Assistance

Since 2010, the Rainforest Alliance has worked to improve natural resource management and business administration skills of all three organizations through training, technical assistance, and support to access finance and better markets. These interventions have both built upon and complemented the work of various other public and private organizations including the Italian development organization Cesvi, the Amazon Conservation Association, Candela Peru, Conservation International, IIAP, Pronaturaleza and WWF.

As with support to community forest enterprises (CFEs) globally, the Rainforest Alliance used an

auto-diagnostic tool called ADORE as part of its work with the Brazil nut associations. Application of ADORE allows an organization's leadership to conduct internal assessments of their enterprise's level of business development and its performance in different areas, in order to identify weaknesses, plan actions to correct them, and measure improvement over time. Applied in the majority of the Latin American community operations supported by the Rainforest Alliance, the tool helps to track enterprise development in the following key areas:

- Legal compliance
- Participation

- Administrative capacities
- Tax issues
- Financial management and accounting
- Value-added production and marketing
- Credit
- Finance
- Solvency

By evaluating development according to a range of indicators and scoring performance against defined benchmarks, enterprises obtain a detailed qualitative and quantitative picture of their current operations. ADORE indicates areas where improvement is necessary, which helps with

Table 2
Overview of ADORE results for AFIMAD, ASCART and RONAP

	Baseline Evaluation	Intermediate Evaluation	Final Evaluation
Date of Evaluation	November 2012	February 2014	June 2014
Organization	Score	Score	Score
AFIMAD	25%	35%	58%
ASCART	42%	--	63%
RONAP	30%	--	48%

Figure 1
Summary of the business development levels of AFIMAD, ASCART and RONAP according to the ADORE baseline assessments completed in November 2012

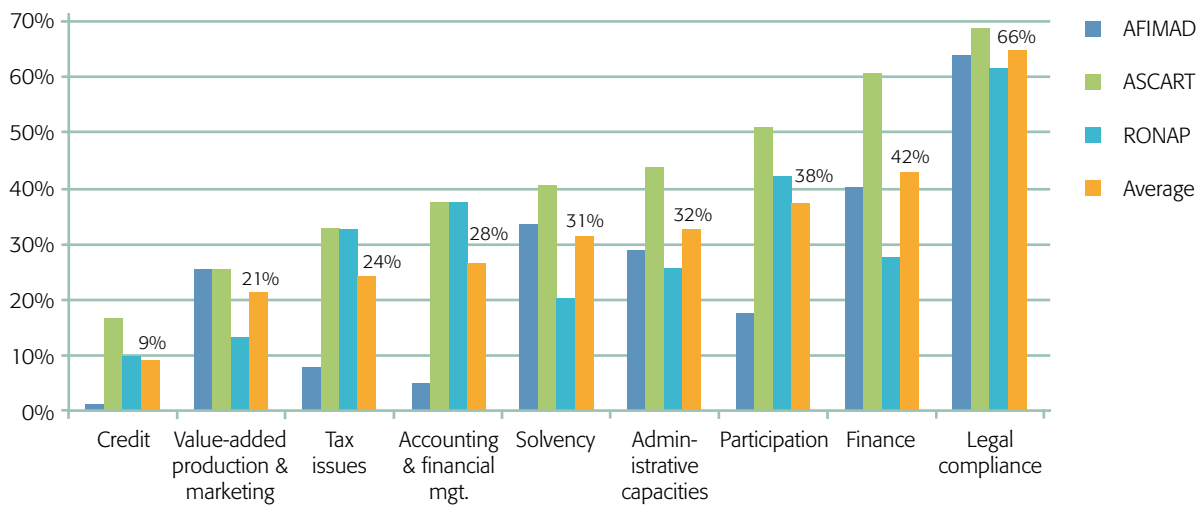
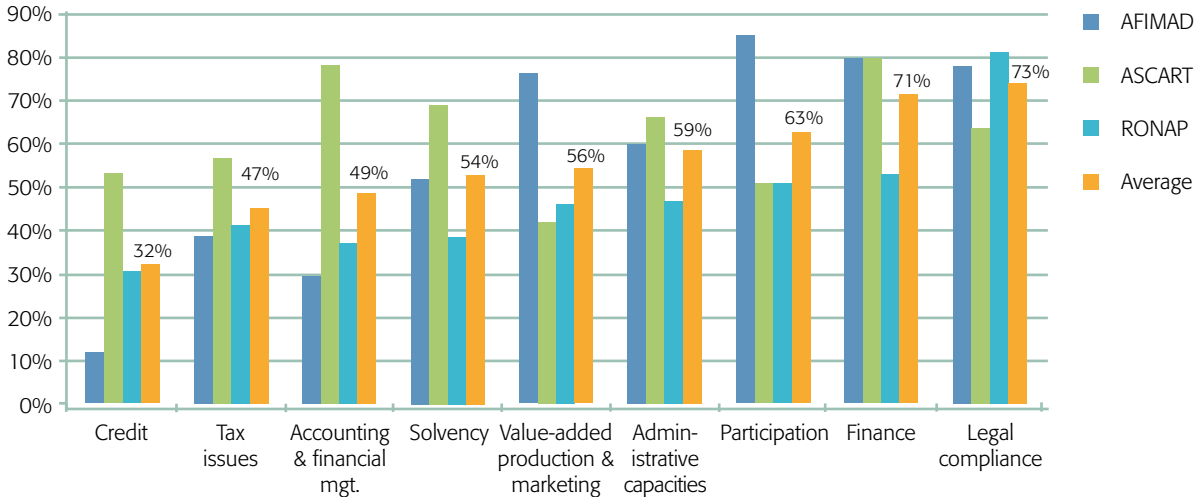


Figure 2
Summary of business development levels of AFIMAD, ASCART and RONAP according to ADORE assessments completed in June 2014



prioritizing internal efforts and external support. Once trained in the application of the tool, enterprises can use it to track their own progress over time.

Analysis of Results

ADORE assessments were completed by each of the three Brazil nut associations at least twice: in November 2012, to establish a baseline, and in June 2014 to measure progress.

Results are expressed as a percentage. A score of between 0 percent and 33 percent indicates that an organization is in an “embryonic” phase, with a low level of business development. A score of between 34 percent and 65 percent indicates that it is in an “incipient” phase, or in the process of early-stage development. A score of 66 percent to 85 percent indicates an “advanced” phase. Scores above 86 percent indicate a “very advanced” phase, in which the organization demonstrates an optimal level of business development, sufficient to be self-sustaining.

Baseline scores for the three organizations are presented in Table 2 and detailed in Figure 1. Of the three organizations, ASCART was best positioned, notably with respect to legal compliance, finance and participation. AFIMAD and RONAP also scored high on legal compliance, but had problems with finance, in RONAP’s case, and participation, in AFIMAD’s. All three organizations had significant work to do in the areas of credit, productivity and accounting.

After training and technical assistance, the ADORE was applied again in June 2014 – as well as an intermediate assessment of AFIMAD in February 2014. The graph presented in the Table 2 and Figure 1 reflect the levels of improvement achieved with support from the Rainforest Alliance. AFIMAD’s three assessment revealed significant improvements in most areas; in percentage-point terms, its score improved the most, a real breakthrough for a collectively managed, indigenous enterprise. The areas where AFIMAD improved the most were productivity and marketing, finance and participation. The latter was achieved by a much more proactive engagement of members on a regular basis. The former indicators were improved through better administrative management and investments in building new market linkages. All three improvements were a direct result of Rainforest Alliance assistance. However, AFIMAD’s rather low starting point means significant work remains to be done. The areas that need most improvement are credit and accounting systems.

RONAP also made notable strides, particularly around finance and accounting. However, greater progress was hindered by the leadership problems mentioned. As the association begins to gather momentum again, the areas for improvement



ASCART’s processing plant, where Brazil nuts are boiled, dried, shelled and prepared for sale

Photo by David Dudenhoefer



Vilma Zegarra, ASCART Vice-President, in the association’s processing plant

Photo by David Dudenhoefer

include credit, solvency and administrative capacity.

Support to ASCART

Both AFIMAD and RONAP made significant progress during the study period, but ASCART, starting from a relatively higher level of maturity, achieved considerably more. Over the period analyzed, ASCART remarkably improved overall enterprise competitiveness, described in detail below. While those achievements built upon prior progress and were the result of a confluence of support and external factors, ASCART provides an excellent example of what can be accomplished by a relatively small organization involved in the sustainable management of an NTFF.

When it was first founded, ASCART’s goals were simply to guarantee its members’ rights to extract Brazil nuts from their concessions in the protected area and to promote sustainable practices. However, over the years, the association has evolved into the owner of a business that processes and markets Brazil nuts. Working together, its members have developed

Brazil nuts are dried on elevated platforms in the field during the harvest

Photo by David Dudenhofer



an entrepreneurial vision and a business approach to achieving the quality that the market demands.

The Rainforest Alliance's relationship with ASCART began in 2005, when it joined several other NGOs supporting the association. The Rainforest Alliance-ASCART relationship was originally based on the ASCART's decision to get its Brazil nut production certified under the standard of the Forest Stewardship Council (FSC). However, ASCART was unable to find a market for FSC-certified Brazil nuts, and consequently let its certification lapse.

Other NGOs concentrated on forest management and production, or helping ASCART gain access to finance. Given ASCART's evolving objectives, the Rainforest Alliance started by helping ASCART's leadership work toward the creation of its own processing plant, strengthening the association's entrepreneurial vision and business administration skills. With support from government programs and members of the support group, ASCART obtained a plot of land and funds for construction and the purchase of machinery for its processing plant.

In August 2010, with support from the MIF, the Rainforest Alliance began providing technical assistance to ASCART. Over the following four years, support to ASCART focused on the following areas:

- Infrastructure improvement – processing division, perimeter fence
- Staff assistance – support to the enterprise manager, business skills consultant, plant manager, administrative and accounting assistant, quality control supervisor

- Training – processing best practices, hygiene and sanitation standards, operational processes
- Administration – elaboration of enterprise strategic vision and an operational plan for processing plant; design and implementation of administrative and accounting procedures; manuals for health certification, food safety standards and manufacturing best practices; improvement plan
- Access to finance – preparation of business plan and support to financial management

The latter area was a major focus of Rainforest Alliance assistance initially. Work revolved around the design and implementation of administrative and accounting procedures, and support for development of a business plan required for ASCART's applications for government funding. The resulting application, in 2011, allowed for financing in the amount of 222,270 Peruvian nuevos soles (PEN) – the equivalent of US \$74,090 at that time – from the Ministry of Agriculture's AGROEMPRENDE program for the construction of a Brazil nut processing plant. ASCART provided a counterpart contribution of PEN 28,000, for a total investment of PEN 250,270 (US \$83,423).

The Rainforest Alliance provided comparable assistance for ASCART's application to the PROCOMPITE program, managed by the Madre de Dios regional government, for the purchase of machinery for the plant. A grant of PEN 134,736 was approved in 2013, to which ASCART added a counterpart of PEN 41,590 (corresponding to 76.41 percent and 23.59 percent respectively) for a total

of PEN 176,327 (the equivalent of US \$58,776 at the time).

However, ASCART's members soon realized that the challenges of building a successful enterprise went well beyond accessing finance and constructing and equipping a processing plant. The Rainforest Alliance subsequently provided technical assistance in two main areas: accompanying ASCART's leadership in the process of making the plant operational, and promoting better efficiency and quality standards once it was up and running. Interventions helped the association's members make better use of the plant's installed capacity, deliver the quality of product demanded by the market, and work toward making it a profitable, financially sustainable enterprise.

ASCART achieved an array of improvements to its processing plant with the Rainforest Alliance's support, starting with the design of the general layout of machinery in the plant and the construction of a fence around it. Parameters were developed to standardize the shelling and drying of nuts, and an operational handbook was developed for the implementation of systems to ensure sanitary quality and to facilitate food safety certification. Finally, Rainforest Alliance led the elaboration of an operations plan for ASCART's plant and a manual of best practices for Brazil nut processing, as well as an overall business improvement plan. Time and technical inputs of the plant manager, quality control supervisor and the accounting and administrative assistant were supported during these processes.

The development of these technical tools was complemented by a series of workshops. In addition to near-constant meetings and technical visits, The Rainforest Alliance sponsored 13 training workshops with ASCART members covering an array of themes. These included the operation and maintenance of plant equipment, principals of FSC and Organic certifications, hygiene, sanitation and food safety protocols, and improving efficiency of Brazil nut processing.

Finally, understanding that the association ultimately relies on sustainable management of the resource base, Rainforest Alliance has worked with government counterparts and ASCART's concession members to strengthen controls on forest harvesting. In partnership with the directors of the Tambopata National Reserve, the Rainforest Alliance participated in the updating of the Brazil nut management plan for protected areas, and has helped ASCART's members better understand and implement those regulations.

Results of Technical Assistance

While access to finance on its own laid the foundation for growth, long-range enterprise improvements were the guiding goal for Rainforest

Alliance assistance. A key area of focus was on processing efficiency, and here important results were achieved. During the period of analysis, there was a 48 percent reduction in the cost of processing Brazil nuts, principally through greater efficiency in equipment use and a reduction in the processing time through greater mechanization.

Through such improvements to processing standards, ASCART obtained higher average yields per *barrica* (about 70 kilos of nuts in shell), improving yield by more than 21 kilos of shelled nuts, which is an almost 15 percent better yield than members could expect to get at most local processing plants.

Concrete results for member incomes have been achieved. ASCART members now earn up to 17 percent more from the sale of Brazil nuts processed by ASCART than they do working with other companies. This is largely due to the better yields (i.e. fewer damaged nuts) discussed above, the discounted price for processing members' nuts (ASCART charges members a fee of US\$ 0.73 per processed kilo for shelling, drying and sorting their nuts; non-members pay \$US 0.77 per processed kilo.), the achievement of economies of scale through the aggregated sale of members' production, and access to preferred markets.

A more competitive enterprise has allowed the association to get its members access to working capital. ASCART also provided a total of US \$100,807 in loans to members at the beginning of harvest seasons to cover the cost of transportation, wages, food and other expenses, which were repaid through the delivery of nuts to the ASCART plant. Nevertheless, many members continue to sell much of their harvest to other companies or middlemen, to repay advances or debts, among other reasons. This is an area for increased attention in the future.

Furthermore, job growth has been substantial. Over the four-year period, ASCART's processing



The ASCART plant created 61 new jobs, which have predominantly gone to women

Photo by David Dudenhoefer

A worker shells
nuts at the
ASCART plant

*Photo by
David Dudenhofer*



plant created 61 new jobs, most covering 9 months of the year, which is considerably more time than the industry normally employs people.

Work to penetrate new markets has also begun to pay off. ASCART made pilot sales of processed Brazil nuts to preferential local and national markets for prices that were more than 25 percent higher than members would have earned had they sold their nuts individually to other companies or middlemen. Improvements in the plant's quality control also resulted in breakthrough market development. As a result of ASCART's quality production systems, many non-members and companies – including Jaramillo, Fast Trade, Rovalex and Exportadora pro El Sol S.A.C. – have begun contracting ASCART to process their Brazil nuts.

Crucially, for the 2013 and 2014 harvests, ASCART provided processing services to CANDOR Latam, an exclusive supplier of Brazil nuts to Costco super markets. That contract occupied 10 percent of the plant's processing capacity, but there are indications that the volume could grow in the coming years. Overall, there was an increase of 100 percent in the plant's processing capacity over the course of its first three years of operation.

The provision of nut shelling services to third parties and aggregated member sales resulted in a 160 percent increase in the association's assets during the report period. In 2010, ASCART had a total asset profile of US \$92,939, including US \$23,732 in fixed assets and US \$69,207 in cash reserves. As of July 2014, the association had increased total assets to US \$242,353, of which about US \$120,000 had been invested in equipment, furniture and other fixed assets. The remainder was in the association's reserve fund, growing a critical foundation upon which to both weather shocks and build increased enterprise competitiveness in years to come.

While these quantitative indicators are impressive, foundational work around leadership and enterprise management underpin such successes. Throughout the period of analysis, the Rainforest Alliance has helped ASCART's leadership strengthen the organization as a whole by supporting and improvements in transparency and the quality of financial reporting in the association's general assemblies. ASCART's business management capacity has also been improved, with board members playing a greater leadership role, both internally and externally, such as by participating in negotiations, forging alliances and strategic planning.

With respect to internal staff, ASCART now has a policy for training and evaluating personnel, as well as manuals for most processes. The organization also has policies for motivating staff, such as through bonuses and other rewards for exceptional job performance. This is partly responsible for the growth in membership in recent years. Along with improvements to transparency and governance, favorable worker policies have helped generate greater confidence in ASCART's leadership among current and former members – leading some former members to rejoin the association and more people to deliver Brazil nuts to its processing plant.

Improvements in business administration are also evident. While ASCART has long used an external accountant, the board of directors and administration now stay up to date on account balances and other financial information. This is partly thanks to use of the accounting software SICONTE, which allows everyone from the plant manager to board members to keep track of the cash flow. Managing the association's funds was previously the sole responsibility of its president, but now all board members are able to monitor them. Prior to the Rainforest Alliance's assistance, disbursements were often made without proper documentation, but today ASCART has a protocol for authorizing, registering, and justifying spending. The organization also prioritizes internal financing, according to its strategic plan, and has a file system with the receipts of all financial and credit activities.

Conclusions and Recommendations

Based on the findings of this analysis, key conclusions can be summarized as follows:

- Technical assistance is necessary to achieve foundational changes in enterprise management that, in turn, can result in dramatic improvements in enterprise performance relatively quickly.
- For this reason, the case of ASCART can be taken as guidance indicating next steps for

AFIMAD and RONAP as they move to build on progress noted herein, should they opt to follow the same business model.

- Once the foundational base of social organization and good governance is in place, significant improvements in business performance can be made within a relatively short time period.
- Small associations of marginalized NTFP producers can access and successfully manage relatively large loan funds, as long as credits are applied strictly according to a business and investment plan vetted by members and supported by external partners.
- Diversification of services, improved efficiencies and quality control can result in significant increase in both second-tier enterprise performance and improved benefits for members.
- Increased competitiveness among a second-tier group does not necessarily translate as decreased employment or competition between member producers

The following recommendations are advanced for future work with ASCART, AFIMAD and RONAP:

- While improvements in enterprise governance have been made, all three associations need to strengthen governance based on proper implementation and enforcement of bylaws and member agreements.
- Despite progress made in recent years, ASCART's members will need further technical assistance to consolidate their Brazil nut production chain, storage, presentation and quality.
- ASCART also needs support in convincing all of its members that by delivering their nuts to its processing plant, they can improve their household economies while contributing to the association's consolidation and commercial development.
- All three associations need further help to develop their administrative capacities, particularly around applying for and managing credits.
- Associations should work more actively to consolidate protection of member concessions and monitor the impacts of Brazil nut harvesting.
- Enterprises need to diversify production



A worker separates first and second quality nuts that she has shelled at the ASCART plant

Photo by David Dudenhoefer

A Brazil nut tree
from below,
emerging over the
forest canopy.

*Photo by
David Dudenhofer*



through the development of value-added products such as Brazil nut snacks or oil.

- There is a need for mechanisms to promote the region's Brazil nuts on an international level by marketing their special characteristics, as compared to nuts from Bolivia or Brazil.
- An effort should be made to inform people in Peru's Brazil nut industry about different certification schemes, since many remain unaware of their benefits.
- It is important to work with newly-titled native communities that harvest Brazil nuts to ensure that they take steps to conserve forest resources as part of wider land-use plans, in order to maintain their Brazil nut forests in the face of significant land conversion pressures.

ANNEX I

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ANNEX II

Key Informants

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