

NATURAL RESOURCES INSTITUTE

NRI Report No. 2501
Project code: A0797
DFID code: R7285

**Study of the Impact of Ethical and
Conventional Brazil Nut Trading on Forest
Dependent People in Peru**

Forest Research Programme

NRET - Natural Resources and Ethical Trade Programme



Social Impact of Ethical and Conventional Brazil Nut Trading on Forest-Dependent People in Peru

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Spring 2000

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Executive Summary

This study compares the impact of conventional and ethical international export of brazil nuts on the livelihoods of forest dependent people in order to identify the potential of ethical trade to improve those livelihoods. Brazil nuts have been exported from the Amazon/South East region of Peru since the 1930's. With the decline of the rubber trade, brazil nuts came to be seen as a potential substitute commodity. Alongside the 'conventional' trade in brazil nuts, the organisation Candela, an alternative trading organisation, exports brazil nuts partly to a 'fair trade' market and has been supported by international NGOs and donors because it has been accepted as a fair-trade organisation.

Fair-trade is an alternative trading system that challenges conventional trading relations (often described by fair-trade advocates as offering benefits to small producers who have limited access to world markets and a weak bargaining position in relation to intermediate traders). Fair-trade focuses mainly on social benefits for its producers, often derived from price premiums charged to consumers in order to provide a viable minimum price to individual producers and a social development premium for producers' groups. Direct trade, a fair price, a long-term relationship between producer and buyer and producer group empowerment are characteristics of fair-trade. However, there is no single approach to fair-trade; not all 'fair-trade produce' commands a premium price; the producer may be producing for both conventional and fair-trade markets; there may be no effective way of distinguishing the product; there may not be a fair-trade market for the product. The benefits to producers must be derived from the trading relationship in the above instances, in increasing market access or reducing costs.

Candela was an early supplier to the fair-trade market, although the demand for fair-trade brazil nuts has never been enough to account for all of Candela's output. It has supplied the fair-trade market and established links with the fair-trade movement. Candela Peru was originally chosen by NRET for the study, because it represented an alternative trade organisation involved in the 'fair' or 'ethical' trading of brazil nuts. However, it quickly emerged that Candela did not differ substantially from other companies, although this may be more due to the context and markets than the operations of Candela itself.

The market for fair-trade brazil nuts is small. Candela produces mainly for the conventional market and has found new markets and developed new product lines. It has been more innovative than many of its competitors, potentially offering a long-term benefit to the producers, especially if the Peruvian brazil nut industry reputation can be improved. Candela, in contrast to conventional companies, has made attempts to improve the quality of brazil nuts. The threat of EU regulations concerning aflatoxin levels is very real and Candela has taken this issue seriously. However, to protect the Peruvian industry will require concerted action by all stakeholders along the trading chain.

The long-term perspective is not always evident to producers who tend to judge Candela on the price it pays. Candela has concentrated more on its own quality and financial issues than the immediate interests of its producers, particularly in improving financial returns on their activities. Improving the credit systems would be a priority for primary stakeholders, but it is not clear whether other systems are feasible.

The study identifies the key stakeholders involved in both conventional and fair-trading in Peru and notes that certain stakeholder groups (such as shellers and porters) are not benefiting

from fair-trade which has concentrated on concession holders. Control of the cash generated by the brazil nut trade is also skewed along gender lines, and women are assumed to be benefiting from a trickle-down approach. These groups are less likely to benefit from external NGO intervention due to the lack of consideration for benefit distribution. Fairer approaches to trading attempt to improve representation and institutional capacity and although some support has been given to a (partially representative) association of *castañeros*, no representation has been facilitated for other stakeholder groups.

‘Fair-trade’ in brazil nuts has not as yet provided significant increases in access to the different types of capital assets required by local stakeholders in the region to improve the sustainability of their livelihoods. Nor has it provided obvious new livelihood opportunities or enabled higher numbers of people to become involved in the trade. A recent conservation-driven trade project is attempting to improve paths in the forest to assist porters and to establish local processing centres which could improve quality and marketing leading to increased net incomes. Candela has helped to bring international assistance to the brazil nut trade in Peru. Maintaining export quality is crucial and stakeholders from the whole industry need to collaborate to overcome this imminent threat. Candela has made some efforts to improve the quality of the nuts it exports, but industry-wide coordination is essential. This policy is also perceived negatively locally, because it deprives producers of extra incomes from shelling and the longer-term policy has not been communicated adequately.

The commodity focus of fair-trade ignores the diverse livelihood strategies employed by poor people in the region to survive. Reducing vulnerability is currently tackled through stable prices and producer group empowerment. Vulnerability is caused though by multiple factors within the industry (e.g. unemployment, health and safety) and without (e.g. opportunities to diversify, access to education). Fair-trade needs to accommodate this diversity and continue to play a catalytic role, bringing people together through trade and providing an entry-point for other development activities. The sustainability of the brazil nut industry is also under threat from proposed new quality regulations in the European Union and from ecological damage to the forest itself. The impact of the collection of brazil nuts *per se* is unknown and the indirect impact is increased by the expansion of other activities associated with extraction (livestock keeping, cropping). The settlement of colonists, the opening of roads and the increase in concessions (timber, gold, brazil nuts) contribute to shifts to large scale agriculture and ecological damage. The degree to which international conservation-driven trading in a non-timber forest product, such as brazil nuts, can attach sufficient economic value to forest resources to prevent their destruction is questionable. Both conservation and development-driven NGOs need to address these broader environmental concerns in order to promote improved sustainable livelihoods for local people.

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LIST OF ACRONYMS

ASECAM	Asociación de castaños de Madre de Dios
ATO	An operation that purchases goods from disempowered producers with a view to promoting their development.
C.I.	Conservation International
FADEMAD	Federación de agricultura de Madre de Dios
FENAMAD	Federación Nativa de Madre de Dios
INC	Instituto Nacional de Cultura
Oxfam GB	Oxfam Great Britain

GLOSSARY

<i>"barriquero"</i>	brazil nut porter
<i>"castaño"</i>	brazil nut collectors, holding concession titles
<i>"cocos"</i>	Pods
<i>"habilito"</i>	loan or advance
<i>"peladoras"</i>	brazil nut shellers

EXCHANGE RATES

3.3390 Soles = US \$ 1 (June 1999)

5.3634 Soles = £ 1

ACKNOWLEDGEMENTS

Thanks to all of the following: Javier Avila, Victor Suarez, Jorge Torres. Gaston Vizcarra and Lupe Lanao of Candela. Graciela Magan, Jennifer Vaughan, Oxfam, Carlos Ponce, Conservation International (Lima Office), Cesar Ascorra and Aldo Gironda (Puerto Maldonado office). Edward Millard from C.I. USA provided invaluable support and assistance. In the Agriculture Ministry, Martin Alcalde from PRONAMACHCS, Enrique Osorio, Regional Director of the Department of Agriculture, and Hernan Gutierrez, Director of the ITTO project. Victor Cueva, executive director of CREDISMAD. The leaders and technical team of FADEMAD (inc. Victor Zambrano), ASECAM and its leaders (Leoncio Vela, Nino Herrera); to the directors of FENAMAD and participants in the workshop. Adrian Miranda, experienced brazil nut collector and forester Luis Bocanegra. All the brazil nut collectors and families who accommodated the research, (esp. the Lopez, Condori, Vera and Jara families and the female collectors Elda Vera and Sara Hurtado).

I.O Introduction

This report presents the results of a study comparing the impact of ethical and conventional trading in brazil nuts on the livelihoods of people depending on the forest. In particular it looks at the fair-trade in brazil nuts in Peru by Candela. Candela, is an alternative trading organisation that attempts to use trade to generate better opportunities to small producers. Candela exports brazil nuts partly to a 'fair trade' market (although the fair trade market is very small) and has been supported by international NGOs and donors because it has been considered a fair-trade organisation or part of the fair-trade movement as an ATO. The conventional trade in brazil nuts from Madre de Dios, (Amazon/South East region of Peru) has existed since the 1930's. Brazil nuts became seen as a potential substitute for the declining rubber trade.

The study is part of a project - "Ethical trade and forest dependent people" - funded by the Forest Research Programme, DFID. The project objectives are to identify the potential of ethical trade to improve forest dependent people's livelihoods and to assess the impact of global trading regulations and markets on the viability and potential of ethical trade. Finally, the project will develop guidelines for implementing ethical trade for the benefit of forest dependent people. This is the first of three comparative studies identifying the potential of ethical trade in improving forest dependent people's livelihoods, and contributing to the development of guidelines in implementing ethical trade. A parallel study has been carried out¹ with the objective of analysing the financial sustainability of fair-trade in brazil nuts, and to analyse the value chain, in order to identify the economic opportunities and constraints relating to the trade.

Ethical trade, as used by the Natural Resources and Ethical Trade (NRET) programme, is an umbrella term referring to different approaches to trade that have social and/or environmental objectives as well as commercial ones. In this report we refer to fair-trade initiatives as an

¹ The financial analysis study was carried out by a Peruvian economist, also managed by NRET,

example of ethical trade². The Candela fair-trade in brazil nuts was selected because it is a scheme which has been in existence for some years allowing social impact to be assessed and secondly because examples of conventional and ethical trade of the same commodity exist in parallel in the same geographic region thus enabling comparison.

The study assesses the impact³ of the brazil nut trade on local people using the sustainable livelihoods framework⁴ where benefits and disbenefits are assessed against five types of capital asset. This multi-dimensional framework is important where livelihood strategies of any particular group require a range of capital assets, and where decisions cannot be understood by reference to a single type of asset (e.g. financial). The framework also allows us to assess how different people are affected by the brazil nut trade and in what way.

This framework is complemented by reference to the forest dependency model proposed by Byron and Arnold⁵ which highlights how different degrees and types of forest utilisation impact on the natural resource. Forest dependency is also a conceptual framework, which explores the differing kinds of relationship between people and the forest, and the changing pressures on and trends affecting forest sustainability. It allows the characterisation of different forest dependent groups (e.g. hunter-gatherers), and encourages examination of how different groups respond to economic opportunities such as trade, and how these opportunities can impact upon the forest.

Both the sustainable livelihoods framework and the forest dependency model encourage the researcher to view trade in a particular commodity, not as a discrete activity, but as one part of a multi-faceted and dynamic system where, for instance, financial benefit may not be the sole consideration. However, it needs to be emphasised that sustainable livelihoods and forest-dependency are both at an early stage of development, and in this study their contribution has been to clarify our thinking rather than to provide rigorous tools for use in the field.

The impact study involved consultative research in the field, carried out by a local consultant anthropologist and managed by NRET. Three forested brazil nut areas were chosen for the research: Pariamanu, Eje carretero and Lago Valencia in the department of Madre de Dios, the capital of which is Puerto Maldonado⁶. These areas were chosen using criteria of distance from the town of Puerto Maldonado, agro-ecological zones and type of land use or occupation of the area. These selection criteria meant that a range of livelihood systems and

² Other examples include ethical sourcing, commercial organic agriculture and trade in certified forest products.

³ Impact assessment can be defined as “the systematic analysis of the lasting or significant changes – positive or negative, intended or not – in people’s lives brought about by a given action or series of actions.” (“Learning to Value Change: A Guide for Development Agencies. Oxfam, Roche 1999”³).

⁴ See “Sustainable Livelihoods: What contribution can we make?” ed. D. Carney, DFID 1998.

⁵ Byron N, Arnold M. (1998) “What Futures for the People of the Tropical Forests?”; CIFOR Working Paper no. 19; Bogor, Centre for International Forestry Research.

⁶ There are relatively few examples of established fair-trade schemes in NTFPs that allow an assessment of their impact over a reasonable period of time. The export of brazil nuts from Madre de Dios in Peru was identified, in collaboration with Conservation International.

degrees of forest dependency could be covered. The marketing and processing of brazil nuts occurs in and around Puerto Maldonado. The nuts are then exported to Lima and overseas.

2.0 Context

Brazil nut production in Peru is concentrated in the Province of Madre de Dios in the South East of the country (see map 1 below). This province is an area of limited accessibility which is poorly integrated into the rest of the country. During the 19th century and the beginning of the 20th century, the Peruvian State was concerned with the expansion and defence of the frontiers and various waves of exploration and cycles of colonisation have occurred. This process of colonisation and in-migration continues, and has resulted in a local population increase three times the national average.⁷ Within this population, there are indigenous communities with varying levels of contact with the rest of society.

Rivers constitute the only internal routes of communication. A runway was only completed in 1966 and brazil nuts have to be transported by air from the producing areas to Lima. The development of a road system in the area is still very limited. Access to Puerto Maldonado by road is difficult and this has created a situation of relative isolation for the provincial capital. In 1972, 650 km of road were constructed between Cuzco and Quince Mil, but the remainder of the route to Puerto Maldonado remains unpaved and is almost impassable during the rainy season. The only other route passable by vehicles is the road from Puerto Maldonado to Iberia, at the Brazilian frontier.

⁷ Between 1981 and 1993, the population of Madre de Dios increased by 6.1% compared to the national average of 2.2%.

Diagram I: Map of Peru and the Madre de Dios Province



The succession of explorers, colonisers and missionaries arriving in the region in the 19th and 20th Centuries gave rise to exploitative cycles of extraction of different resources and the eradication and abuse of indigenous groups. In more recent times anthropologists, linguists and NGOs have worked with indigenous groups. The role of the State has been very limited, and affected by the difficulties of integrating this region into national affairs. During the different periods in the history of the area the main motives of the colonists and explorers were principally to secure territory or extract products. These different expeditions left their marks on the people and environment, particularly those groups who settled and developed commercial extraction activities.

Earlier, the Incas made several incursions into the region to plant coca and to extract gold, feathers, birds, honey and wood. The Spanish expeditions began in 1538 and were aimed at finding mythological cities of gold. Some gold was extracted and land cultivation began, as well as contact with indigenous villages. The earliest evidence of a parish in the rainforest dates from 1561. These early parishes focused on coca production. After the formation of the republic little interest was shown in the eastern region of Peru until the 1820's and 1830's when gold and "*cascaquilla*" (*Cinchona* sp.) extraction began in earnest. *Cascaquilla* was used to make quinine used in malaria treatment. It obtained high prices on world markets and became an important export product for Peru.

The opportunities generated by the extraction of gold and '*cascarilla*' began the cycles of extraction. The "*cascarilla*" industry was based on a product which was collected from the forest and found in dispersed form. Its collection demanded continual geographical displacement and the import of seasonal labour and food - characteristics which it shared with rubber and wood extraction. Colonisation and the provision of infrastructure was limited. During the 19th Century opposition developed between those living on the Peruvian coast and in the highlands. The forest effectively became a space which was open principally to groups of foreigners and to Peruvians who were, in some way, linked to overseas trade.

The common features of these early cycles of extraction (e.g. problems of accessibility, the lack of central government support, problems of labour shortage, exploitative labour and the harsh treatment of the indigenous communities) continued in later extraction cycles, including brazil nuts. Commercial exploitation of rubber began at the end of the 19th century. Conditions were harsh for forced labourers under the rubber barons. The impact on indigenous communities was massive - it is calculated that in the first decade of this century, some 40,000 people died. The wealth created by extraction of rubber was not invested directly in establishing an agricultural or industrial base, but it did give rise to a range of new economic activities, and the urban social structure began to diversify.

The rubber industry declined in the first decades of the 20th century with the invention of synthetic alternatives. Agriculture and livestock production became more important. These activities, together with hunting and fishing, provided for local markets that were small but increasing as a result of high levels of inward migration. However, there were and still are serious limitations to agricultural development, such as poor accessibility and soils.

During the 1930s, the brazil nut was seen as a potential economic substitute for the end of the rubber trade. New companies began to appear in the zone.⁸ These companies provided several innovations that affected the post-harvest phase of the process.

Brazil nut extraction was previously organised around large concessions, each with a single owner, '*el patron*' and the workers were migrant rural labourers from the mountains. The new companies tended to interact only with the '*patrones*'. When the ownership structure changed as a result of agrarian reform (1969), only extractors remained, with the consequence that they had to assume a trading role. The workers became collectors or *castañeros* (brazil nut collectors who are concession holders) and rather than only receiving a salary they were able to control the key natural resource itself and to garner the benefits. In recent years the numbers of companies, traders, *castañeros*, and others working in the trade has increased. The companies had to take on several of the functions previously conducted by the concession owners and had to deal with the larger number of brazil nut extractors. As a result they resorted to paying the brazil nut collectors in kind (a means of remunerating workers copied from the previous estate or *hacienda* system, where wages were not paid in cash, but through subsistence products). Payment in kind is exploitative when very high prices are charged rather than the system in itself. The transport of food and supplies to those working in isolated areas in the forest is a useful service when the prices charged are fair. Candela, for example, does not charge the *castañeros* the cost of transporting these goods, so

⁸ The company Asher and Kates, arrived in 1953 and introduced mechanical methods for shelling the nuts as well as improving systems of packaging. This company later operated under the name of Compañía El Sol. Another early company involved in brazil nut trading was the Compañía Nacional de Comercio.

that the *castañeros* are more likely to sell their nuts to Candela thus providing the *castañeros* with a useful service.

3.0 Conventional and fair-trade definitions

This section explains how fair-trade is meant to differ from conventional trade, before describing the impact in this specific case. Fair-trade is an alternative trading system that challenges conventional trading relations. Conventional trading relations are described by fair-trade advocates as often offering benefits to small producers who have limited access to world markets and a weak bargaining position in relation to intermediate traders (middlemen). Although some fair-trade schemes have an environmental dimension, fair-trade is primarily focused on social benefits for its producers. These benefits derive from a) the price premium charged to Western consumers for fair-trade products, b) the longer-term developmental as well as trade-driven relations between buyers and producers, and c) a social development premium for producers' groups.

Box 1: "Fair-trade" principles

"Fair-trade" is specifically targeted to do the following:

- improve the position of the marginalised producers – many of whom are not employed.
- it is more about the trading *relationship* than about the performance of the supplier.

Key concepts of "Fair-trade" are:

- direct trade
- a fair price
- a long-term relationship
- credit facilities

Crucially, it relies on the significant subset of consumers willing to pay a little more or being more discriminating to support a fairer way to do business. Fairtrade is a competitive tool, opening up new markets. The opposite of Fairtrade is conventional trade".

(Source Wells, 1998⁹)

Having said this there is no single approach to fair-trade. For instance, not all 'fair-trade produce' commands a premium price. In some instances, the producer may be producing for both conventional and fair-trade markets, and there may be no effective way of distinguishing the product. In other instances, there may not be a fair-trade market for the product. In these cases, the benefits to producers must be derived from the trading relationship and what, for instance, that means in terms of increasing market access or reducing costs (e.g. through providing better credit terms). Marketing and the relationship between producer and buyer is integral to fair-trade, as is capacity building for producers involved in the trade. Producers are normally organised in groups (typically co-operatives) which are used as selling agents as well as a conduit for development activities amongst producers. So far there has never been a *castañero* cooperative in Madre de Dios however. To ensure that producer groups are

⁹ Wells, P. (1998) Fairtrade into the year 2000. Unpublished paper, London, Fairtrade Foundation

delivering benefits to members, there is a system of monitoring and evaluation. In fair-trade the Fair Trade Labelling Organisation has a register of producers and a label is given to products which are produced under conditions which fulfill their criteria. Monitoring is annual and the same monitors are encouraged to maintain continuity rather than changes being required to ensure accurate labelling.¹⁰

“Within Fair Trade two different types of fair trade organisations have emerged. The first was the alternative trade organisation, ATO, an operation that purchases goods from disempowered producers with a view to promoting their development. More recently fair trade labelling organisations, FLOs, have emerged, e.g. Max Havelaar in the Netherlands, and the UK’s Fairtrade Foundation. FTLOs are not involved in trade exchanges themselves, but issue fair trade marks or labels to manufacturers or importers to verify that the production and supply of a particular product has met specified trade standards” (A. Tallontire, *Partnerships in Fair Trade: Reflections from a case study of Cafedirect*” Development in Practice, Volume 10, Number 2, May 2000).

Candela was an early supplier to the fair-trade market, although the demand for fair-trade brazil nuts has never been enough to account for all of Candela’s output. It is not a co-operative and is not owned by producers, however this is fairly common in the fair trade movement. Many alternative trading organisations from the South are not cooperatives and being a cooperative does not necessarily guarantee a better selling price or better market opportunities. Nonetheless, from the outset it supplied the fair-trade market and is part of the wider fair-trade movement. Buyers have included Twin Trading, a major UK fair-trade buyer with both fair-trade brands and labeled product lines and subsequently Oxfam Trading, a major fair-trade brand with its own retail chain. Twin Trading no longer buys from Candela – it withdrew from brazil nut trading largely for internal strategic reasons.

4.0 Stakeholders in the brazil nut trade

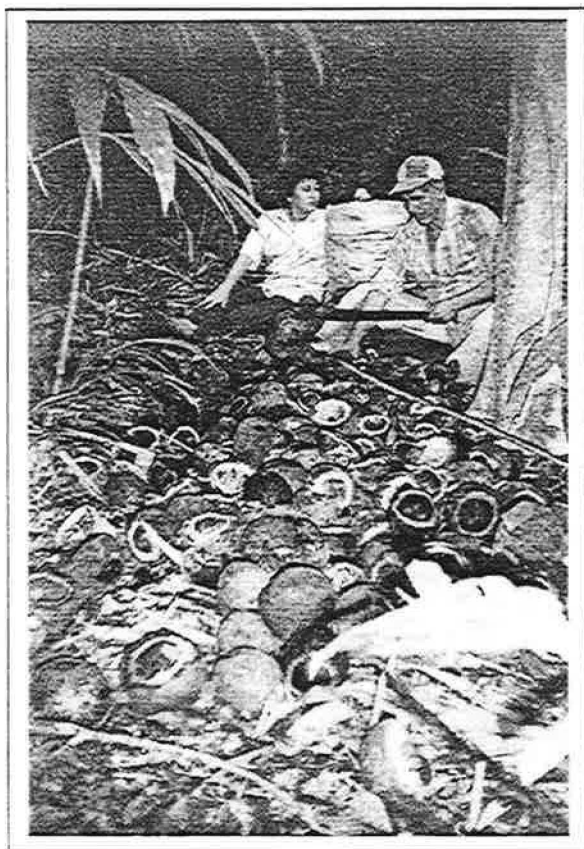
Stakeholders in the conventional brazil nut trade include different occupational groups such as the *barrigueros* (porters) and *peladoras* (shellers). *Castañeros* are also key primary stakeholders – they are involved in brazil nut extraction and own concession titles. There are various local associations and secondary stakeholders (such as smaller traders, commercial companies and NGOs). See diagram 2 below.

The positions of these groups and some of the differences within each group are outlined below. There is a tendency to view the brazil nut trade from the perspective of the concession holders, but these are a relatively small group compared to porters and shellers. This report therefore begins with the largest stakeholder groups, namely the porters and shellers.

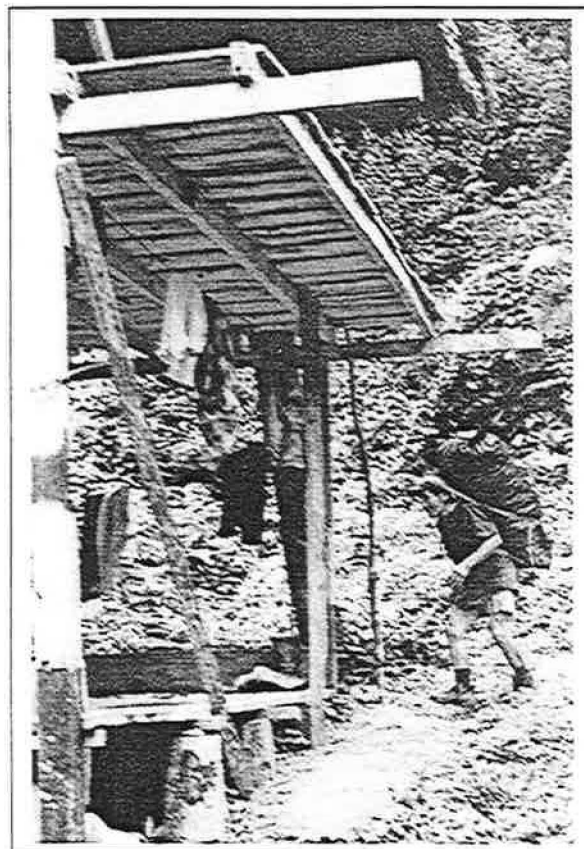
¹⁰ See “Ethical Trade and Sustainable Rural Livelihoods: Natural Resources and Ethical Trade Programme, NRI” in D. Carney (ed.) “Sustainable Rural Livelihoods: What contribution can we make?” DFID 1998.

4.1 Primary Stakeholders

Porters (*'barriqueros'*) are a primary stakeholder group of unsalaried, seasonal labourers. Carrying sacks of brazil nuts is mainly a male task due to the strength required to carry the heavy bags (nonetheless there are some women involved in this arduous task). Work conditions are extremely difficult. Skill with a machete is required, but also considerable strength to carry the sacks of nuts from the trees to the camps. Porters are employed by concession holders, or members of the *castañeros* family. They are paid an advance to cover collection, splitting and carrying of the nuts and are paid by the sack. The porters are provided with transportation to the concession and the food they need whilst working there. The porters collect brazil nuts in the forest, walking long distances and carrying heavy loads.



A Porter carrying Brazil Nuts from the forest back to camp.



A Porter and his wife removing Brazil Nut shells from the pod in the forest.

The social capital¹¹ of the porters is limited - they are not organised and therefore have little political representation and tend to be the most marginalised group. This marginalisation and lack of representation, combined with the seasonality and uncertainty of their work means that the *barriqueros* are a relatively vulnerable group. Key features of the *barriqueros'* involvement in the brazil nut trade are set out in Box 2.

¹¹ Capital assets are those which are the resources with which people resist hardships and bring influence to bear. Social capital can be referred to as the social resources – networks, membership of groups, relationships of trust, access to wider institutions of society – upon which people draw in pursuit of livelihoods.

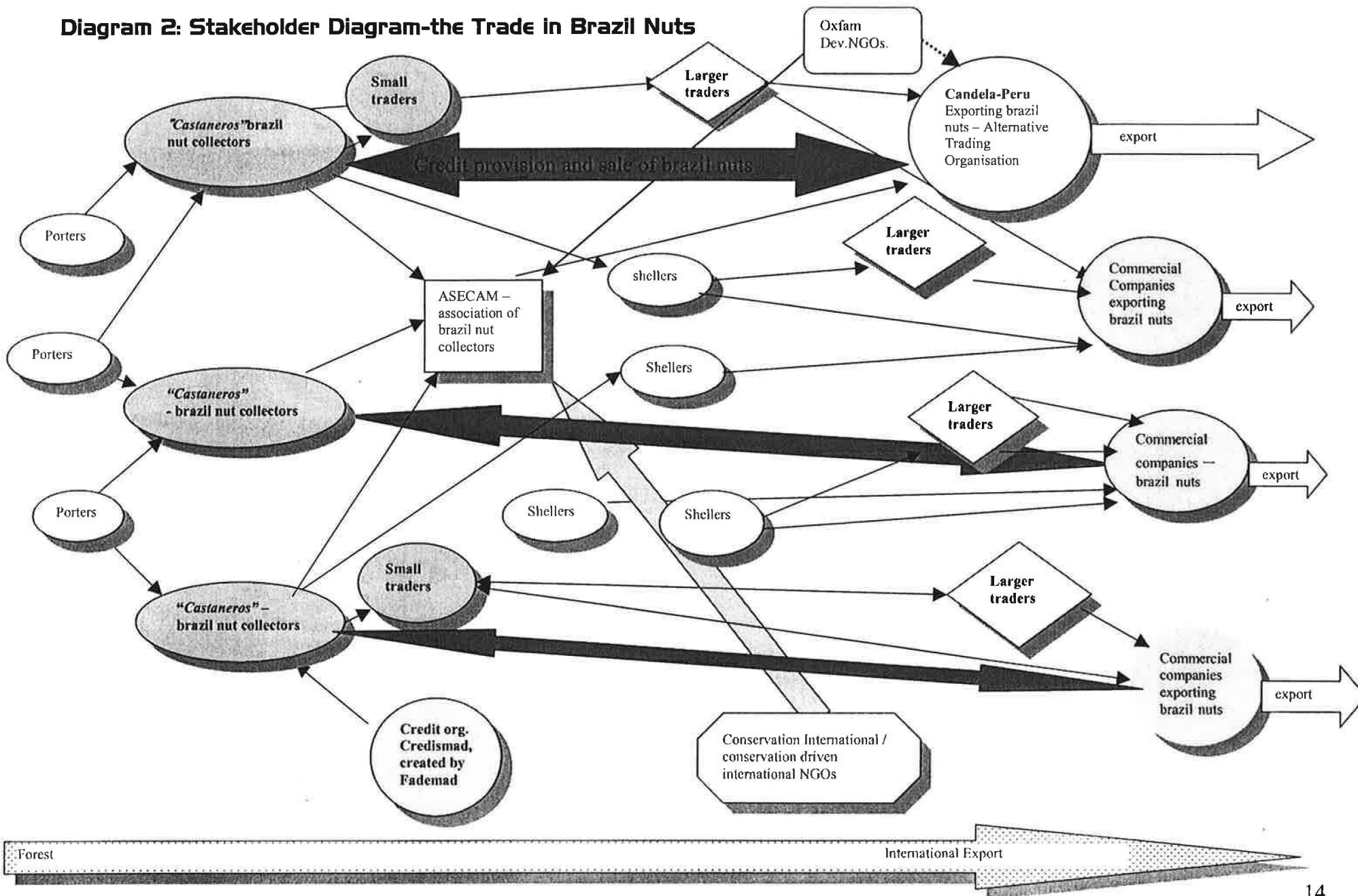
This group tends to be the poorest because they do not have concession rights. Access to natural capital (the brazil nut trees) is limited for this group. However, this lack of access may not be permanent – most porters are young and aspire to obtain their own concessions through working as porters to raise the necessary capital. There are also older individuals who, on failing to obtain their own concessions, establish themselves as porters.

After the brazil nut season, the *barriqueros* may work in timber extraction or gold mining (also arduous activities) or search for other seasonal employment.

Box 2: Key features of *barriqueros*

- An advance of S/.200-300 (equivalent to payment for the extraction and carriage of 12-20 sacks in 8-15 work days). This is often paid before the *barriqueros* go into the forest so they can give some to their families and the remainder is paid when the *castañeros* and *barriqueros* return to town.
- Transport, lodgings and food in the camp (they are provided with a machete for splitting the “*cocos*”).
- Payment of S/. 15 per every sack deposited at the camp (1998). The value of a sack fluctuates, and this affects the portering charge.
- Sometimes the *barriquero*'s advance will “run out” and they need to ask for money for further additional work. The *castañeros* have to go in search of a new loan (*habilito*) or sell some nuts with which to pay the *barriqueros* and supply any products or implements needed for the camp. In the case of Candela, *barriqueros* can discuss with staff at the office if they are in need of a further advance. Usually they are given an additional loan with no interest
- The workforce is fluid and changing. When *castañeros* are discontented with their work, they may hire other *barriqueros* and sometimes, the *barriquero* is discontented and opts to abandon the camp. The latter may be unhappy about the remuneration offered by the *castañero*, delays in payment, poor quality of food or uncomfortable conditions in the camp although this is not always the case. Equally, *castañeros* may be unhappy with *barriqueros* who receive an advance but then do not turn up for work or who sell nuts to ‘pirate’ traders. However, there are also examples of good working relations between *castañeros* and *barriqueros*.
- The conditions under which the *barriquero* works in the forest are arduous and isolated, although some *castañeros* lead the collecting work in the concession.

Diagram 2: Stakeholder Diagram-the Trade in Brazil Nuts





Shelling of the brazil nuts is carried out by shellers (*peladoras*) who tend to be women.

Shelling is executed by independent workers (who acquire the brazil nuts to shell on their own account) or salaried employees of commercial companies. There are five categories of shellers¹². Independent shellers need capital to buy unshelled nuts, contracts to buy unshelled nuts, space for processing the nuts and a table with small specialised shelling machines.

Income for independent shellers is given in Table 1, below.

Shelling Brazil Nuts at the camp

¹² A) Unpaid family labour - they do not always gain access to the brazil nut income. B) kin or friends work part-time for the *castaño*. C) Piece workers contracted by the *castaños* (some work at the camps on the concession, such as the wives of the porters and those who shell the brazil nuts in their own or the *castaños*' home. D) Shellers employed by companies, who also do piece work. E) A rapidly increasing group of independent shellers who buy brazil nuts in shells, obtaining an income when they re-sell the shelled nuts. They also do domestic work.

Table I: Independent sheller income per sack of unshelled nuts (1998-1999)

18 kg grade 1 nuts at S/. 5.50 / kg	S/. 99
15 kg grade 3 nuts at S/. 2.20 / kg	S/. 33

Gross income	S/. 132
Cost of unshelled nuts	S/. 40
Net profit (before capital costs)	S/. 92

The salaried shellers in the companies were a larger group during the 1980s. They attempted to form their own organisation, but this was boycotted by employers and proved unsuccessful. Improvements in working conditions in the company plants (better seating, lighting, ventilation, hygiene) have been incorporated largely as a result of inquiries made by international co-operation projects. The number of shellers contracted by the companies today is very low and the number of independent shellers has increased rapidly in the last five years¹³. The shelling sector tends to be 'invisible' because it is comprised mainly of women. As with the porters, the shellers do not have resource rights (particularly concession titles that provide the access to brazil nut profits). Their natural capital tends to be limited, although those that are wives of male *castañeros* may gain access to brazil nuts and share in the benefits of the brazil nut income as part of the family, but this is not assured. Women overwhelmingly dominate shelling for companies, but men and young people do also carry out shelling at the family home. An important point to note is that the conventional companies are more confident of a quality product when they can supervise the shelling themselves rather than depending upon independent shellers.

Indigenous people form another social group at the local level who have a stake in the brazil nut trade. The oppression of the indigenous people is widely recognised. Currently indigenous communities have special status in relation to resource rights compared to the colonists in the area. Communal territories are recognised, and indigenous groups have benefited from the recognition of national zones and reserves where they can extract brazil nuts and develop their everyday activities such as hunting and fishing. Their territory should be secure, and outsiders excluded from areas which are assigned to them. In this way, a member of the indigenous community can extract brazil nuts both as an individual (as he is able to obtain access to individual concessions) and on a communal basis from the communal lands. However, there are only 8 individual concessions held by indigenous people compared to approximately 1000 held by colonist

¹³ In 1999, three companies contracted shellers: La Selva has contracted 10; Candela Peru has contracted 20, and a third company, 8 (giving a total of 38). Candela estimates the figure for 1999 as being somewhat higher at 150 shellers, although this estimate is not only for companies and Candela but also for the decentralised processing centres of ASECAM and larger middlemen" Gaston Vizcarra, *pers. comm.*)

brazil nut collectors (G.Vizcarra, *pers.comm*). These communities seek to extend the protected areas and, in this way, obtain access to more brazil nut trees.

The indigenous communities as well as the *castañeros* are threatened by the expansion of other activities, principally the petroleum and mining industries. The weight that these sectors have within national politics and the economy is indisputable, and could cause changes and restrictions in the protected zones as well as affecting the way in which indigenous communities and *castañeros* relate to the forest (in disputed zones). In addition, there are conflicts resulting from the expansion of tourism.

The name “*castañero*” refers to people involved in the brazil nut trade at the local level. Specifically, it is a term used to refer to those who organise the extraction of brazil nuts and to those holding concession titles. This report uses the specific meaning of the term i.e. brazil nut concession holders. The concession titles are fairly secure rights in practice, although they have to be renewed every two years. The concession provides access to brazil nuts and small scale collection of other natural resources, but not timber. *Castañeros* hire porters, shellers and transporters.

There are both differences between the different stakeholder groups in terms of wealth and vulnerability and within the same stakeholders groups. These groups are not homogeneous and in particular differences exist amongst the category “*castañero*” - there are differences in economic and livelihood positions (which are indicated by length of residence, type of housing and location of concession).



Brazil Nut collectors workshop - Puerto Maldonado 1999

Castañeros can be divided into three sub-groups: colonists, urban *castañeros* and *castañeros* who are from indigenous groups (regardless of who holds the concession title exploitation of the concession involves male and female, adult and child labour). These 'colonists' from the Andes see the Amazon as a 'land of opportunity', and are distinct from the urban *castañeros* whose primary sources of income are often in the service sector, other types of trade or white collar work. The rise in urban *castañeros* is relatively recent and seems connected to closer government attention to the allocation and renewal of concessions, which in turn has created more paperwork; something that the urban *castañeros* have taken advantage of. There is growing pressure to increase indigenous people's rights to concessions following many decades when government did little to control the actions of colonists and outsiders. Some colonists have lost their concessions, and where indigenous people's rights to forests are acknowledged they are free to determine how they want the resource used. Candela estimate that the land controlled by indigenous people is fairly small compared to the overall number of concessions and say that the number of concessions held by women are often underestimated by those involved in the brazil nut trade (G.Vizcarra, Candela, *pers.comm*)

The better-off *castañeros* tend to be the colonists who arrived in the region first and thus obtained the larger, more accessible concessions. They have tended to develop parallel economic activities (e.g. timber, livestock, transport and trading activities) that make them less dependent on a single market. These better-off *castañeros* are able to invest in different capital assets. Poorer *castañeros* tend to be trapped in indebtedness and are forced to sell their brazil nuts in shells, which reduces their income. Some *castañeros* subcontract their concessions to others and divide the income. However, this is not a hard and fast rule, since some early colonists have not had the skills to increase their assets and equally some of the more recent arrivals are prospering.

The evidence is unclear as to whether there are geographical patterns to the wealth of *castañeros*. *Castañeros* tend to be better off if they have a stable camp. Living close to the road also provides benefits, but a 1988 study carried out by Candela found that 'road' *castañeros* were more efficient but not richer because they have smaller concessions. The fieldwork found that in the opinions of many local people that having a permanent camp or house indicates that a *castañero* has lived in the area for some time, and gained access to the greatest densities of brazil nut trees. Being close to the brazil nut trees and having a stable camp, permits shelling of the brazil nuts by the *castañero* before transport to town, thus saving transport costs and obtaining a higher price for the shelled nuts. *Castañeros* with a more precarious camp or with concessions located far from roads and town are often forced to transport and sell unshelled nuts. The quality of management of the brazil nut also depends to a large extent on the length of time for which the *castañero* has been established. There is thus a lack of clarity regarding the geographical distribution of wealth. Whilst this lack of understanding exists it is difficult for Candela to proactively target the poorest people engaged in brazil nut trading.

As well as different types of housing and location of the concession, *castañeros* can also be divided by size between large producers who extract large volumes of nuts and receive favourable treatment from buyers, and small or medium sized and new producers who

have a weaker bargaining position. There is no correlation between the sub-groups and the size of the concessions.

Some women hold concession titles and some of these carry out extraction and marketing of brazil nuts. Most obtain the contract as widows of male concession holders, or inherit the title from their fathers. In this pioneering culture, colonist *castaño* families require the participation of women in key roles to survive, and so ascription of tasks along gender lines is less pronounced than elsewhere in Peru. Active participation of women in public spheres is fairly common and as mentioned above female *castaños* control the cash from the sale of brazil nuts. Single widows and mothers need to continue trading in brazil nuts, since it is one of the few sources of income available to pay for their children's education.

4.2 Secondary Stakeholders

Secondary stakeholders in the brazil nut trade include national and international NGOs, of which there are a range operating in Madre de Dios. Conservation International (C.I.) and Proyecto Castañales, support the trade for conservation reasons. C.I. is implementing a conservation driven project which has a focus on a more equitable spread of benefits, with decentralised processing and organisation of the collectors, with the aim that better-off collectors will be motivated to remain working in the forest and preserve it¹⁴.
Proyecto Castañales

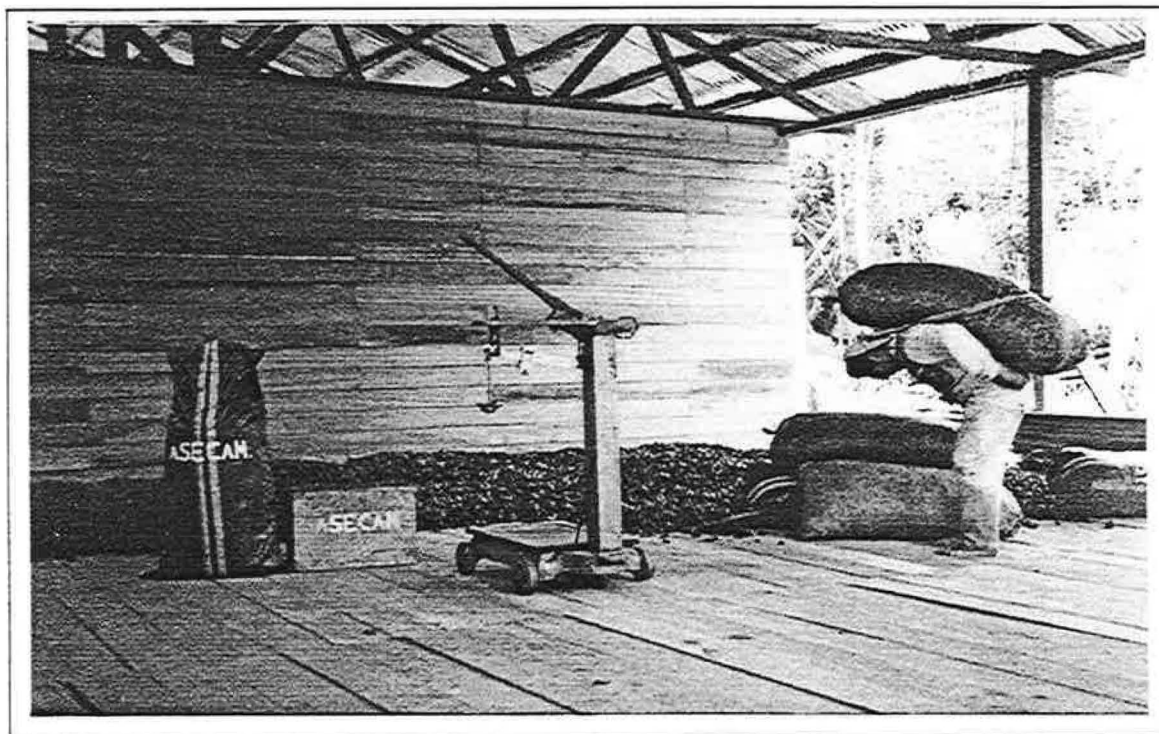
Several decentralised collection and processing centres are being established so that more shelling can occur in the forest. The aim is also to improve the quality of the shelled nuts, which can be sold to any company, including Candela. The potential for direct export trade by ASECAM (the *castaño* association) will be considered in a few years. If well organised, the collection centres could generate healthier competition between the companies that up until now, have largely controlled the market and may reduce the role of middlemen/intermediaries in the trade (E.Millard, Conservation International *pers. comm*).

Oxfam GB, an international development NGO, has been buying brazil nuts through Candela Peru to support fair-trade in brazil nuts with the aim of benefiting the *castaños*, although these arrangements are under review.

The Federación Nativa de Madre de Dios (FENAMAD) is an important local organisation that represents indigenous people in Madre de Dios. Another key local

¹⁴ C.I. is responding to two problems identified by the *castaños*: a) transporting brazil nuts in their shells from the trees to the camp/collection centre; b) the price of unshelled nuts. The project will include improvements to the layout of forest paths, and in some cases to allow the passage of vehicles to facilitate more efficient harvesting (potentially leaving more benefit for collectors) and alleviate the work of the porters in carrying sacks. However, roads made open to vehicular transport create the risk of increasing the impact on the forest by generating an higher and more permanent level of occupation.

association, particularly with regard to brazil nut trading, is ASECAM¹⁵. ASECAM represents approximately one-third of *castañeros*. It was founded in 1996 and is affiliated to FADEMAD (Agrarian Federation of Madre de Dios). ASECAM is working in conjunction with C.I. FADEMAD created a credit system due to the problems existing between *castañeros* and the commercial companies. The aim was to create a formal credit system (Credismad) specifically for *castañeros*. Credismad (which is managed by *castañeros*) takes charge of the independent management of the credit for *castañeros* (male and female) who have to leave their contract as a guarantee although until recently it has no legal basis and could not be used by the credit provider¹⁶. Difficulties immediately arose because of non-repayment by *castañeros*. The year Credismad began was a low point in the brazil nut production cycle. Those who had harvested 200 - 300 sacks during the previous year, obtained only 20 - 30 sacks (i.e. 10%). In the 1998-99 season it was hoped that yields would recover somewhat (and a harvest of 120 - 150 sacks was expected). Difficulties exist because Credismad, as a formal credit programme, charges interest and arrears. *Castañeros* are not used to this, because the old loan or '*habilito*' system did not charge in the same way. The credit system cannot take into account fluctuations in the production cycles.



A Porter carrying Brazil Nuts to ASECAM collection/processing centre

¹⁵ Asociación de castañeros de Madre de Dios

¹⁶ Credismad has recently established an agreement with the Agriculture Ministry to obtain the contracts of debtor *castañeros* to 'auction' them (G.Vizcarra, Candela, *pers.comm*).

4.3. Traders

Traders of brazil nuts can be divided into independent traders and the larger commercial companies. Independent traders act as buyers of brazil nuts who operate on their own account and sell to the export companies. They represent a relatively recent phenomenon (emerging in the last five years). Some are specialised traders who work each year in this type of business, but many have taken up this activity as a seasonal or casual occupation, due to lack of other employment opportunities.

Independent traders deal in small volumes, buying directly from producing areas. They buy both unshelled and shelled nuts. The traders also wait at the ports to buy nuts from *castañeros*. Only small numbers of sacks are bought at any one time so they do not use up all their capital. The trader may resell the nuts to other small-scale traders, to housewives who shell the nuts themselves, or to those who have lent them money. Many traders dry the nuts in their gardens in town and family or contracted labour is used to shell the nuts before finally selling them to exporters.

The five largest commercial companies are currently La Selva, Imperusa, Bonilla, Internacional de Comercio and El Bosque. Other commercial companies are principally marketing companies that buy the nuts unshelled and sometimes send them elsewhere to be processed. Only shelled nuts are exported.

According to Candela staff, Candela is the tenth largest exporter of brazil nuts and they are increasing every year. Candela is a key stakeholder in the fair-trade of brazil nuts. The role of Candela is explained more fully in the section on the fair-trade of brazil nuts. Candela provides a service to producers and buys shelled nuts at the market price.

4.4. Government

Government is a stakeholder body at both the national and provincial levels. *Castañeros* must comply with the norms which determine the granting of concessions and their use. Peruvian law states that it is not possible to have property rights over brazil nut trees¹⁷. According to forest law usufruct rights for the extraction of forest products (including brazil nuts) can be granted to companies, small-scale producers and indigenous communities. The time period for contracts is fixed at ten years, and the maximum area for small and medium-scale producers is 10,000 ha. Larger entities can be authorised to exploit more than 50,000 ha in contracts of a ten year duration, but a higher technical level of management is required (involving exploration and evaluation of the natural resources and a feasibility study to support a management plan).

¹⁷ The 1993 Peruvian constitution states that renewable and non-renewable natural resources are the property of the nation, and the state has sovereignty in their exploitation. The General Law of Forestry and Wildlife (1975) establishes the fact that forest resources and wildlife are public property and there are no rights of acquisition.

In practice the provincial offices of the Ministry of Agriculture have opted not to comply with these mechanisms. *Castañeros*, even those with concessions of less than 1,000 ha., have to present technical proposals prepared by qualified foresters and renew their contracts every two years. This system allows the foresters to gain by charging a small fee (about S/.30.00) for their professional services (often only amounting to a signature on pre-prepared documents).

The Ministry of Agriculture has instituted a process of survey of the concessions contracting the services of third parties (e.g. NGOs, FADEMAD, private consultants) who conduct boundary surveys and brazil nut tree locations within the concession in conjunction with a technical team (qualified foresters). This process may create more order and ensure that contracts are in accordance with the law, but the *castañeros* have to pay for the surveying of their concession and have to accompany the survey team and neighbouring concession holders. This process can cause some conflicts between neighbours, but despite this is still seen as an alternative which could provide greater stability and security in the longer-term. Candela says that the work done by Proyecto Castaños has provided *castañeros* with greater clarity in relation to resource rights and that the most frequent disputes between *castañeros* and those that hold other types of concession arise when there are no clearly defined boundaries (G.Vizcarra Candela, *pers.comm*).

According to the *Reglamento de Ordenación Forestal* (1977) land must be classified according to its main potential use. Brazil nut production, a method of utilising non-timber forest products, is classified as a zone in which the main potential use is forestry. According to the *castañeros*, they could also extract *uña de gato*¹⁸ or *sangre de grado*, both medicinal products for sale to export companies. The *castañeros* hope that the survey process will extend areas under agricultural use and allow them to obtain land under private ownership, as has occurred in the area surrounding the main road and along the length of rivers close to Madre de Dios. They hope for this because they know that at present there is no possibility of obtaining property rights over the forest resources, even though they themselves have invested in buildings, roads, boundary surveys, the marking of the trees, and reforestation.

To own a house, the *castañoero* must construct this in the town (Puerto Maldonado), in smaller settlements, on the agricultural land along the roads to Cuzco and Iberia, or in certain sectors along the rivers. Only indigenous communities have recognised common lands. Physical capital (i.e. infrastructure) has been improved in some indigenous communities providing, in some cases, a much better quality of life for the indigenous communities than is found in the conditions of colonist *castañeros*. Only in Lago Valencia, by virtue of being a more permanent settlement and further from the city, are the conditions of colonist *castañeros* similar to those seen in the indigenous communities.

There is little compatibility between the different laws, regulations and other legal instruments. The *Anteproyecto de Ley Forestal y de Fauna Silvestre* (the first draft of the

¹⁸ In April 1999 the Peruvian government prohibited the export of *uña de gato* as a raw material.

Forestry and Wildlife Law) does not clarify these contradictions. In this respect, Law 26821 concerning the Sustainable Use of Natural Resources contains a section about “public participation”. In the past, relationships between the large landowners and workers usually involved abuse of poorer people and a culture of ‘guardianship’. These relationships continue to manifest some of these undesirable elements today. When access to the brazil nuts was given to labourers there were changes in the contractual relationships (formal and operational), but there was still an underlying inequality of power and access to resources. The ability of the *castañeros*, porters and shellers to consolidate and develop their activities and thus achieve a better quality of life in the forest and in the urban settlements, remains limited.

5.0 Stakeholders and the fair-trade in brazil nuts

Fair-trade aims to benefit producers in developing countries. In the brazil nut trade, there are three distinct types of people involved in production, plus those working in trading, marketing and collecting. An effective fair-trade system, according to the fair-trade objectives of better returns for producers, should have a positive impact on each of these types of primary stakeholder. The number of people involved in the trade is estimated in Table 2 below.

Table 2: Numbers of people involved in the brazil nut trade

Primary stakeholders	Numbers
<i>Castañeros</i> (concession holders)	1,200 (1999 estimate)
<i>Barrigueros</i> (porters)	4,800
<i>Peladoras</i> (shellers)	3,600 – 4,800
Traders, employees and collectors	235

The total number of people directly involved in the extraction and marketing of brazil nuts in Puerto Maldonado is therefore estimated to be nearly 10,000. With an average household size of 5, this suggests that over 49,000 people are dependent to some degree on income from brazil nuts (over 60% of the total population)¹⁹.

All of these categories have increased in number, but it is evident that the sector which has proliferated most is marketing via the retailers and small scale dealers. They are characterised by small profit margins and the temporary or casual nature of the activity. Their increasing presence signifies an expansion in one of the links in the marketing chain. For the majority of these people, brazil nut extraction and trading is a seasonal

¹⁹ Multiplied by 5 (the average number of people in a family) this gives a total of 49,175 people. In 1993, the departmental population was estimated at 64,460, with an annual growth rate of 5.74. By 1998, this gives an estimated population of some 80,000 inhabitants. According to these calculations, the proportion of the population directly involved (to some degree) in the production and marketing of brazil nuts is in the order of 61.47% of the total departmental population.

activity which allows investment in a range of other sectors, particularly public and private services, in Puerto Maldonado and the settlements along the main road.

Not all groups of stakeholders participate equally in the conventional or fair-trade in brazil nuts. The porters and shellers appear to be fairly marginalised, invisible groups – the former because they are an unsalaried seasonal labour force and the latter because they are primarily a female workforce (See the section on the fair-trade in brazil nuts for further details).

6.0 The conventional trade in brazil nuts

There are approximately a dozen commercial companies currently engaged in extracting brazil nuts in Madre de Dios (the number varies). Some operate as both buyers and processors whilst others are principally marketing companies who buy the nuts unshelled and send them elsewhere to be processed, or buy unshelled nuts directly. Only shelled nuts are exported. Several companies operate out of Arequipa because they are trading mainly in other products.

Until the beginning of the 1990s there were only three large companies, one of which – El Sol - closed and was sold to Candela Peru. These companies buy unshelled brazil nuts which are part-dried, dried, shelled, selected and packed in their own plants before being transported to Lima. Staff are based at the plants (principally administrators) and employees are contracted (mainly women) for shelling.

The commercial companies employ what are called “*habilitadores*” (which translates approximately as ‘enablers’ or ‘financiers’). They distribute loans, decide on which *castañeros* are ‘trustworthy’, and monitor the *castañeros*’ activities to try and ensure they do not sell promised nuts to other traders (in order to obtain a second loan halfway through the season). Candela does not employ ‘*habilitadores*’, but instead they work directly with the *castañeros* financial and trading contracts are made at the Candela offices.

Some larger traders in Puerto Maldonado also buy brazil nuts in significant quantities. There are at least three in Puerto Maldonado, two of these being grocery stores and the third a business selling motorbikes, cars and tools. This type of intermediary company tends to have not only a place to store the nuts (and in some cases to shell them), but they also have similar systems to the large companies for ensuring an adequate supply.

The *habilito* is the sum of money given to the *castañeros* by the company in order that they have sufficient capital to work and initiate the harvest. A condition of the loan is that the brazil nuts are handed over to the lender in their shells which reduces the price the producer receives. In the majority of cases, the loan is covered only by a verbal agreement between both parties. In other cases, there may be a written agreement, or the *castañero* may leave as collateral his contract. The size of the *habilito* is influenced by three factors which vary annually. Firstly, the price which the brazil nuts are likely to

reach in the local market.²⁰ Secondly, the amount of production which is expected in a given year (production fluctuates considerably in 4-5 year cycles²¹). Thirdly, the volume of brazil nuts which the *castaño* will collect, estimated according to the characteristics of his concession, the number of trees and their probable yield.

Marketing companies and some independent traders provide other services to ensure access to brazil nuts. Some of these are presented free and others with a minimal charge. These are mechanisms used to ensure an adequate supply of brazil nuts. They include services or favours rendered to the *castaños*. Some companies offer transport to the concession by canoe at the start of the season for the *castaño* and his provisions. Transport is also offered should the collector need to return to Puerto Maldonado and, most importantly, transport of the harvest. Usually, transport is provided by the company, but where concessions can be reached by river, the traders use their own canoes. In concessions close to the main road, transport is offered from the camp to the road and from there in lorries to Puerto Maldonado. Companies and traders assist with this service to improve the chance that the *castaño* will sell the nuts to them. If the brazil nuts (generally unshelled) are sold to the company or trader who owns the canoe, transport has a lower cost than usual. Candela provides transport to *castaños* but only charges the real cost of the operation (it does not profit from this).

Packaging the unshelled brazil nuts is another activity in which companies provide incentives. The nuts are put into polyethylene bags for transport from the foot of the tree to the camp, and from here to the shipping point and on to Puerto Maldonado. The sacks which have a capacity of 80 kg, are usually black, and in the market cost from S/. 0.90 to S/. 2.40. Some companies provide these sacks for free. On receiving them, the *castaño* commits to selling his nuts to that company.

Companies also have “collectors”, a company employee who goes out to buy the nuts in the different extraction zones, as well as in Puerto Maldonado itself. Generally the collector follows the principal trading routes (along rivers or roads) trying to buy brazil nuts in their shells. In the past all these buyers were known by the *castaños*, but since the number of these collectors has increased in recent years, they are no longer familiar with all of them. The collectors travel with cash in order to conduct the transaction as rapidly as possible. The collectors not only travel to collect the nuts already promised to them, but also to buy wherever they are offered brazil nuts.²² In some cases, the collector is not an employee but uses company money to buy brazil nuts, and receives a commission. Candela has ‘promotion representatives’ that travel to the harvesting areas offering Candela’s services, but they do not buy unshelled brazil nuts.

²⁰ This year, 1999, the price on the local market was S/.40.00 per sack of unshelled nuts.

²¹ This year, 1999, was not considered a good year but better than the previous, and the start of a period of recuperation.

²² One collector told us that his company gave orders to all its buyers to go out and purchase all the brazil nuts possible, unshelled, at a price (1999) of S/.70.00 per sack. In this way they hoped to obtain sufficient volume of unshelled nuts to fully utilise their equipment.

Quality issues are important for the future of the industry. Considerable efforts are made to market the nuts in good condition, but still there are problems with the quality of the nuts being exported and the reputation of the industry in Peru.

Candela Peru is the only company offering a shelling service; a response to the aforementioned quality problems. This provides *castañeros* that do not have the means to shell their own nuts with a useful service. The *castañero* hands over his production (unshelled) to Candela, which takes responsibility for part-drying, drying and shelling (for which it contracts shellers). Finally, the company buys the shelled nuts and deducts the cost of shelling (S/. 1.00 per kilo) and a small amount extra for the use of the drying ovens. This approach guarantees a better quality of the final product. Candela also says that this 'profit margin' would be at least incurred by *castañeros* if they had to contract shellers to do this work rather than using the Candela service. Further, the better handling of the product is said by Candela to also lead to better yields which makes using their shelling service worthwhile (G.Vizcarra, Candela, *pers.comm*). However, some *castañeros* still market their nuts through other companies because they prefer to take charge of the shelling themselves. The quality issue is extremely important, because of the potential implementation of EU aflatoxin regulation that could destroy the whole of the Peruvian brazil nut industry. None of the other exporters appear to have taken it on board as yet. Ultimately the only way forward may be total packing in Puerto Maldonado (P.M.). Candela are advantageously placed one of the few companies that have maintained its infrastructure there (examples of other companies with infrastructure in P.M. are La Selva and Fast Trade) and has recently begun research on the production chain based on quality indicators (G.Vizcarra, Candela, *pers.comm*). Candela has also been involved with C.I. in attempting to raise awareness on this issue.

The greatest profits to be made locally are obtained through the sale of shelled nuts. For example, each 80 kg sack of unshelled nuts is currently worth S/. 40.00. From an 80 kg sack of unshelled nuts, approx. 20 kg of first grade, shelled nuts can be obtained. In Puerto Maldonado S/. 5.00 per kilo is currently paid for first grade shelled nuts and, by mid-year, it is estimated that the price may reach S/. 6.50. If we take the average price of S/. 5.50 for shelled nuts, the value per sack is equivalent to S/. 110.00. From this the cost of shelling the nuts must be subtracted (approximately S/. 1.00 per kg., equivalent to S/.20.00 per sack). A further S/. 5.00 is required as a carriage charge per sack. The *castaño* can therefore receive S/. 85.00 per sack if s/he sells shelled nuts. This is in contrast to S/. 40.00 obtained for a sack of unshelled nuts. This signifies that with shelling, income per sack is doubled. In addition, the *castaño* will be left with a few kilos of third grade nuts (which have been broken or damaged during shelling) which is sold locally to be used in the preparation of sweets or oil.



Brazil Nut processing in Madre de Dios

The *castañeros* make considerable efforts not to sell nuts in their shells and increasingly are shelling the nuts at home. This difference in price explains their unwillingness to meet the terms of their loan (*habilito*) at the appropriate time, as they are obliged to pay with unshelled nuts. (See Section 11.0 for a fuller explanation.) For the same reason, the companies are well disposed to run the risks of handing out loans to the *castañeros* and order their buyers to purchase only nuts in their shells. It also explains the proliferation of small-scale traders and shellers. The sale of unshelled nuts is therefore increasingly infrequent. Those who still use this practice tend to sell their nuts at the collection point, exchange them for provisions, or to take them Puerto Maldonado to sell at one of the ports in town.

7.0 The fair-trade in brazil nuts

Having explained the conventional trade in brazil nuts and the main stakeholders in that trade, the fair-trade in brazil nuts is now considered. Candela is an alternative trading organisation that aims to generate better opportunities for small producers through trade. It is the only organisation operating in Madre de Dios (since 1989) that supplies the fair-trade market. Candela is the tenth largest exporter of brazil nuts.

It has received support in the past from Conservation International (C.I.). C.I. provided Candela with a loan and this enabled Candela to buy part of the plant belonging to another company El Sol. Candela demonstrates similarities to other companies in some aspects of its trading of brazil nuts in Madre de Dios, but there are also differences. These are explained further below. Unlike some fair-trade marketing organisations, it is not a co-operative nor is it owned by producers, although as previously explained this is not uncommon amongst ATOs in the South.

Candela sells brazil nuts to various companies and organisations in the United States and the UK. Brazil nuts were sold to Global Organics and Sunshine – conventional U.S. companies that work with Candela. Global Organics sold the nuts to Community Products Inc. (CPI) and they manufactured a product that was sold to Ben & Jerry's. However, Community Products Inc went bankrupt three years ago. Global Organics itself is a conventional commercial company that started to supply community products because the commercial branch of Cultural Survival (an indigenous rights US based NGO) decided to close their trading operations since they were not profitable. Candela has always struggled to get Global Organics to pay a 'fairer price' for the brazil nuts.

Candela has also supplied Twin Trading and Oxfam Trading (brazil nuts covered in chocolate sold as a fair-trade product) with brazil nuts in the past. However, the quantities of nuts sold, for example, to Oxfam, are very small.

Candela has been exporting brazil nut oil to the European (Body Shop International) and North American (Croda International) markets since 1993. Croda has been working with Candela since 1992 and is currently assisting Candela to identify and open new "personal

care market channels”²³, including the organic certification of nuts and oil as part of that strategy. Croda has not bought more than one tonne of brazil nut oil per year, however, (G. Vizcarra, *pers comm.*) and the personal care market channels amounted to only US \$3000, for example, in 1997.

Candela is committed to providing technical assistance and training to ASECAM, so that ASECAM in the future might export brazil nuts directly and Candela would concentrate on processed forest products. A line of candles has been developed by Candela, using the brazil nut pods or “*cocos*” (previously a waste product). These have had “strong sales” in the US, according to C.I.²⁴ Brazil nut meal is another by-product in the oil production process. Croda International research has established that this meal has over 45% protein, making it a potential replacement for hair keratin protein²⁵. However, Candela say they have Croda have not contacted them recently to develop the potential of this meal.

Candela is the only exporter supplying the fair-trade market. It operates according to alternative trading principles, which are similar to fair-trade ones. Candela supplies mainly conventional markets rather than fair-trade ones in terms of volumes. The reason for this is that it is very difficult to obtain a premium on brazil nuts (see the Economics Study). Obtaining extra value via an organic premium is also difficult although some companies – Crazy Jack for example – are marketing organic brazils as a stand-alone product²⁶. These difficulties are encountered because of the small demand for fair-traded brazil nuts. These are often sold in packets of mixed nuts. This means that it would be difficult to attach a fair-trade label to these nuts, since it is not possible to guarantee that the other kinds of nuts in a mixed bag have not been produced or traded according to fair-trade principles. Brazil nuts are also sold in confectionery where they are substitutable for other types of nuts depending on relative prices on the international market. (This issue is explored further in the report on the Economics of Brazil Nuts.)

Candela’s credit programme provides credit to brazil nut collectors but does not charge interest. There is no fixed repayment period or loan-term and no cumulative daily arrears are charged. Credit is in US dollars, and the selling price is not fixed in advance but according to the market price at the moment of sale. The contract for the concession is required as a guarantee. The Economics Study has found that the credit offered provides the most acceptable terms and conditions to collectors, and this is putting pressure on other companies to improve the conditions they offer, in order to compete. However, none of the primary stakeholders interviewed in the study perceived this difference to exist in forms of credit offered by the different companies. Compared to Credismad and similarly to the other companies, Candela’s credit system does not charge interest and if collectors cannot cover their debt in one season their debt will not continue to increase

²³ Edward Millard, Conservation International – Marketing *pers comm.*

²⁴ Edward Millard, Conservation International – Marketing *pers comm.*

²⁵ AVEDA, US based personal care company introduced *morikue* (indigenous word for brazil nut) into its six most popular hair care products in October 1998.

²⁶ Crazy Jack introduced organic brazil nuts in the UK in 1998.

daily. Candela’s nut price offered is lower (see Economics Study) generally than other companies (although a fixed price is not set in advance).

Table 3: Comparison of Candela and conventional trading approaches

Similarities between Candela and conventional companies	Distinct features of Candela
<ul style="list-style-type: none"> • Price per sack comparable for all companies • Mechanisms to “encourage” <i>castañeros</i> to sell them their nuts and thus acquire the volume they require for export • the loan (<i>habilito</i>) system and the lenders, collectors and intermediaries • mechanism to calculate wastage (sampling or “cutting”) 	<ul style="list-style-type: none"> • a shelling service; an activity which is conducted in one section of its company plant • separate handling of <i>castañero</i> brazil nuts to maintain integrity of chain custody. • Some aspects of Candela’s credit system • Candela’s NGO projects • incentives in the form of transport facilities and “free” sacks (Candela charges the real cost of operation, it does not profit from this service, except to assure access to the product).

Given that Candela is primarily supplying the same market as its conventional competitors, it is perhaps not surprising that its relationship with producers is not markedly different from other companies in the region in the view of the *castañeros* (Table 3). The **perceptions** of the *castañeros* interviewed did not provide evidence that there is significant difference in the benefits derived from an “alternative” approach to trading with that of the conventional companies.

Some of the funds Candela receives do finance a diversity of activities and services that allow it to compete on better terms than other (solely profit-oriented) companies²⁷. It also has funds for lending (the *habilito*) and for improving relations with the *castañeros* (e.g. separate drying and handling of brazil nuts of different *castañeros*). The conditions of loans offered by Candela were found by the Economics Study to be the best offered in the region. At the same time, however, the loan system in brazil nut trading, which is one of the key difficulties which *castañeros* encounter, is used by Candela in the same way as it is used by other companies – i.e. to establish a relationship with producers that ensures access to the product.

One of the principles of fair-trade is tackling access to credit. However, the *castañeros* who work with Candela Peru demonstrate some discontent because there are considerable delays in negotiating a loan, and because the company decides on the size of the loan.

²⁷ Candela has begun a pilot experiment this year to provide women who are independent shellers with free interest loans to enable them to buy their unshelled brazil nuts. The *peladoras* can then shell the brazil nuts in their houses before selling them. (G.Vizcarra, Candela, *pers.comm*).

This obliges the *castañeros* to take out additional contracts with other lenders to complete the sum needed to initiate the harvest and provide some money for their families.

The loan system is a significant contributor to the distrust that exists between producer and trader, and is exacerbated by the lack of transparency over the price received by the trading company. The *castañeros* are aware that the loan system does not work in their favour, but lack the information to calculate the profits made by the companies and traders locally and internationally. Candela has not been able to overcome this system, although this is perhaps more a reflection of the limitations of export oriented trading interventions and the specific brazil nut market (premiums are difficult to obtain) than on Candela's operations itself.

As mentioned earlier, Candela is one of a minority of companies offering a shelling service that involves the managing and processing the brazil nuts and contracting shellers. Candela does not buy unshelled nuts but offers a shelling service to *castañeros*. The *castaño* is charged S/. 1.00 per kilo for shelling plus a small sum for the use of the drying ovens. In effect, this enables Candela to acquire unshelled nuts and thus guarantee obtaining the volumes required for export. In addition, the in-house processing guarantees the quality of the nuts. However, shelling by companies will be necessary in the long-term to develop sufficient quality to maintain markets in Europe and to retain support from international NGOs who directly market the products.

8.0 Benefits of the brazil nut fair-trade for porters and shellers

A fair-trade system aiming to bring tangible benefits to poorer people in the Puerto Maldonado brazil nut industry would need to deliver distinct benefits to porters and shellers. Candela provides employment for shellers, but there is no clear evidence that the conditions or pay for such piece workers are better than in other trading companies. There have been improvements in shellers' conditions across the industry, but the rise in the number of independent shellers suggests that traders do not offer attractive enough conditions to dissuade those with sufficient financial and social capital (e.g. family labour) from setting up independently²⁸.

Fair-trade does not directly address the problems highlighted by porters. The opinions of porters do not appear to be articulated or visible when problems relating to brazil nut extraction are discussed. The porters have no organisation or representation, not least because of the seasonal and itinerant nature of their work. However, age may also be a factor in this, especially when the porter does not consider portering to be a long-term source of income. However, fair-trade projects do tend to attract complementary

²⁸ In 2000 Candela have started a pilot experiment to provide free interest loans to independent women to enable them to buy in-shell brazil nuts, to shell them at home and then to sell them (G. Vizcarra, *pers.comm*).

assistance from other development agencies (the honeypot tendency) as in this case with the C.I. project mentioned earlier which will benefit porters.

Prior to the recent C.I. project, NGOs supporting fair-trade focused primarily on the *castañeros*. These concession holders have a better social and economic position than the porters or shellers. There was perhaps an assumption that by improving the returns and the institutional conditions of *castañeros*, there would be a trickle down of benefits to other stakeholders. There is no clear evidence that this was the case. But have *castañeros* themselves benefited from fair-trade?

9.0 Benefits of the brazil nut fair-trade for *castañeros*

Candela buys from all types of *castañeros* and sells partly to the fair-trade market. However, the price paid to *castañeros* is no different from that paid by other trading companies. Candela provides a shelling service but does not buy unshelled nuts – payment is made after processing has occurred. If prices of brazil nuts in the area have improved (something discussed in the separate Economics Report) this is likely to be the result of a growing number of independent traders and competition for brazil nuts.

Price is only one aspect of fair-trade, and better loan conditions, for instance, would be seen as an important advance by *castañeros*. However, in Puerto Maldonado, fair-trade and conventional trade companies rely primarily on advances to link producers to buyers. Fair-trade aims to build long term relations of trust that gradually empower the producers to have more control over the terms of trading and the resulting benefits. There has been no apparent attempt to restructure trading relations, to involve producers as members/owners of the trading company, nor to explore ways of enhancing the physical, social or human assets of primary stakeholder groups. It was disappointment with this lack of progress that led to Conservation International shifting its support from traders to producer groups as agents of change.

However, this is not to dismiss the role of Candela or the organisations that have supported it. Candela has provided capacity building support to brazil nut collectors and their association and in social projects with other community groups (not included in the study communities). No systematic evaluation has been carried out of the longer-term impact of these activities, but there is a difference of opinion between Candela and producers about where investments should be made. Candela believes grant funds should be used for social projects and loan funding to finance core business operations. Producers, however, do not have sufficient information to be able to differentiate between the two types of funding, and feel that funds of whatever sort should lead to higher prices – a difficult situation for Candela.

C.I.'s continued investment in the brazil nut industry may not have happened without Candela. Also, Candela has been active in developing new products and markets. Indeed, there are questions as to whether brazil nuts are a suitable fair-trade commodity, regardless of the institutions involved, because they are highly substitutable and, unlike coffee or chocolate, do not have a high consumer profile. This is an issue discussed

further in the conclusions of this report, but Candela and C.I.'s strategy of product development as a way of increasing returns may under the circumstances be the only means of providing greater benefits to producers in the future.

10.0 Livelihood strategies and the role of the brazil nut trade

The livelihood systems of those engaged in the brazil nut trade incorporate a diverse range of activities, although brazil nut trading provides one of the main opportunities in the region for generating income in a short period of time. Trading companies, both fair and conventional ones, look upon *castañeros* as brazil nut producers, but the *castañeros*, porters and shellers actually engage in a whole range of activities to secure a living. The livelihood activities of *castañeros* can include agriculture, small livestock, timber, cattle, mining, handicrafts, domestic services, transport, fishing, hunting, and gathering and more recently tourism. These activities can take place in forests, peri-urban and urban areas.

Engaging in diverse activities spreads risk. In agriculture often at least eight different crops are normally cultivated; several species of animal are reared. Different products are harvested from the forest; and marketing is conducted in different spaces, amounts and forms. *Castañeros* and porters possess a diversity of knowledge, abilities and skills that allow them to conduct a variety of economic activities. Brazil nuts and timber extraction is complemented by the gathering of fruit, roots, leaves and lianas for sale. In contrast hunting, fishing, forest agriculture and small scale livestock rearing are principally for subsistence. Resources are also used in multiple ways. By-products of brazil nut processing are also used.²⁹ Brazil nut and other forest extraction is oriented towards external markets. The end product may be unaffordable to the producers, and only lower quality produce is available in local and regional markets³⁰.

A change in the allocation of family labour is occurring because of the increased emphasis on education. It is becoming less common to involve the whole family in brazil nut extraction, and there is a tendency for only the elder children to take part in the range of different activities. Women and younger children are tending to remain in the town more than before.

Engaging in a diversity of activities is also a response to the seasonality of activities and cyclical fluctuations in production. Brazil nut extraction is conducted between January and March, though shelling may continue for several months. Extraction of timber begins in April, towards the end of the rainy season, but cannot continue for a long period

²⁹ Extracting the kernel, the shell may contain some small remnants. These are left out so that pigs or poultry can eat the remnants, before the shell is used for fuel. After extracting oil from the third-grade brazil nuts, the pulp which remains is used to make sweets or for feeding domestic animals.

³⁰ Broken brazil nuts are used in the preparation of sweets or oil. Ordinary (low quality) timber, which is not suitable for export, is used locally for construction, furniture and other domestic uses.

because the water level in the rivers restricts navigation. Agriculture is also seasonal. Brazil nuts are cyclical in that production increases up to the fourth year, when it falls rapidly, and then begins to recuperate again. Timber production is tending to decline. In agriculture, yields are highest when land is first opened in the forest. Production then declines over consecutive harvests until it becomes necessary to leave the land in fallow, and begin the cycle again in another plot. Some activities overlap such as rice harvesting and hunting at the time of the beginning of the brazil nut harvest.

Income from the sale of brazil nuts is invested in timber and livestock activities as well as in urban investments (income is not required to carry out hunting, fishing and the gathering of goods from the forest). Little re-investment in the forest occurs as a result of the brazil nut trade. The family budget is made up of income from the brazil nuts, timber and gathering as well as the remaining activities. The income from brazil nuts is outlined in box 3 below.

Box 3: Income from the brazil nuts

Families cannot survive from brazil nut production alone, but every year some income (in some years a significant income) can be obtained from the trading of brazil nuts - which therefore has a safety net function. Based on a brazil nut yield of 150 sacks and using the market price per sack in the local market the following calculation can be made.

If the *castañero* sells the nuts unshelled, he will obtain a net profit of S/. 3,000.00³¹. If the nuts are sold ready-shelled, they can obtain S/. 9,000.00³². Usually the *castañero* is obliged to sell part of his production unshelled, but seeks to sell the majority ready-shelled. For this reason, the net profit fluctuates between these two amounts. In the first example, the *castañero* would only have an income of S/. 8.00 per day, with which he could not cover the family budget. In the second example, he would obtain S/. 25.00 per day, which is less than the minimum salary in the region. Further, the yield of the brazil nut trees varies in four to five year cycles. In years which are considered to be poor (as in 1998, where only 8-10 sacks were collected) the income is minimal.

The earlier settlers managed to obtain the concessions in optimal locations. The optimal situation is where a concession is located close to lines of communication, (especially close to navigable rivers or lakes). Not only is the distance to town important, but also the distance between the shipping point and camp or house. The possibility of constructing roads which penetrate the forest to facilitate transport to the houses or camps is limited by the dispersed nature of the concessions and would demand the construction of secondary roads for more distant camps – a costly and environmentally destructive option.

³¹ The price of a sack of brazil nuts is S/. 40.00. Our calculation is based on the estimate that the *castañero* incurs a cost of S/. 20.00 per sack. This is divided between paying S/. 15.00 to the *barrigueros*; and an estimated S/. 3.50 per day for food (an estimate which we shared with a company and which is based on a *barriguero* extracting on average one sack per day). We estimated further S/. 1.00 for other expenditures such as tools, lodgings, transport and medicines, and S/.0.50 for transport costs (in general, when the nuts are sold unshelled, transport is paid by the trader or an arrangement is made to share costs, but with the lowest costs on the part of the *castañero*). This calculation was commented on several times by *castañeros* - “we work 50/50 with the *barrigueros*”. The difference between income and expenditure is S/. 20.00 which, if multiplied by 150 sacks, gives a net profit of S/. 3,000.00.

³² On selling the brazil nuts ready-shelled it is possible to obtain S/. 110.00 per sack. From this it is necessary to subtract S/. 45.00 or S/.50.00 in costs per sack (which includes S/.20.00 for the *barrigueros*, S/.5.00-10.00 for transport (the second if it is necessary to transport the nuts from the camp to the shipping point, from where one pays S/.5.00 to Puerto Maldonado) and S/20 for the shelling). The difference between income and expenditure is S/60.00-65.00 which, if multiplied by 150 sacks, gives a net profit of S/. 9,000.00.

More successful *castañeros* are able to collect and sell a large quantity of brazil nuts and sell them all at once in order to obtain a significant amount of money which can be reinvested in more profitable activities. Increasing the amount of timber extraction also raises income. However, reforestation is rare and fine wood for export is becoming scarce, and it is necessary to look in areas that are increasingly further away. Income can be invested in cattle rearing for meat. Land is bought in the areas close to the road or near to town. However, there are limits to this activity as the urban market is becoming saturated, because of its limited capacity and due to an increase in the number of cattle in the region. The acquisition of land in areas near to town and roads is a strategy to provide future security for the *castañeros*. Most *castañeros* aspire to “having a small business in town”. Many *castañeros* intend to reinvest in transport in areas where roads have recently been opened, or where there is a scarcity of motorised vehicles.

The marked tendency to develop commercial activities in town and to acquire land is due largely to the uncertainty of work in the forest. Timber of export quality is almost exhausted and gathering is only occasional. The variable annual production of the brazil nut trees adds to the uncertainty about the income which can be obtained. However, as mentioned earlier the brazil nut trees always provide some income. During the bad years, they become indebted against probable future harvests, while in good years they can cancel their debts and, if they manage their finances well, can expand their capital funds. Timber gives greater profits, but this resource may soon disappear. In the case of cattle rearing, which requires greater investment, capital matures slowly. Brazil nut trading, with all its uncertainties and fluctuations, is the only activity which provides an income every year.

Fluctuations in production occur, but every year there is a brazil nut harvest, so *castañeros* can recapitalise in years of good production and good prices if they fall into debt in bad years. *Castañeros* are involved in a diverse range of activities – brazil nut collecting is a seasonal activity. Cash from brazil nuts can be obtained as small payments on the sale of small amounts or as a large lump sum on arrival in Puerto Maldonado with the sale of large quantities of nuts. Men tend to control this cash except in female-headed households (i.e. female *castañeros*). Cash from the brazil nut trade is used to cover basic needs and to fund other investments (e.g. buying motor taxis). Pressure to educate all children is increasing and so higher income levels are needed. The new school year starts as the harvest is finishing. The harvest therefore provides ready cash to educate children. Companies provide the *castañeros* with loans to secure shelled brazil nuts in order to secure the shelled nuts.

II.O *Castañero* Access to capital assets

The capital assets to which the *castañero* group have access are outlined below, including natural, social, human, physical and financial. It should be emphasised that these are the assets that relate to the brazil nut trade.

The forest is the basic natural resource on which brazil nut production is founded. Access to the concession title is key. Concessions are renewed every 2 years. The average size of a concession is 1000ha; less than 800ha is not considered viable. The access to natural capital varies among *castañeros* because the value of the concession depends on the number of brazil nut trees, their productivity, their concentration/dispersion and their accessibility. Concession titles are what differentiates a *castañero* from a porter – the latter do not have titles. Concessionaires may pass their rights to a concession to another person and although they are not strictly selling the concession, payments are made (sometimes in lieu of improvements to the camps and roads). Few new concessions are being created and any new concessions are located far into the forest. The practice of renewing the contract or title, and the acknowledgement between neighbours, offers relative security of title access, but because renewal of the concession involves payment this system is widely criticised by *castañeros* and they say they would like to stabilise the legal situation. Some propose extending the length of the contracts from 2 to 10 or 20 years, while others proposed requesting full rights of ownership.

On obtaining a title to a concession, the *castañero* takes possession of the land and constructs roads and paths cut into the forest; dry docks and buildings (for more stable encampments) or temporary shelters. Land is prepared for crops and sometimes *castañeros* go hunting or fishing if the concession is close to a river or lake. Therefore, conditions are such that it is possible to cultivate and to live on site. The concession holder effectively assumes rights to almost all of the natural resources on land which has been conceded only for the extraction of brazil nuts. Although they are not authorised to cultivate, hunt or fish, the *castañeros* justify these activities because they are on a very small-scale and only provide for the subsistence of themselves and their workers.

Timber extraction is expressly forbidden and if they do this, they could be discovered at the point of selling the timber at the port where they will incur a fine. To extract timber from land where they hold the brazil nut concession, *castañeros* must obtain another concession from the State (many *castañeros* have these separate timber concessions). Problems arise when timber concessions are given to individuals who are not holders of the brazil nut concession on that land. Sometimes the timber concession of a *castañero*, extends into land which is held by a neighbouring *castañero*, creating overlapping extraction rights and the potential for conflict. Workers and services can be hired directly, or extraction may be subcontracted to a third party. The *castañeros* also engage in other economic activities (e.g. timber extraction, agriculture).

Other forest resources are used directly during the extraction of brazil nuts, as well as for small-scale agriculture and livestock keeping³³. The presence of the *castañeros* does affect the forest, but brazil nut trading is considered by some (conservation-driven NGOs in particular) to be an activity which functions to conserve the forest, by giving it economic value. The brazil nut is an entirely natural product: its extraction does not involve felling trees, as collection does not take place until the nuts fall naturally to the ground³⁴. This trade alone, however, may not be sufficient to protect the forest, since there are pressures to clear land for agriculture and cattle rearing, which may override the value which brazil nut trading *per se* can contribute to the relatively untouched forest. This does not deny the conservation argument that people collecting NTFPs as a livelihood strategy is better from the perspective of ‘biodiversity preservation’ than converting the forest. Alone brazil nut trading will not conserve the forest – other industries which sustained the forest cycle – mainly rubber – no longer exist. Whilst the fair-trade in brazil nuts may increase the value reaching local people, perhaps the question is what complementary activities and changes in policies are required for sustainable development to occur. All types of *castañeros* and their access to natural capital are currently threatened by the expansion of the petroleum, mining and tourism industries.

Castañero access to financial capital is limited. The *castañeros* are confident that there is always a market for brazil nuts, and while some years are markedly better than others, the industry is usually profitable. Brazil nuts are typically only one of a number of income sources for the *castañeros*, but Box 3 (see above) gives an indication of its significance. The income from brazil nut extraction is discussed in detail in the separate report on the economics of the trade.

Being a concession holder provides a person with the opportunity to take out credit. In Puerto Maldonado there are few private organisations which give credit to *castañeros* to finance their activities. Credismad, Candela and a few conventional companies provide credit on condition that they leave as guarantee the contract that they hold with the State. This practice has had no legal basis in the past; the contract only gave rights to the extraction of brazil nuts, but it was used as security, and this system did not function in

³³ The bark of the *misa* is used to tie the sacks of nuts and hold them across the forehead. *Tamishi* leaves are used to protect sacks of brazil nuts from the rain. Fibre is used for weaving baskets for collecting the “*cocos*” or pods and for carrying firewood. Some timber is used for the construction of dwellings, stores, beds and (drying) platforms. Palm leaves are used for roofing, tools are made for use in handling the brazil nuts, for agriculture and carpentry, and materials are used in the construction of roads and means of transport.

³⁴ It is not known if the effect of removal of the brazil nuts on the regeneration of brazil nut trees has been studied. A local NGO is however currently studying the cycle of the brazil nut tree (G. Vizcarra, Candela, *pers. comm*).

reality³⁵. The contract document serves only to prove to credit organisations that a given person is holder of a concession, and is able to take on credit.

As mentioned in Section 6.0, the *castañeros* have access to money every year through a loan (*habilito*) from the companies to initiate the brazil nut harvest. The availability of this loan may result in the money received as credit or an advance being only partially used in the financing of the harvest. The lender or '*habilitador*' as well as the *castaño* know that sometimes the first loan will be spent at the start of harvest and the *castaño* will not be able to complete debt repayments with his brazil nuts without receiving a second loan. If the second loan is not expected to be sufficient or timely, the first sacks of brazil nuts are sold to another intermediary in order to obtain cash to pay the porters and to buy food, cover transport costs and continue with the harvest.

As a result of the competition between intermediaries for the brazil nuts, the *castañeros* can sell nuts for cash as soon as they are harvested. The seasonal nature of the brazil nut trade means that credit providers will give credit (to well known and trusted producers only at this time of year) in November or December. The second loan is given in February. Even if these loans cannot be repaid in a given year, the cyclical nature of productivity and price means that *castañeros* do not regard indebtedness as a long-term problem. However the terms of the loan can disadvantage the *castaño*. Paying the loan with unshelled nuts (as stipulated in the contract) means that the *castaño* is paid only one third of the local value of shelled nuts. Uncertainty over the price the *castaño* will be paid (and that the company will get for the brazil nuts) also undermines trust. The *castaño* will try to evade or postpone complying with the loan, and repayment is usually deferred until the following year when a new loan is negotiated and the total debt increased. Candela however does not charge interest, and can give upto 60% of the advance payment. Payment occurs after the product is shelled and at the market price of that moment of closing the processing.

Although the *habilito* is a means of accessing financial capital, it is also important as a mechanism for creating social capital. The *habilito* is a vestige of the '*patron*' system that ended with agrarian reform. Whilst reform has brought greater access to natural resources, the *habilito* system remains.

The credit system which maintains the brazil nut trade is complex. The *castaño* needs money to proceed with the harvest and for basic family needs, but cannot sell nuts until the loan is repaid. Near the end of the harvest (mid-February), the *castaño* needs money because he/she has carried out more than a month of brazil nut extraction and has a number of sacks ready. Further, the *castaño* has immediate expenditures: the porters have completed the work covered by the advance they received and are beginning to demand additional payments which may be due to them. They also request more provisions. The *castaño* also has the outstanding debt of the first loan, and must attend to the needs of the family. Lenders are aware that this situation can lead to the sale of

³⁵ Credismad has recently established an agreement with the Ministry of Agriculture to obtain the contracts of debtor brazil nut concession holders (G Vizcarra, Candela, *pers.comm*).

shelled and unshelled nuts to other traders, and keep a close eye on the *castañeros* to ensure that they first hand over sufficient brazil nuts to cancel their debt. Repayment of the debt is delayed as long as possible, increasing the temptation to sell to other traders. If the *castañero* goes back to the lending company for a new advance, the lenders will demand complete repayment of the first loan. If this is not possible the size of the second loan will not be sufficient, and the *castañero* will be even more bound to the company.

Despite the unfavourable terms of the loan, the *castañero* takes out an *habilito* every year, since there are few alternatives. The system is resented by the *castañeros* who are dependent on the marketing companies or intermediaries both for the purchase of their nuts as well as for provision of the working capital needed to prepare and execute the harvest. The *castañeros* are therefore in a relationship of “double dependency” – i.e. of buying from and selling (unshelled nuts) to the same company and, at the same time, obtaining credit from the same company. Through the loan, the companies seek to develop and foster a relationship based on dependence, in order that the *castañeros* supply them with brazil nuts. The companies set the prices of the unshelled nuts, the shelled nuts and the shelling, but also maintain the traditional systems of evaluating nut wastage and quality. Some of the company buyers/lenders (*habilitadores*), as part of the mechanism of the loan/buying-selling system, provide the *castañeros* with basic provisions, but at above market prices (whereas Candela provides such provisions at the going rate). The commercial companies also question this system because they fear that *castañeros* will sell to other buyers before they have repaid their debts.

Access to social capital is also important to *castañeros* to maintain their economic activities. The trade depends upon family labour in extraction as well as in other related tasks. To conduct the process efficiently relationships that are reliable and trustworthy are essential as the risks of losses due to poor management or fraud are always present, and access to non-family labour is a constraint. The fact that the harvest coincides with the school holidays (January - March) encourages the participation of the family (including men, women, children and friends of children) in the various activities involved. It also facilitates access to contract labour, especially individuals from the teaching sector, where salaries are notoriously low. The seasonality of brazil nut extraction and processing tends to reinforce rural-urban links.

There are differences between the *castañeros* according to origin and length of residence in the area. This influences their culture and local institutions. The indigenous groups have different cultures, identities and values to that of the colonist *castañeros*. *Castañeros* who are colonists or are offspring of the first generation of the colonisers of the Amazon, make up a significant portion of the brazil nut extractors. Capacity to work hard and an enterprising character is part of the colonist *castañero* identity. These qualities enable them to confront the challenge which working in the Amazon rainforest involves combined with a weakness of institutional support. However, there is solidarity between people and forms of managing conflict. The migration of the Andean peasants to the Peruvian Amazon is a result of their search for better living conditions; the mountains provide few opportunities and their inhabitants often live in misery. In the Amazon economic activities are markedly more commercial in nature and production cycles are more rapid than in the mountains.

Indigenous cultures continue to fight for the legal recognition of indigenous communities and their respective ancestral territories. Indigenous movements have concentrated on the creation of indigenous reserves and resistance to forestry concessions. These actions have led to the expulsion of colonists from some areas, and also restricted the expansion of their activities and excludes them from reserves and national parks. Colonists feel that the indigenous communities have unfair privileges. There is an organisation which represent the interests of both groups: the indigenous peoples are affiliated to FENAMAD, and those who are non-indigenous (colonists or migrants) to FADEMAD.

The human capital of *castañeros* is outlined below. There are more men in Madre de Dios than women.³⁶ This imbalance in the male-to-female ratio is due to the import of male labour for commercial development in Madre de Dios. Often the concession holders tend to work as hard as the porters. The *castañero* sets the pace of work for the team (which often includes family labour and contracted *barriqueros*).

The *castañeros* have a detailed knowledge of the forest including, for example, the production cycles of the trees, the characteristics and location of trees in their concession, the timing of flowering and ripening and the factors affecting the fall of the “*cocos*” (important in determining the timing of collection). Knowledge about other resources, including water, flora and fauna, are also indispensable for the establishment and survival of the *castañeros* in the forest during harvest. The colonists often contract indigenous people for tracking, creating new paths and judging areas of brazil nuts for new concessions because they have the most extensive ‘forest’ knowledge. Gaps in their knowledge identified by *castañeros* include reforestation to ensure an adequate supply of brazil nuts in the future, management of the brazil nut trees and improved extraction skills and training in the processing of the nut and export. In common with producers the world over, direct access to markets is the top priority and a shared goal with the fair-trade movement

Some *castañeros* are experimenting with reforestation but none of these “experiments” has been conducted systematically. In recent years, an International Tropical Timber Organisation (ITTO) Project has promoted the planting of seedlings, which have been cultivated in the project nurseries. These have been planted in variable numbers and using a variety of establishment methods, some in continuous plantations and some are scattered, some within the forest and others in open spaces³⁷.

³⁶ For several decades, the ratio of males to females in has been higher in Madre de Dios than in any other part of the country:

Census year	1940	1961	1972	1981	1993
Madre de Dios	129.7	156.7	134.3	146.6	131.0
National average	97.9	98.9	100.5	99.7	99.2

This information provided by CBC from the National Census data (Censos Nacionales, Hurtado *et al.*, 1993).

³⁷ *Castañeros* are interested in obtaining technical advice on whether brazil nut trees can produce fruit in cleared land and at what age the trees begin to bear fruit, techniques for achieving an early production and the possibilities of grafting, experiences from Brazil

There is a generally high level of school education in Madre de Dios in comparison to other rural populations in Peru. In general the people of Madre de Dios are more literate and have a better knowledge of Spanish than the Andean people in the south of the country. All of the *castañeros* in the study were literate, and the majority had received secondary education. The young people, both male and female, had received a secondary education and hoped to continue studying. The education provided by the schools is less deficient here than in other rural areas. There is also less discrimination between genders in terms of access to education than is seen in other parts of the country. The relatively high level of education among women has resulted in them being delegated with the “management” tasks in the family business - dealing with the formalities and paperwork in the local government offices and brazil nut marketing companies. The children and relatives of *castañeros* working in the family concession are also employed as teachers. The *castañeros* hope that their children will become professionals in order that they do not have to follow in their own footsteps. The older children, who have already finished secondary education, become involved in the management of the family business and are the principal assistants of their fathers.

It is difficult to make a connection between this relatively high degree of access to education and the brazil nut industry. Lately, education has been seen as an obligation among parents. This has given rise to a new tendency: mothers spend more time in the city and in improving the living conditions of their urban dwelling. This implies a greater investment in the needs and requirements of life in the city. Brazil nut extraction is well-suited to this because the harvest (December - March) takes place during the main school holidays, and if they have a stable encampment, the whole family moves into the forest. If the camp is only a temporary one, the father is accompanied by the elder children. The strategy of involving the whole family in the business is now confined to the school holidays, though elder children are involved on a more continuous basis. In the case of single mothers and widows, it is common to hear the argument that they have to continue in the brazil nut trade in order to be able to educate their children. The start of the school year coincides with the period of most intensive marketing of the brazil nut. For this reason, families tend to have sufficient resources available at the critical time to be able to meet the expenditure required for the education of their children.

Health services are very limited or non-existent in the zones where the concessions are located, but living conditions are tough. Water is collected from a river or spring in containers.³⁸ As colonists become established in the forest, they have to face the risk of accidents, disease, and unhealthy conditions. Accidents occur whilst people are engaged specifically in brazil nut extraction (e.g. people are hurt by falling *cocos*, by falling trees

and Bolivia. There are concerns about current production - no one knows how old the trees are or for how long they will continue to produce. The little that is known concerns the fluctuations in production that occur in 4-5 years cycles, also that “although production is very little in some years, the brazil nut always yields something”.

³⁸ Recently there was an intensive campaign towards the prevention of Dengue fever, organised by the municipal government involving waste collection from every house on a specific day.

and capsizing canoes).³⁹ There is a hospital in Puerto Maldonado, but in more serious or complicated cases patients may be taken to Cuzco or Lima. There are few health posts near the concessions, and these tend to be poorly equipped. In case of emergency, (such as snakebites, serious injury, etc.), it is usually necessary to travel for several hours to Puerto Maldonado. It is frequent (particularly among women) to rely on herbal medicines. The *castañeros* must meet the cost of treatment of the *barriqueros* when accidents occur.

Castañero access to physical capital is limited and varies between the different groups of *castañeros* depending on the location of their concessions. The region of Madre de Dios is isolated due to the lack of communication links. Overland routes across the Andes have not been completed and maintenance is very poor and brazil nuts have to be transported by air to Lima. Transport by river carries risks both in periods of high and low waters. Despite this, it is one of the most utilised routes in the majority of brazil nut producing zones for transporting the *castañeros*, their families, the *barriqueros*, the brazil nuts and all the goods necessary for sustaining life in the forest. As a result, transport by canoe has developed as an activity which is complementary to the brazil nut trade⁴⁰.

Within the forest, the task of maintaining the road infrastructure and buildings is assumed or shared by the *castañero* and his neighbours. All *castañeros* complain about the damage to roads and buildings caused by the timber extractors. The buildings and equipment have a considerable impact on the quality of life of the *castañeros* and their workers, while the access routes affect the costs of extraction (in particular, the payment of porters to carry nuts from the trees to the camp or collection centre).

12.0 Conclusions

12.1 Stakeholder Groups and Livelihoods

The local stakeholder groups identified include *castañeros*, *barriqueros* and *peladoras*. Of the *castañeros* there are differences in economic and social position depending on factors such as length of residence in the area, origin, location of the concession in relation to the urban areas, peri-urban agricultural areas or forested areas. Distance from roads and rivers is a key criterion affecting ease of transport and level of transaction costs. Consequently this criterion influences the relative success of the trading in brazil nuts as a livelihood option. The *castañero*, as a primary stakeholder group can be divided into further sub-categories: male and female concession title holders, colonist *castañeros* and indigenous *castañeros*.

³⁹ The brazil nut pods fall from a height of 30 metres or more. From December it is possible to find coconuts on the ground, but they continue to fall during the entire period of the harvest (January, February and March).

⁴⁰ *Castañeros* try to obtain their own canoe with a 16 h.p. engine to provide them with a more convenient and less costly means of transport. Nevertheless, the use of chartered boats is common.

Some *castañeros* live close to roads and rivers and close to their concessions (the most ideal situation for many), and others live permanently in the forest but far from points of shipment. These are often the long established *castañeros*. The largest category of *castañeros* is those that live outside the forest but have a stable camp within their concession (i.e. they have two residences).

The greater difference in terms of access to resources and socio-economic position is between the *castañeros* and the *barriqueros*. The former have access to resource rights (the concession), whereas the latter do not. Further, being a seasonal and unorganised labour force the *barriqueros* lack representation and work in arduous conditions. This group tends to be fairly invisible in discussions on the brazil nut trade in Madre de Dios. However, a Conservation International project, working in collaboration with ASECAM is attempting to make some small improvements in the paths, and means of transport of brazil nuts, which could ease the work of the *barriqueros*.

The *castañeros* profit from the brazil nut trade financially more than *barriqueros*. The shellers, which tend to be women, are often part of the *castaño* household. Although payment for their work is low, they are likely to benefit from the sale of the brazil nuts extracted from the forest (control of income does however tend to be in the hands of the male head of the household). However, some shellers may not come from *castaño* households and therefore will only profit from the shelling of the nuts rather than the sale of the nuts collected from the forest. Others work directly for companies which buy brazil nuts.

The income earned from the sale of brazil nuts (combined with the cash injection from the loans obtained earlier on) provides a key source of capital which can be reinvested in the development of other livelihood activities (including agriculture, livestock, transport and urban services etc). Crucially, the brazil nut harvest, provides income each and every year, even though the amount may vary. Poor years of harvest when greater indebtedness may occur are followed by better years where recapitalisation occurs. Employment opportunities in the region are limited and the extraction of brazil nuts provides a key income generating opportunity. As a seasonal activity the brazil nut income contributes to the household economy at certain points of the year. Brazil nuts do not have to be sold all at once. Some can be sold in order to obtain more capital (a second loan) as required. Some *castañeros* combine work in brazil nuts with non-farm livelihood activities. For example, income from the brazil nut trade is a significant addition to that of the average teacher's salary.

12.2 Comparative Impact of Conventional and Ethical Trade in Brazil Nuts

Of the eleven trading companies in the region, Candela Peru is the only one serving a fair-trade market. It was originally chosen by this study as an alternative trading organisation (ATO) involved in the “fair” or “ethical” trading of brazil nuts. In reality what emerged very quickly was the fact that Candela has not been able to differ substantially from other companies, although it has provided some capacity building support, for example, to collectors and the brazil nut collector association and has led some social projects.

Fair-trade relies on the significant subset of consumers willing to pay more or be more discriminating to support a fairer way of doing business. However, the market for fair-trade brazil nuts is small, and although organisations such as Oxfam Trading market brazil nuts as a fair-trade item, Candela primarily produces for the conventional market. The scope for fair-trade in brazil nuts is limited. Faced with this market reality, Candela has found new markets and developed new product lines, and appears more innovative than many of its competitors. In the long-term this may benefit producers, particularly by improving the generally poor reputation for quality of Peruvian brazil nuts. So far, these innovations have had little impact on producers who do not feel there is a lack of demand for their product. To Candela’s credit they have been attempting to reconstruct relations with the brazil nut collectors association after a rocky start, and are continually attempting to raise awareness on key issues such as quality standards which threaten the industry as a whole. Technical advice on quality and more favourable credit terms are two areas that could improve the net incomes of producers, although so far Candela has largely concentrated on its own quality and financial issues and not those of its producers. Candela say that they are currently (year 2000) carrying out research on the production chain based on quality indicators (G.Vizcarra, *pers.comm*).

As a result, *castañeros* do not differentiate between the types of market to which the product is going, and no clear discernible, distinctive benefits attributable to alternative trading approaches are reaching the *castañeros* or other stakeholders.

The distribution of benefits from any kind of alternative trading of brazil nuts has not been closely studied by the NGOs involved in supporting the trade, although this is beginning to be addressed by these organisations. Monitoring and evaluation of impact has only recently been considered. It appears that there has been no clear attempt to reach the poorest of the poor through this trade. No differentiation is made by the international NGOs between the different types of *castañeros*, and yet there are significant differences in assets and opportunities amongst them.

Social and economic divisions exist amongst those involved at the local level in trading i.e. those who depend upon the forest for their livelihoods. These divisions include differentiation in wealth and in environmental entitlements. NGOs promoting the trade as a source of income for poor people or as a means of conserving the forest have recently become aware of this differentiation. Previously, support was channeled through Candela, but now it is also being provided through ASECAM, an organisation for

castañeros. One of Candela's achievements is providing guidance of what is needed to assist stakeholders in the brazil nut industry, and through its survival as a company to keep the industry on the development agenda.

However, ASECAM itself only represents one-third of *castañeros*, and it seems that other primary stakeholders do not have any organisational representation. This leaves the majority of primary stakeholders without any direct links to outside agencies. Some groups are represented by different associations such as FENAMAD, which represents indigenous communities,. Other groups, such as the shellers and *barriqueros*, have no representation at all. Indeed, when shellers attempted to form their own association to improve working conditions this was rapidly squashed. "Fairer" approaches to trade include support for representation and institutional capacity building amongst their principles, but in the Peruvian brazil nut industry this has so far been limited.

The study highlights some areas that need to be given attention to improve the impact of fair-trade for poorer forest-dependent people. A key lesson is the need to distinguish between stakeholders. The *castañeros* hold the concession titles and are therefore generally better off than other groups such as the *barriqueros*. The latter represent an invisible labour force – they tend to remain invisible because they are not organised, work on a seasonal basis and because they have fewer environmental entitlements (in this case the key entitlement is access to brazil nut trees). If fair-trade is seen as a way of benefiting such labourers through a trickle down effect, this needs to be monitored and measured. Clearly, export oriented trading schemes have to be financially viable and spare resources for monitoring and evaluation are limited, however, if the trade is to be pro-poor improved monitoring and evaluation is required. The international NGOs and donors who are attracted to support specific schemes, the 'honeypot' effect, should ensure that funds they are allocating to fair-trade schemes follow similar impact assessment approaches as other development projects would today as a matter of course.

There are gender dimensions to the distribution of benefits of brazil nut trading. In some cases, women hold the concession title and manage the brazil nut trade, including control of the cash. In other cases, the male head of the household will hold the concession and likewise have control of the cash. Male income is said to be more likely to be spent on non-durable consumer items. At other times it is reinvested in alternative livelihood activities, such as buying vehicles or livestock, or paying schools fees and medical costs. Shelling is a predominantly female activity and they are paid relatively little for their work. Assessment of the relevance of these gender dimensions to the impact of the trade and any interventions to support ethical alternatives appears to be limited.

In considering the relationship between fair-trade and improved livelihoods, one needs to look beyond financial returns. The relative strength of different types of *castañeros*, and the position of *castañeros* viz a viz other stakeholder groups is not just a factor of economic wealth. This study shows that human capital, natural capital and social capital are all as important as financial capital in defining a sustainable livelihood, and that the lack of one can prevent the development of another. One feature that distinguishes fair-trade from most other approaches to ethical trade (e.g. ethical sourcing) is that it defines itself not just in terms of financial returns or working conditions, but also by the

relationship between stakeholders. As this study shows, the range of stakeholders considered by fair-trade is insufficient in the case of the Peruvian brazil nut industry. Nonetheless fair-trade should, if it acts on its stated principles, be able to make a positive contribution to strengthening the access to different types of capital needed by primary stakeholders in the industry.

Improved transport and technical advice on quality and marketing could lead to increased net incomes for producers. A recent Conservation International project is focusing on capacity building and provision of technical advice, and includes support for the construction of local processing centres, although delays have been experienced. This may help *castañeros* to reduce their transport costs and to capture some of the shelling benefits. ASECAM wants to export directly itself, but this may be unfeasible, and such discussions may contribute to overly raising of expectations locally. Candela also says it is committed to promoting the development of organisations such as ASECAM (this is part of its mission statement) (G.Vizcarra, *pers.comm*).

Maintaining export quality of brazil nuts in the context of stricter regulations being enforced in some markets (e.g. the E.U.) is crucial to the industry as a whole. There is an urgent need for all actors in the chain to collaborate to improve quality, otherwise the whole industry could lose crucial European markets. This in turn would affect local livelihoods negatively. Candela is taking a long term view of this by offering a shelling service, which guarantees a higher level of quality. However, in the specific institutional context and the situation regarding existing practice of other companies and *castañeros*, at the moment this action cannot guarantee the future of the Peruvian industry as a whole. Candela do not buy unshelled nuts, but offer the shelling service and payment is made at the market rate when shelling has been concluded. The longer-term strategy that Candela says it promotes on quality is not perceived by many *castañeros*. It is possible that these differences of perspective would not arise if producers were members/owners of Candela.

The credit system is one of the key problems identified by producers – an obstacle to obtaining greater benefits from the trade. Candela provides loans for upto 60% of the forecast of the producers production as an advance and they do not charge interest. Final payment is made once the product is shelled and at the market price at that moment. The *castañeros* use commercial companies despite their disadvantages or the ATO Candela credit system because of the high interest rates charged by the only other alternative, CREDISMAD. Credit is an issue with small producers world-wide. Fair-trade in brazil nuts should look at alternatives, although it may be that credit cannot be addressed in isolation from quality and marketing issues, and there are no viable alternatives to the current system.

Benefits resulting from the intervention of international NGOs as yet appear to be derived from more traditional style development projects rather than from characteristics specific to an alternative trade approach. Fair-trade generally seeks to strengthen organization as the most realistic means of changing the local balance of power in the trading negotiation. To date, fair-trading in brazil nuts has only touched the top of the sector – the *castañeros* – and again this reflects the limitations of fair-trade interventions (perhaps in NTFPs). Fair-trade led from outside with the present internal structures and inequalities intact can

do little in terms of a social development approach. Social development approaches with support from fair-trade are required. Perhaps this is a reason not to undervalue the creation of a honeypot syndrome – that fair-trade can attract development assistance - but at the same time the question remains of whether the poorest producers and collectors will continue to be marginalised.

The creation of new livelihood opportunities through an “ethical” approach to brazil nut trading is not obvious in terms of new activities or higher numbers getting involved in the scheme. New people have not been assisted to gain new concession titles. The local processing and capacity building project may eventually assist ASECAM to export directly (bringing greater benefits directly to those *castañeros* represented by the association), but this may also be raising expectations that they can sustainably export directly themselves. As mentioned earlier, these benefits do not flow directly from trading activities.

The brazil nut trade itself provides regular income each year, some of which will pay for basic costs (including school fees which are increasingly needed), and some of which will be reinvested in other income generating activities. Diversity of livelihood opportunities is important to avoid dependence on a single commodity with its attendant price fluctuations, and can bring about a sustainable raft of livelihood options.

Fair-trade will only be seen to be making a unique contribution if it makes a significant difference to this raft of livelihood assets and ultimately the sustainability of the livelihoods. At present, no premium price is received, alternative credit schemes operating are limited, and the beneficiaries are the same as those in the conventional trade. It can be argued that even the new initiative with ASECAM, helping *castañeros* in capacity building and technical support, and raising awareness on quality issues, is similar to many producer support programmes world-wide that are implemented without the operation of any kind of alternative market.

Although fair-trade could address a broader range of issues than is currently the case in Peru, a fundamental problem is the commodity focus. This study shows that primary stakeholders are not simply engaged in brazil nut extraction, processing or trading. The majority of people have diverse livelihood strategies that affect their different types of capital asset. However, fair-trade like any trade takes as its starting point the product not the person. Without a tradable commodity there can be no trade. Although fair-trade works with commodities it believes can be produced by the poor, it inevitably views the individual as a producer of commodity X rather than someone with a possibly diverse livelihood strategy (that includes the production of X but also of Y, Z, etc.) Consequently, fair-trade groups are defined by their members’ role as producers of the commodity, and assistance is provided to improve production of that commodity.

In communities such as those in the region of Madre de Dios, few people can be regarded as brazil nut producers only, and diversification is a key element of most people’s livelihood strategies. This is partly because extraction and processing are seasonal, and partly because there is a strong trend to invest in alternative activities. For fair-trade to have a greater impact on people’s livelihoods, it needs to accommodate this diversity in

some way; finding, for instance, ways of working with people who happen to be porters and shellers for part of the year, but are other things at other times. Fair-trade can help overcome this problem if it can play a catalytic role, bringing people together through trade and providing an entry point for other development activities (e.g. by NGOs and government).

Addressing the issue of diverse livelihoods is particularly important if fair-trade is to help reduce vulnerability. Current models of fair-trade address this issue through stable prices and producer group empowerment. This is a narrow definition of the causes of vulnerability, and although relevant in Madre de Dios, leaves unaddressed vulnerability issues within the industry (e.g. unemployment, health and safety), and outside of it (e.g. opportunities to diversify, access to education). Significantly, it does not address the sustainability of the brazil nut industry itself, something that is discussed further below.

12.3 Sustainability of the Brazil Nut Industry

There are question marks about the sustainability of brazil nuts as a component of the forest resource. The ecological impact of brazil nut extraction *per se* (i.e. removing the brazil nut pods) on the forest is relatively unknown. The impact is further increased by the expansion of the other activities which are associated with extraction. The brazil nut pods are collected once they have fallen to the ground naturally and the tree itself is not touched, except for the removal of lianas which may grow up the trunk. The shell of the pod is left in the forest and decomposes naturally. The in-shell nuts are carried to the camp along specially constructed paths. These are narrow footpaths which are marked with signs known only to the *castañeros* (in order to discourage strangers from finding the brazil nut trees). The most notable change to the forest results from the construction of camps or, in some cases, a dwelling covering an area of approximately 0.25 ha. The nuts may be shelled in the camp or house in the forest, or alternatively taken to Puerto Maldonado.

When a *castañero* becomes more settled in the forest, either on a permanent basis or alternating between forest and city, the area occupied by the camp is increased. This is to provide space for the rearing of livestock as well as cleared plots for the cultivation of crops. The tendency to burn fallen trees risks damaging the base of the brazil nut trees, which eventually die back.

As the *castañeros* become more settled, they accumulate money which is left over from their loan. When this happens, the money is spent on other domestic or production activities, and they produce basic foods for consumption. These activities require space to be opened in the forest which are not large in size. Each of the plots opened for cropping is in the order of 0.25 ha and the *castañero* generally has one plot in production and two under fallow. This area, added to the land occupied by the camp, gives a total cleared space in the order of 2 ha within each concession of 1,000 ha. In a total of 1,200 concessions, there are some 600 houses or stable camps in the forest. Using our estimate of 2 ha of cleared land within each, this would give a total of 1,200 ha of affected forest in the total area of 610,175 ha of forested land in which brazil nuts are extracted (according to estimates from the *Servicio Forestal y de Caza*, 1996).

The *castañeros* who have a house or stable camp in their concession spend more time in the forest and this influences their practices (they do not clear the land of trees, although this practice is already limited by technical and legal restrictions). Even including the camps, houses, hunting, gathering, and the small plots of cropped land, the effect of the *castañeros* on the forest is still minimal. Furthermore, some *castañeros* are replanting timber species with little external support.

However, the forest is being seriously affected by mining and timber extraction and some *castañeros* are involved in these. If a *castañero* does not solicit the timber concession which coincides with his brazil nut concession, a timber extractor or other *castañero* may do so.

One of the factors which explains the destruction of the forest is the practice of simultaneously authorising concessions to different stakeholders. Concessions are authorised for the extraction of brazil nuts, timber, and for washing gold in the rivers. The contracts are made *grosso modo* without a knowledge of the land or the resources that it contains. This gives an appearance of legality, but the rules are violated from the outset at the public offices. In practice, rights are superimposed, and this gives rise to conflicts and tensions and a desire to increase, at any price, the extraction of resources.

The granting of concessions for agriculture, when land titles were allocated over a large area led to forest degradation in Madre de Dios. There is no certainty concerning the rights that are derived from possession of one of these titles as, in law, they do not signify property rights. The owning of land is not permitted within the Amazon according to the current legislation which governs this region. The fact that it is called a "land title" only serves to distinguish it from a concession. However, the forest is cleared to make way for intensive, large scale agriculture and the regional authorities can do nothing other than accept it as a *fait accompli*.

The shift from forest agriculture to large-scale agriculture is in part due to a greater concentration of concessions and because the presence of the main road. However, the principal cause was not the increasing competitiveness of agriculture, or the opening of markets for its produce, but the settlement on a stable basis of colonists and recent migrants. Along the main road, the formation of new population centres can be observed, alongside the burnt remains of the Amazon rainforest.

The next expected development, which is of great concern to all the inhabitants of Puerto Maldonado, is the impact of a large concession granted by the Government to a multinational petroleum company in the zone of Candamo, the effects of which on the Amazon ecosystem cannot be predicted.

The sustainability of the trade itself is therefore threatened by the wider demographic and land use change trends. Whilst conservation interests have brought support from international NGOs (initially conservation driven and now also development driven) to the brazil nut trade, as a means of protecting the forest and supporting local livelihoods the degree to which a trade in a single commodity can protect the Amazon forest is

questionable. Brazil nut extraction plays an important role in the local economy, but increased support to this trade and the local stakeholders is unlikely to be sufficient to fend off irreversible ecological change alone⁴¹. This highlights the need for fair-trade to move away from a commodity focus to an approach which begins with the range of stakeholders involved. It must also accommodate the needs of primary stakeholders and their livelihood and product diversity and continue to play a catalytic role bringing key actors together to address issues which might undermine the sustainability of the trade itself.

⁴¹ Organisations that support environmentally and socially driven trade in brazil nuts promote the trade as part of a larger strategy that would be required to achieve sustainable livelihoods based on a protected forest resource.