

Is Amazon nut certification a solution for increased smallholder empowerment in Peruvian Amazonia?¹

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Abstract

The certification of non-timber forest products (NTFPs) was introduced in the early 2000s as a means of promoting sustainable community forestry and smallholders' access to profitable niche markets. Several studies have been carried out to analyze the success of smallholder certification, with a focus on its feasibility, compliance with sustainability standards and livelihoods effects. Much less attention has been given to certification as a process that promotes the empowerment and inclusion of small producers in natural resource management. Based on a study of three Amazon nut (*Bertholletia excelsa*) certifications (Forest Stewardship Council, organic and Fairtrade) carried out in Madre de Dios, Peru in 2008 and 2010 this paper aims to fill part of the gap by assessing five empowerment outcomes of Amazon nut certification schemes nearly a decade after their introduction. The findings show that certification enhances producers' political empowerment (having a voice based on representation and social organization and increased self-confidence in one's ability to effect change) by increasing their organizational capacity and managerial know-how. However, limited demand, monetary benefits and economic viability are major constraints on their

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economic empowerment (increased assets and capabilities that enable them to benefit from new opportunities and freedom to make economic decisions). The authors argue that only stronger social organization will enable certification to break the hierarchical economic structures that disadvantage producers and prevent their replacement with new dependencies on donor and NGO support.

Keywords: Non-timber forest product certification, Amazon nut, social capital, empowerment, Peru

Highlights

- FSC, organic and Fairtrade certification have been analyzed in Amazon nut sector.
- Two of three producer associations have abandoned the certification program.
- Amazon nut certification in Peru has limited effects on producers' material assets.
- Political empowerment was enhanced by NGOs creating bridging social capital.
- Social organization is needed to break traditional hierarchies and new dependencies.

1. Introduction

Forest certification was introduced in the 1990s as a strategy to promote sustainable forest management (Meidinger et al., 2003; Rametsteiner and Simula, 2003). Although it was initially applied almost exclusively to timber operations, it was extended to non-timber forest products (NTFPs) in the early 2000s as a means of promoting sustainable community forestry and – together with product certification under Fairtrade and organic umbrellas – improving smallholders' incomes through access to profitable niche markets (Shanley et al., 2002; 2008; Taylor, 2005a). Several studies have been carried out to analyze the success of smallholder certification, with a focus on the adoption of, and compliance with, sustainability standards, the feasibility of smallholder certification, the distribution of benefits, and the livelihoods effects (e.g. Molnar, 2003; Taylor, 2005a; 2005b; Bacon, 2005; 2010). Governance aspects of certification have also been amply addressed in literature, either in terms of global environmental governance (e.g. Visseren-Hamakers and Glasbergen, 2007), 'governance through integration' (with national legislation) (Pattberg, 2006), institutional governance of certification processes (e.g. Auld et al., 2008; Mutersbaugh, 2002), or commodity or value chain governance (Klooster, 2005; Taylor, 2005a; 2005b). In contrast with literature on coffee certification in Mexico (Bray et al., 2002; Mutersbaugh, 2002) and Nicaragua (Bacon, 2005; 2010), forestry literature has hardly paid any attention to forest and forest product certification as processes that promote the inclusion and empowerment of small producers in natural resource management. Based on a study of *castaña* or Amazon nut² (*Bertholletia excelsa*) certification carried out in Madre de Dios, Peru in 2008 and 2010, this paper aims to fill part of the gap. It addresses the question of how forest and Amazon nut product certification under

² Following Assies (1997) we prefer the term Amazon nut for *Bertholletia excelsa* to its more commonly used name 'Brazil nut' to acknowledge that these nuts also grow in other Amazonian countries, notably Bolivia and Peru.

Forest Stewardship Council (FSC), Fairtrade and organic schemes impact on extractors' empowerment nearly a decade after their introduction in the Peruvian Amazon.

After clarifying the methodology used in this study, we outline the theoretical strands underlying the analysis. In doing so, we first review the NTFP certification debate and then zoom in on empowerment and social and political capital. In the results section we first provide background information on the Peruvian Amazon nut sector and the extractors involved. Next we review Amazon nut certification schemes and processes in Peru. We then analyze the effects of Amazon nut certification in Madre de Dios in terms of the material benefits of certification and the dependencies related to them. Finally, we look at how social and political capital, or the lack of it, influences producers' empowerment. In the discussion we relate the findings to the empowerment framework and broader literature. We argue that only stronger social organization will enable certification to break the hierarchical economic structures that disadvantage producers and prevent their replacement with new dependencies on donor and NGO support.

2. Methodology

2.1 Study area

Data for this paper was collected during fieldwork carried out in 2008 and 2010 in the Peruvian region of Madre de Dios, located in southeast Peruvian Amazonia (Figure 1). Madre de Dios covers 8.5 million ha of humid tropical forest (INEI, 2007; Holdridge, 1967). The principal economic activities in the region include mining, forestry, agriculture, tourism, ranching and hydrocarbon prospecting (ProInversion, 2008). The population was 109,600 in 2007 (INEI, 2007) and is growing rapidly. The majority of Madre de Dios residents migrated from the Andean highlands.

[Figure 1 about here]

Most Amazon nut concessions in Madre de Dios are located in the southeastern portion of the region. They are inhabited during the harvest in the rainy season (December-March), when these areas are difficult to access. During the rest of the year *castañeros* generally live in settlements nearby, or in, the regional capital of Puerto Maldonado. For this reason we sought interviewees in Puerto Maldonado and various smaller towns including Alerta, Mavila, Alegría, Planchón and Triunfo, all of which are located along the Inter-Oceanic Highway in the zone with Amazon nut concessions (Figure 1). These areas were selected because (i) Amazon nut is a key economic activity; (ii) local populations include large numbers of Amazon nut concessionaires, of which (iii) many are involved in certification projects.

2.2 Methods and materials

From May to September 2008 we conducted semi-structured interviews with 77 Amazon nut concessionaires, distinguishing between those (i) with FSC certification (n=12), (ii) with Fairtrade certification (n=12), (iii) with only organic certification (n=19)³, (iv) going through a certification process (n=11), and (v) without certification (n=23) (Table 1). For lack of a list of Amazon nut concessionaires in the study area, interviewees were selected via snowball sampling which involved us using social network ties and asking interviewees to indicate other Amazon nut concessionaires that could be interviewed.

[Table 1 about here]

³ *Castañeros* with FSC and Fairtrade certification also held organic certification.

The questionnaire combined open-ended and closed questions which addressed themes such as Amazon nut harvesting, storage and processing, inputs needed to work with Amazon nut, net benefits, and key people involved in the Amazon nut industry. Responses to these questions provided information about the context in which Amazon nut producers work, the dynamics of the Amazon nut industry and the net benefits for the producers. The latter was calculated by using survey and interview results in combination with the yield income analysis data provided by Comité Técnico Multisectorial de la Castaña (2006) using a budget model. Questions also focused on respondents' social networks as well as on certification procedures and their impacts on the Amazon nut industry. In order to assess the strength of *castañeros*' social and political capital and to compare these capitals between those who seek or hold Amazon nut certification and those who engage in conventional Amazon nut sales, we included questions about participation in association meetings and mutual collaboration during and after harvest, and about alliances between local associations and private firms and NGOs.

We also conducted 65 semi-structured interviews with key informants in three Amazon nut associations active during the fieldwork period and involved in Amazon nut certification associations (ACCOT, RONAP, ASCART; see note to Table 1), key local producers, members of indigenous communities, representatives of NGOs, governmental agencies managers of Amazon nut-processing plants and export companies, international experts on Amazon nut certification, and merchants and technicians involved in the Amazon nut sector. This brought the total sample of interviewees to 143 (Table 1). The information obtained via the interviews was supported and validated by participant observation within the villages and during meetings with associations.

A third source of information constituted the policy dialogue event entitled 'Forest Certification: The Current Situation in Madre de Dios' that we organized in June 2010

together with the National Amazonian University of Madre de Dios (UNAMAD) as a member of the Madre de Dios-Pando Consortium that was a participant in the Initiative for the Conservation in the Andean Amazon (ICAA Phase I) program financed by the US agency for International Development (USAID)⁴ The policy dialogue included focus group discussions involving Amazon nut association members, *castañeros* and NGO staff who shared their certification experiences. This generated data on the status of the associations going through certification processes and allowed us to acquire a greater insight into the developments of certification initiatives in Madre de Dios. It also made clear why some associations had decided to cease their involvement in product and forest certification.

Finally we content-analyzed secondary material, including studies, capacity building manuals and other documentation provided by a number of NGOs operating in Madre de Dios and involved in Amazon nut certification processes, as well as governmental material such as policy documents, legislation and procedures for obtaining harvesting rights. This offered a clearer picture of the certification procedures.

3. Theoretical outlook

Three theoretical strands are important for the analysis in this paper: the debate about NTFP and smallholder certification, empowerment literature and the concepts of social and political capital as conditions for empowerment.

3.1 The case for NTFP certification

Forest and product certification are market mechanisms based on the premise that consumers are willing to pay more for products that are produced in an ecologically and socially acceptable way (Kiker and Putz, 1997: 38). Raising consumers' awareness about

⁴ Now known as Madre de Dios Consortium ICAA Phase 2.

product quality, environment and health led to increased demand for certified products that aim to promote, and may trigger, a more holistic concept of sustainability (Bacon, 2005; Rametsteiner and Simula, 2003: 97).

The basic elements of forest and product certification include:

1. The development of standards that define what is ecologically sound, economically feasible and/or socially just (standard setting);
2. Independent auditing or third party verification to ensure that these standards are met (certification);
3. Decisions on who is qualified to act as a certifier (accreditation); and
4. Attaching a product label that allows consumers to identify products that meet the criteria set out in the standards (labeling) (Meidinger et al., 2003; Auld et al. 2008).

These basic procedural steps apply to both forest certification (which focuses on forest management) and product certification (which itself focuses on extraction and processing processes in the case of organic certification and on production and trade in the case of Fairtrade certification). In all cases the idea is that a premium price – and in the case of Fairtrade certification a minimum price – is paid to producers for certified products. Table 2 presents the characteristics of the three certification schemes relevant for this article. Unless otherwise specified references to NTFP or Amazon nut certification in the rest of this paper mean both forest and product certification.

In relation to small producers, certification is not only meant to make community forestry more sustainable, but also to improve producer's market access and incomes by creating alternative production and consumption networks (Bacon, 2005; Durst et al., 2006; Taylor, 2005a). However, despite expectations regarding growing smallholder engagement in the timber trade as a result of increasing community ownership of forest resources (Scherr et al., 2003), community performance in timber production remained poor due to high

production and certification costs, a failure to deliver sufficient quantities and meet the demands of the certified market, a deficient infrastructure, and a lack of technological knowledge at local level which would be beneficial to an understanding of certification standards without outside support (De Pourcq et al., 2009; Molnar, 2003; Pattberg, 2006). Most community-based forest production still centers on non-timber forest products (Sunderlin et al., 2005), which are defined in this paper as all plant and animal products other than industrial timber that comes from both natural and human-made forested landscapes (Ros-Tonen and Wiersum, 2005). These include products like fruits, nuts, fibers, medicinal plants and barks as well as smallwood for tools, carving and household equipment⁵.

The importance of incorporating NTFPs into the certification agenda has increased due to the attention paid to NTFPs as a means of reconciling conservation and development aims since the late 1980s (Ros-Tonen and Wiersum, 2005; Shackleton et al., 2011; Shanley et al. 2008). Because the extraction of many NTFPs does not seem to cause substantial ecological damage, it was widely assumed that commercial NTFP extraction could provide an incentive for forest conservation (Ros-Tonen, 2000). Some researchers even argued that the economic benefits of NTFPs are greater than those generated by timber (Assies, 1997; Peters et al., 1989). Furthermore, NTFPs play an important role in the livelihoods of many rural populations, especially as a safety net for the poor (Belcher et al., 2005; Sunderlin et al., 2005). Where other economic options are absent, forest products are the major source of cash income for forest-dwelling people (Ros-Tonen and Wiersum, 2005).. Finally, NTFPs constitute a crucial element of many local cultures in the tropics (Cocks et al., 2011).

[Table 2 about here]

⁵ The Food and Agricultural Organization of the United Nations (FAO) prefers the term non-wood forest products, to exclude all woody raw materials (FAO, 1999).

Recent studies have shown that, in spite of their social, cultural and ecological importance, most NTFPs generate little income (e.g. Belcher et al., 2005; Pierce et al., 2008; Sunderlin et al., 2005). As NTFP harvesting often occurs in isolated regions, access to national and international markets involves high transportation costs. To date, relatively few enterprises that work with NTFPs are prepared to enter global markets (Shanley et al., 2002). Moreover, commercial NTFP extraction is not always a sustainable activity: over-harvesting may cause serious damage to the ecosystem and reduce the natural productivity of forest plants or animals (Peters, 1996; Shanley et al., 2002).

For these reasons, NTFP certification has been presented as a means to encourage sustainable forest management in community forestry and at smallholder level, while raising the incomes of forest-dependent rural populations.

3.2 Empowerment

The empowerment concept goes back to Paulo Freire's *Pedagogy of the Oppressed* (1970) which refers to acquiring more control over one's life through growing awareness (*conscientização*). In a similar sense it is used in community psychology by Rappaport (1987: 122), who defined it as 'A process, a mechanism by which people, organizations, and communities gain mastery over their affairs'. Feminist literature in the late 1980s and 1990s gave an important impulse to the empowerment concept. In particular Rowlands (1995; 1997) deconstructed and then continued to develop the concept. Reflecting on empowerment in a development context, she stressed the importance of considering social and political structures in which economic activities operate, the importance of outside professionals (e.g. NGO staff) in supporting empowerment, the slow nature of individual empowerment, and the need for collective action (Rowlands, 1995). She conceptualizes empowerment as a process of gaining 'power over' (the ability to resist manipulation), 'power to' (create new opportunities),

‘power with’ (collective action) and ‘power from within’ (increased self-esteem and self-confidence) (Rowlands, 1997; Ibrahim and Alkire, 2007; Samman and Santos, 2009). The latter implies that less powerful groups understand, and become aware of, internalized oppression that forms a barrier for them to participate in formal and informal decision-making and helps them become aware of their own interests and how these are related to those of others. Empowerment thus becomes a process that “lead[s] people to perceive themselves as able and entitled to make decisions” (Rowlands, 1997: 14).

The World Bank (2001) brought empowerment prominently into the mainstream development debate. It added the issue of institutions’ accountability and responsiveness towards poor people to the definition and the participation of the latter in political processes and local decision-making. This was further refined by Ibrahim and Alkire (2007) who distinguish between *agency* (the freedom to act in accordance with one’s goals and effect change) and *opportunity structure* (the institutional environment in which one operates and which may constrain one’s agency). They see empowerment as the combined outcome of enhancing the two. Samman and Santos (2009) added the importance of personal characteristics like age, gender, class and ethnicity.

For the purpose of this paper we use an adapted version of the empowerment framework developed by Narayan (2002) for the World Bank. It integrates a lot of the notions outlined above (Figure 2). Narayan proposes analyzing empowerment as a multi-dimensional concept that may refer to both individual and collective empowerment. She defines empowerment as “the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives” (Narayan 2002: 11). Assets refer to financial and physical capital, capabilities to human, social and political capital. According to Narayan there is a mutual relationship between individual assets and the capability to act collectively, “people who are healthy, well-educated

and secure can contribute more effectively to collective action”, whereas “organized people can mobilize resources to improve individual health, education and security of assets” (Narayan, 2002: 12). Assets and capabilities influence one’s agency (Ibrahim and Alkire, 2007; Samman and Santos, 2009).

Narayan sees a critical role for civil society organizations in supporting poor people’s capabilities by making information accessible to them, promoting their inclusion and participation, creating accountable institutions, and promoting local organizational capacity. Together these elements constitute the opportunity structure (Ibrahim and Alkire, 2007; Samman and Santos, 2009), which provides the institutional setting for learning and the diffusion of new rules (i.e. the certification standards), roles and responsibilities that influence actors’ behavior (Pattberg, 2006).

These ideas can be integrated into Narayan’s empowerment framework for the analysis of empowerment outcomes of Amazon nut certification in Peru (Figure 2). We added the notions of opportunity structure and agency to the original framework and replaced the development outcomes in Narayan’s framework with the following empowerment outcomes based on the literature cited above:

1. Improved distribution of material assets (‘power over’ resources);
2. Reduced inequality by broadening human capabilities (‘power to’ create and benefit from new opportunities);
3. Having freedom to make economic decisions and challenge domination (‘power to’ make meaningful choices, i.e. in accordance with one’s goals);
4. Having a voice, based on representation and social organization (‘power with’); and
5. Increased self-confidence in one’s ability to effect change (‘power from within’).

The first two empowerment outcomes and the last one correspond with Rowlands’ categorization as personal empowerment, while the third and fourth one correspond with

relational and collective empowerment respectively (Rowlands, 1997). For the argument in this paper we find it convenient to distinguish between economic empowerment (1-3) and political empowerment (4-5).

[Figure 2 about here]

3.3 Social and political capital

In the empowerment framework developed by Narayan (2002) considerable value is attached to social and political capital as determinants of agency. Social capital is defined as “the norms and networks that facilitate collective action” (Woolcock and Narayan, 2000: 226) and encompasses “social belonging, leadership, relations of trust, a sense of identity, values that give a meaning to life, and capacity to organize” (Narayan, 2002: 11). An increment in social capital is vital to improve local livelihoods and increase the flexibility of Amazon nut harvesters as regards responding to environmental and market changes (Woolcock and Narayan, 2000). In many cases there is considerable ‘bonding’ of social capital at community level or within organizations, based on close ties and high levels of trust between people of similar background, and this serves as a safety net to manage household crises. However, households exhibit vulnerabilities due to social and power barriers that prevent them from building network ties with institutions operating on larger scales. Putnam (1995) referred to these network ties with outside groups and organizations as ‘bridging’ social capital.

It is also important to examine people’s political capital, defined by Narayan (2002: 11) as “the capacity to represent oneself or others, access information, form associations and participate in the political life of a community or country”. In the context of certification, we add to this ‘the capacity to participate in economic life or networks’ (Figure 2). At collective

level this corresponds with a community's capacity to organize and mobilize in order to solve problems and be represented and have a voice at higher levels of scale (ibid., p. 12).

Social and political capital help consolidate the local institutional capacity (Leach et al., 1999: 238) needed to attain and maintain certification. In the terminology of FSC's (2003) Social Strategy this implies the need for community associations to form strategic alliances and partnerships with private firms and NGOs, which allow indigenous peoples, workers' organizations, community forestry organizations and smallholder associations to voice their needs and interest and promote local capacity development and community forestry.

4. Results

4.1 The Peruvian Amazon nut sector

Madre de Dios is the only part of Peru with Amazon nut trees in sufficient quantities for economic exploitation. Roughly 30% (around 2.6 million ha) of Madre de Dios is covered by Amazon nut forests (Rubio, 2000). The Amazon nut is an NTFP harvested from the *castaña* tree (*Bertholletia excelsa*) which requires intact mature forests to fruit (Ortiz, 2002; Zuidema and Boot, 2002). Amazon nut harvesting is seasonal and occurs during the rainy season, from December through April. Manual harvesting and processing take place on a small scale, and because the Amazon nut grows in natural forests, no agrochemicals are necessary. This implies that harvesting has a low environmental impact (Ortiz, 2002).

Since Peru's Forestry Law 27308 was introduced in 2000, Amazon nut harvesting has been organized into 40-year concessions that can be renewed. Concessions vary in size up to 2,000 ha (INRENA, 2008). In Madre de Dios the Peruvian government granted 1,247 Amazon nut concessions totaling 995,590 ha (INRENA, 2005; 2008). Amazon nut

concessionaires call themselves *castañeros*.⁶ To harvest Amazon nuts *castañeros* must have management plans approved by the Regional Forest and Wildlife Service (Dirección Regional Forestal y de Fauna Silvestre, DRFFS) which specifies the activities allowed in Amazon nut concessions.

According to some estimates (Escobal and Aldana, 2003; Ortiz, 2002), 22-25% (15,000 – 20,000 people) of the population in Madre de Dios depended on Amazon nut harvesting in the early 2000s. Most *castañeros* harvest Amazon nut with family labor or hired laborers called *barriqueros*.⁷ Harvesting and post-harvesting processes involve the collection of nuts, removal of the outer shell, drying, shelling and selling. Individual *castañeros* sell Amazon nuts in the shucks or bare to middlemen or directly to distribution firms. In Madre de Dios, shared labor arrangements for these activities are not practiced. That said, Amazon nut concessionaires are organized into approximately 14 associations that provide legal and other forms of support. Of these associations, three (ACCOT, RONAP and ASCART) are particularly well-organized and involved in capacity building and certification (until 2010). Figure 3 summarizes the Peruvian Amazon nut production chain and links the various stages to the three certification schemes outlined in Table 2.

[Figure 3]

Peru ranks third after Bolivia and Brazil in Amazon nut exportation. In 2006, the value of Peruvian Amazon nut exports totaled US\$12 million, which corresponds with a share in the

⁶ The name *castañero* is often also given to people who are working on the *castañal* and who have a strong bonding with the Brazil nut profession. For example, the wife of the ‘real’ *castañero* also calls herself *castañero* (or in rare cases *castañera*). As this study focuses on the concession holders, we will only refer to the ‘formal’ *castañeros* or concession holders, since they are basically the ones managing the harvest and commercialization activities. It should be kept in mind that 16% of the *castañeros* interviewed is female.

⁷ The terms *barriqueros* (hired laborers who carry the sacks during Amazon nut harvesting) is not to be confused with the word *barrageiros* used in Bolivia, which refers to Amazon nut concession holders.

international market of 15% (FAO Statistics Division, 2009; PROM Perú, 2007). Peruvian Amazon nuts are mostly exported to the US, as Europe sets higher quality standards for Amazon nut importation (PROM Perú, 2007). Whereas the US accepts Amazon nut with up to 20 parts per billion of toxins produced by aflatoxin fungi on Amazon nut (Codex Alimentarius Commission, 1999), the EU only accepts imports with up to 4 ppb (European Commission, 1998). Bolivian exporters received support from their national government to adjust their processing procedures to the quality standards, but Peruvian and Brazilian exporters continue trading in-shell Amazon nut to avoid contamination (Coslovsky, 2006) and export shelled nuts mainly to the US.

4.2 Characteristics of the castañeros

Results from the interviews show that Amazon nut concessionaires make up a heterogeneous group in social and cultural terms, and in the manner in which they work with Amazon nut. Madre de Dios has received successive waves of migrants from other parts of Peru, who come seeking land supported by governmental programs (Alvarez and Naughton-Treves, 2003). Of the Amazon nut concessionaires interviewed (N = 77), 65% were born in Madre de Dios and 35% came from neighboring regions of Puno, Cusco and Arequipa. In spite of the Amazon nut activity being predominantly a male activity, women are also involved: 16 percent of the 77 respondents were female concession holders. Women also play an important role in running the camp on the concession, peeling the husks, preparing the meals and taking care of the children. They also help with collecting the Brazil nut pods and opening them with a machete, while often leaving the transportation of the sacks to others. If the husband goes to Puerto Maldonado to sell part of the harvest, women will stay to supervise the gathering process. Women also carry out most of the peeling activities which they either do at home as a direct contractor of the *castañero*, or as an employee of the

Amazon nut companies' peeling unit. Children are also heavily involved in the harvesting process and the survey results indicate that 71% of *castaño* children help with the Amazon nut harvest which coincides with school vacations.

The age of the group of *castaños* is not particularly young. The survey results show that the average age is 51, with a range of between 24 and 80 years old. The high average is possibly due to the concession system as it is not easy to obtain the harvesting rights. Once obtained, or in many cases inherited from parents, these rights are kept for as many years as possible because this activity provides a secure income.

The education level of the *castaños* varies. Only 4 percent did not have any education at all, 41 percent had finished primary school, 40 percent secondary school and 15 percent had a high school grade ($n = 75$). Since no education is necessary to perform this job, it seems people are performing Amazon nut activities for lack of alternative employment. However, the fact that it provides security and is an independent job makes it an attractive option as expressed by a *castaño* from Alerta, "*I work with Amazon nuts because it is an independent job. I am my own boss and the Amazon nuts give a certain security.*" On the other hand, many *castaños* mentioned that they work in this industry because there are not a lot of other job opportunities other than in the timber and mining industry. Timber from their concession can be an alternative source of income, but not a substantial one as the exploitation is outsourced to contracted timber companies. Due to their relatively high average age, *castaños* do not work in mining. Employment in agriculture and the tertiary sector (services) is limited

4.3 Amazon nut certification in Peru

During the fieldwork period three certification scheme were operational in the Peruvian Amazon nut sector: that of the Forest Stewardship Council (FSC), Fairtrade

certification (Fairtrade Labelling International; FLO), and organic certification (International Federation of Organic Agricultural Movements; IFOAM) (Table 2). As illustrated by the timeline in Figure 4, certification was introduced in the area in 1997 and became operational in 2003.

[Figure 4 about here]

By the end of the 1990s, in a period during which international quality standards for the exportation of Amazon nuts were becoming more stringent, prices fluctuated and a new forestry law was introduced, two NGOs that were active in the region (WWF-Peru and Pro Naturaleza) started introducing forest and product certification as alternative commercialization processes in Madre de Dios. They initially started with forest certification (FSC) that targeted timber as well as Amazon nuts. In 1997 a consortium of *castaño* associations, local NGOs and private sector firms, called the Madre de Dios Regional Working Group (*Grupo de Trabajo - Madre de Dios*, GRT- MDD) was established with a view to evaluating and discussing certification standards. Several governmental and non-governmental organizations, private firms and a research institute formed the three so-called FSC chambers (social, environmental and economic) with a view to developing FSC standards for Amazon nuts and preparing the industry for their implementation. During the process, organic product certification was also introduced with the intention being for this to become complementary to FSC certification. The most important reason to initiate Amazon nut certification in Peru was to improve product quality, given the lack of national standards and the high quality demands of the EU. Amazon nut certification in Peru therefore seeks to improve the country's access to international markets, while improving forest management and raising incomes among Amazon nut harvesters.

In all cases certification was obtained through *castaño* associations (RONAP, ACCOT and ASCART). One of the requirements for associations to become certified is to be

regularized legally by registering with government agencies. This also opens possibilities for their members to receive training on the requirements and benefits of certification from donors and NGOs.⁸ NGOs also supported the design and implementation of management plans required for concessions and post-harvest treatment of Amazon nut. Associations received information on different types of certification related to their respective requirements, benefits and registration procedures. In 2003, 23 members of ASCART received FSC certification. This number had increased to 38 by 2008 and involved a total of 34,469.71 ha with around 8,800 productive trees (IMO, 2008).

Given that FSC certifies NTFPs on a “case-by-case” basis (Ervin and Mallet, 2002: 12), associations can develop their own standards for Amazon nut certification. The Madre de Dios Regional Working Group designed management criteria and indicators for Amazon nut certification based on FSC principles. The proposal was approved by the Institute for Market Ecology (IMO; Institut für Marktökologie) in 2001 (CFV-Peru, 2005). The participating associations sought FSC certification to generate economic, social and ecological benefits, notably an extra payment of US\$ 0.17/kg of Amazon nut. ASCART was one of only two associations that received FSC certification for Amazon nut concessions between 2003 and 2008, together with the Amazon nut company Fast Trade. However a market for the FSC-certified nuts was never found and FSC certification for Amazon nuts ended in 2009 when there was no more donor funding to cover the certification costs.

In 2004, 65 RONAP members also obtained Fairtrade certification. The export of Fairtrade-certified Amazon nuts rose from 40,500 kg in 2004 to 85,865 kg in 2008, only to drop by 34% to 36,887.5 kg in 2010 (Candela Perú, 2011) (Table 3). Fairtrade export volumes include organic-certified Amazon nuts because RONAP combined both certifications.

⁸ Donor organizations involved in Amazon nut certification in Madre de Dios include WWF-Peru ProNaturaleza, which are both funded by USAID (FSC certification), Conservation international (Fairtrade and organic certification) and Foncodes (organic certification). NGOs involved in promoting and supporting certification in Madre de Dios are Acción para la Conservación de la Cuenca Amazónica (ACCA) and Candela Perú.

[Table 3 about here]

In 2008, the three associations and a group of around 78 non-associated producers participated in an organic certification program. As a consequence, Peruvian exports of organic-certified Amazon nut have risen over time (Table 4). In 2006 Peruvian exports of organic-certified Amazon nuts represented 7.7% of all Peruvian Amazon nut exports. This represents a six-fold rise between 2003 and 2006. During the same period the value of organic Amazon nut exports rose even faster, with a tenfold increase from US\$ 130,000 to US\$ 1.3 million (Prom Perú, 2007). The primary importers of Peruvian organic Amazon nut were the US (54%), followed by England (24%), Italy (16%), Germany (4%) and Canada (2%). Prices for organic-certified Amazon nuts varied between US\$ 5.29/kg in the US to US\$ 7.49/kg in Canada, but were always higher than conventional Amazon nut, which reached US\$ 4.46/kg. Of the total number of 1,247 concession holders in 2008, 5% held Fairtrade certification, 16% organic certification and 3% FSC certification.

[Table 4 about here]

FSC and organic certification both require Internal Control Systems that involve a team of association members who conduct internal inspections of other members to confirm compliance with certification requirements (Shanley et al., 2002). Once the inspection team has been approved by the association, and is in compliance with certifier requirements, the association may invite the certifying organization to evaluate the inspections. Such evaluations are annual and – depending on the number of members, products and processing

installations – cost between € 1,170 and € 2,779.⁹ With NGO support, associations were able to establish and sustain internal monitoring (De Pourcq et al., 2009; Molnar, 2003).

The next step for certification is to establish agreements with firms for the purchase and processing of Amazon nuts in accordance with certification requirements. In the case of organic certification, three companies met certification requirements for processing and export. Of those, one also had FSC certification, and one had Fairtrade certification. The commitment of these export firms was to reach international markets for certified products.

4.4 Economic benefits of certification and associated dependencies

For 80% of the Amazon nut concessionaires interviewed, the principal reason to pursue certification involves the economic benefits resulting from higher Amazon nut prices. An additional 12% pursued certification on the advice of an NGO, and the remaining 8% wanted to improve product quality to comply with market demand.

Firms that process and export Amazon nut play a key role in financing *castañeros* during the harvest, which lasts roughly 3.5 months each year. At the beginning of the harvest *castañeros* incur costs for travel to their concession, as well as for supplies and equipment for the harvest itself. The informality and uncertainty of Amazon nut harvesting means that the concession holders do not have easy access to bank credit. Roughly 80% of the Amazon nut concessionaires interviewed therefore depended on cash advances from processing firms. The advances are part of the *habilito* system that defines the economic structure of the Amazon nut sector. While it facilitates the Amazon nut harvest, *habilito* also pushes down the price a *castaño* will receive, not because interest rates are charged, but because a cash advance commits the *castaño* to sell at least part of the production to the *habilitador* who provided the advance payment at a relatively low price. Amazon nut firms have complicated price

⁹ In 2011, NGO representatives and association leaders confirmed that annual audits cost US\$ 2,500 on average for each association for all three certifications. URL: <http://www.flo-cert.net/flo-cert/main.php?id=29>. Accessed July 2011.

policies, which are not communicated effectively to *castañeros* (interviews with several *castañeros*, Fairtrade, 2010). This financial dependence and the agreements signed with firms participating in certification leave the concessionaires in a subordinate position.

Alliances for certification between associations and firms are subject to restrictions and conditions. In practice the firms participating in certification do not offer the best prices or terms when buying Amazon nut. In the cases of Amazon nut concessionaires being involved in Fairtrade and organic certification, the participating firm supported producers in terms of paying the certification costs, but also demanded that all association members sold 60% of their harvest to the firm. Moreover, due to oversupply, the firm could not guarantee that the entire production could be exported as certified, and consequently could not guarantee the best price.

In any given year, Amazon nut prices vary substantially, from US\$ 2 to US\$ 8/kg. It is difficult to anticipate when market prices will reach their annual peak. While prices do not vary substantially between firms, all firms pay differently for Amazon nut depending on the quantity and quality being sold. Many Amazon nut concessionaires feel disadvantaged because firms have their own rules for measuring the weight of a sack of Amazon nut, rules which firms do not make clear to Amazon nut concessionaires. In general, a sack of dried, shelled Amazon nut weighs 20-23 kg. However, in a few cases the firm involved in certification only considered sacks of Amazon nut to a weight of 19 kg. Agreements with firms limit the ability of Amazon nut concessionaires to sell their harvest individually to any of a number of firms and thereby obtain better prices. Moreover, certification organizations require quality control practices which demand that Amazon nut concessionaires deliver their harvest to participating firms to handle the shelling. Traditionally, Amazon nut concessionaires shelled their harvest manually. However, due to firms taking over the shelling, they lost this opportunity to add value to their harvest. Moreover, when they deliver

to the firm for shelling they have to pay US\$ 0.50/kg for the shelling work. Although having the shelling work done by firms makes it easy to maintain a consistent quality, which can then translate into benefits for Amazon nut concessionaires, association leaders emphasized that the lack of transparency by the firms undermines the trust that Amazon nut concessionaires have placed in them.

The net benefit to Amazon nut concessionaires amounts to US\$ 0.17/kg for organic certification and US\$ 0.34/kg for Fairtrade certification. In addition to the price premium, Fairtrade certification (which accompanies organic certification) included a price minimum for organic-certified Amazon nut amounting to US\$ 3.50/kg in 2009, compared to US\$ 2.66/kg for conventional Amazon nut (Fairtrade, 2009: 4). Fairtrade certification benefits go directly to the participating association and are used to strengthen the association and become independent from donor support for future certification audits. FSC certification also offered a net benefit of US\$ 0.17/kg. However, according to association leaders and the exporting firm, FSC-certified Amazon nuts have not yet reached a market with the FSC certificate (Prom Peru, 2007).

Organic certification alone offered a direct benefit to local producers for two reasons. First, the price difference with conventional nuts compensated the shelling costs. Second, the price premium goes directly to the local producers and not to their association. However, this only applies if distributors can find exporters and international buyers for organic-certified Amazon nut. When this is not the case, the price paid reverts to that of conventional Amazon nut. Besides the problem of finding buyers, there is the issue of maintaining high Amazon nut quality standards since only Amazon nut concessionaires with high-quality Amazon nuts can obtain the higher price.

Such restrictions resulted in lower than expected benefits from certified Amazon nut for *castañeros*. Based on information from our interviews and previous studies of the Amazon

nut sector (Comité Técnico Multisectorial de la Castaña, 2006), we estimate the average net income from Amazon nut for a *castañero* to be slightly more than US\$ 3,200 per year. While Amazon nut prices may be higher for certified Amazon nut, the same may not apply to income from certified Amazon nut, due to shelling fees. At the 2010 policy dialogue event on forest certification in Madre de Dios at UNAMAD, association leaders revealed that two associations, ASCART and ACCOT, had terminated their agreements with Amazon nut-processing firms and ceased participating in the certification programs. ACCOT ended its agreement because the firm kept 50% of the added income for organic-certified Amazon nut which the concessionaires should have received in 2007 and association members were still waiting for their price premium for the organic-certified Amazon nut they sold to the Amazon nut firm since 2008. ASCART terminated its agreement because the firm did not comply with expectations about payments for the Amazon nut harvest and because the firm failed to find a market for their FSC-certified products and had to sell them without a price premium on the conventional market. Nor did RONAP members receive a price premium for organic-certified nuts due to internal organization problems. Although the Fairtrade benefits were used to keep the association running, RONAP failed to strengthen the association and the *castañeros* (interviews RONAP members, 2010; FLO, 2010). Moreover, a portion of RONAP's Amazon nuts were sold as conventional nuts because Fairtrade markets were – and are - still too small to absorb all the supply.

Another key factor regarding the economic viability of certification is the dependence of Amazon nut concessionaires on donors and NGOs for obtaining and maintaining certification. The process of informing *castañeros* about the requirements, followed by training and adaptation of practices to quality standards, was long and costly (WWF-Peru and ACCA, 2008). The three associations had too few members and resources to operate independently in the market and cover certification costs and were dependent on financial

support from NGOs to obtain and maintain certification. In addition, each association was supported by different NGOs for other forms of support. Some associations organized systems to save funds to cover the certification costs. They were nonetheless unprepared for the withdrawal of NGO support when funding from international donors ended without them having implemented a strategy to adapt to the new financial situation. Various Amazon nut concessionaires mentioned that certification systems were implemented on the initiative of NGOs, rather than associations.

4.5 The role of social and political capital in Amazon nut certification

Interviews revealed that concessionaires feel a strong bond with Amazon nut work, but that they show little inclination to cooperate with either individuals or associations due to their heterogeneous migrant backgrounds. As expressed by ASCART president (2008):

“In the Andes region rural work has been carried out on a communal and family basis until today. Castañeros come from several Andes communities and families with different cultures, so working together is not easy. By contrast, we experience a lot of mistrust among castañeros” (interview with the ASCART president, August 2008).

Moreover, the lack of cooperation reflects the familial basis of labor in the Amazon nut harvest, which relies primarily on work by a *castañero*'s children and other kin. The survey results also showed that none of the interviewees shared costs or labor with other Amazon nut concessionaires in order to reduce costs. Respondents explained this by noting that it is not the custom to cooperate. Interviews with Amazon nut concessionaires and NGO representatives confirmed the lack of cohesion among Amazon nut concessionaires due to a lack of trust resulting from a history of failed policies, corruption, and bureaucracy.

The survey results also indicate that Amazon nut concessionaires lack extensive social networks beyond their local community, that is, they have few ties to outside economic

actors. The ties they rely on support local Amazon nut activities such as harvesting, but do not serve to link them with outside organizations. Despite limited social capital, Amazon nut concessionaires have benefited from certification programs which have extended local social networks by creating linkages with outside actors. Activities related to Amazon nut certification, such as workshops and policy dialogue events, have generated bridging social capital between Amazon nut concessionaires and outside organizations such as NGOs, firms and international donors, thereby increasing their political capital as well.

While such activities focused on the process of obtaining certification, they also supported the formation of alliances and addressed the issue of quality standards, which served to provide information about the political and economic challenges of operating in the international Amazon nut sector. Many interviewees mentioned the value of learning about marketing, concession management and legal procedures as reasons to participate in certification projects. Such training has, in turn, improved product quality and practices during and after harvesting. For example, Amazon nut concessionaires now use solar dryers (*secadores*) to dry Amazon nut to maintain product quality and meet organic certification standards. These drying units, which are about 1.5 meters high, are made of wood and palm leaves and have a rolling roof, thus avoiding the formation and growth of fungi and contamination by dust, trash and animals. Indeed, even Amazon nut concessionaires who had not participated in certification-related events have started using Amazon nut dryers.

Associations also strengthened their institutional capacity. This became evident during the policy dialogue event in 2010, when two associations (ASCART and ACCOT) demonstrated their progress in the construction of their own processing plants to become independent of marketing firms. The associations emphasized that their priority was not certification per se, but rather to strengthen themselves first in order to be better prepared to pursue certification in the near future.

5. Discussion

In this section we relate the findings to the empowerment framework in Figure 2 and assess the five empowerment outcomes distinguished in Section 3.2. In doing so we compare the findings with anecdotal evidence from other experiences with smallholder certification reported in literature. We thereby draw mainly from literature on organic coffee certification in Mexico and Nicaragua (Bacon, 2005; 2010; Bray et al., 2002; Mutersbaugh, 2002) as little has been written from an empowerment perspective in the literature on NTFP certification. Evidence from other NTFP certifications is mainly taken from Shanley et al. (2002; 2008).

5.1 Opportunity structure and determinants of agency

Considering their individual characteristics in terms of age, class and education, *castañeros* belong to a vulnerable group (Samman and Santos, 2009). Donor and NGO support is therefore indispensable in order to create the opportunity structure needed for smallholders to effectively engage in certification. In Madre de Dios, donor organizations (notably WWF-Peru and USAID) played a role in funding certification costs and (together with Conservation International and Foncodes) in providing information about certification procedures and markets. NGOs (notably ACCA and Candela-Perú) were instrumental in providing information about the certification standards and in promoting local organizational capacity and producers' inclusion in the certification process. In particular, Fairtrade certification is intended to enhance accountability by demanding firms to be transparent about their management and commercial relations. However, efforts in this direction were unsuccessful, as shown by the mistrust and unclear arrangements between producer associations and processing firms. Other studies confirmed the dependency on donor funding and NGO support for setting up and maintaining certification, with regard to both forest and

forest product certification (e.g. Drigo et al., 2009; Molnar, 2003) and the certification of organic coffee (Bacon , 2010; Bray et al., 2002).

As far as assets and capabilities as determinants of agency are concerned, producers' dependence on advance cash payments to organize the harvesting process and on donor support to engage in the certification process suggests that their material (financial and physical) capital is limited. Some human capital is present in the form of education, but there is a lack of suitable employment opportunities to capitalize on it, whereas average age limits profitable engagement in better paying jobs in the region's extractive industries. Moreover, the *castañeros*' relatively high age hinders the creation of new capacities and organizational innovation.

Bonding social capital is weak due to the labor process being organized mainly on a family basis, the large proportion of migrants with different cultural and social backgrounds, and the consequent lack of cohesion and trust. Organizational capacity is further limited by age and cultural background, characteristics that also limit adaptive and innovation capacity. However, the certification process helped increase *castañeros*' bridging social capital through which they are now able to access donor funding and niche markets. The *castañeros*' political capital – the capacity to represent themselves, access information, form associations and participate in political and economic life and networks – has also been improved, through their organization in producer associations. Below we assess what producers' inclusion in the certification process meant in terms of the five empowerment outcomes in Figure 2.

5.2 Improved distribution of material assets ('power over')

The results show that certification has thus far had limited effects on *castañeros*' material assets (financial and physical capital) and also that Amazon nut certification does not necessarily represent an economic improvement for producers in the Amazon nut sector of

Madre de Dios. Amazon nut certification would not have been possible without the support of NGOs and international donors. This corresponds with the obstacles to smallholder and community certification identified by Klooster (2005), Molnar (2003), Pattberg (2006) and Shanley et al. (2008). Higher costs due to the adaptation of production processes and high assessment and auditing costs are not compensated by sufficient price premiums for producers, while a lack of ecological information, production capacity, processing technology, managerial skills and distribution channels, high transportation costs to reach markets, a lack of appropriate standards and market information, and limited markets for certified products are additional hindrances. FSC certification (forest certification) is generally said to be more demanding and expensive than organic or Fairtrade (product) certification, while premium prices are lower. The decision of ASCART to desist from FSC certification is not unique and has also been reported for Amazon nut producers in Bolivia and maple syrup producers in Rupert, Vermont (US) (Pierce in Shanley et al., 2008: 11-12). However, the picture for organic-certified products does not look much brighter. Donor-funded efforts to promote organic certification of devil's claw (*Harpagophytum procumbens*) in Namibia failed due to low premium prices (Lombard et al. in Shanley et al., 2008: 50-51). Coffee producers in Mexico and Nicaragua fetch twice the price of conventional coffee, but saw their gains largely offset by the higher production, organization and certification costs incurred to meet certification standards (Bacon, 2010; Mutersbaugh, 2002). The latter case also illustrates that the risk of selling certified products at lower prices in conventional markets due to a lack of alternative markets is not unique to the Amazon nut case (Bacon, 2005).

5.3 Reducing inequality by broadening human capabilities ('power to')

In terms of broadening human capabilities and creating new opportunities, results are mixed. The certification process has not improved marketing skills. As regards the latter, the concessionaires interviewed mentioned and appreciated learning about marketing by engaging in certification, although an increase in their marketing skills was hampered by the lack of transparency among processing firms about weights after shelling, selling prices on international markets, and volumes that actually reached certified markets. Their production and management skills improved, however. Producers have learned the importance of product quality and how to improve it in order to meet international market standards. In particular, NGOs provided training in handling the Amazon nuts according to more sanitary practices such as separating their garbage and transporting and drying their Amazon nuts in a clean and ventilated manner. Those involved in FSC certification also learned to improve forest management and reduce negative environmental impacts, while those who participated in an Internal Control Group learned to monitor whether the association members complied with the FSC standards. Similar findings were noted for FSC-certified wood carvers in Kenya (Shanley et al., 2008: 53-54), where the lack of business skills also proved to be a bottleneck. The problem is that newly acquired skills do not directly translate into better incomes. Both FSC standards (Klooster, 2005; Taylor, 2005b) and sanitary standards for organic-certified products (Quaedvlieg, 2009) tend to become requirements for accessing the market rather than opportunities to obtain a premium price. At best, the acquired skills mean that producers are able to maintain access to mainstream markets.

5.4 Freedom to make economic decisions ('power to')

Empowerment in terms of freedom and power to make meaningful economic decisions (i.e. decisions in accordance with one's goals) has been restricted up to now. While the international market for certified Amazon nut is growing, it is still small and has strict

quality standards for which producers and marketing firms are not yet adequately prepared. Although Peruvian firms do not yet play a leading role in the international Amazon nut market, they dominate the Amazon nut sector locally. These marketing firms act as *habildores*, providing cash advancements on which producers are highly dependent. This places *castañeros* in disadvantaged economic positions, including in certification agreements, and means they are not free to sell to other buyers. Only stronger social organization and more business experience will enable smallholders to escape from such new dependencies and reduce their vulnerability, as recent developments in Madre de Dios (outlined below) and beyond the forest sector (Bacon, 2010; Mutersbaugh, 2002) have made clear.

5.5 Having a voice ('power with')

The strongest empowerment outcome is related to *castañeros* having obtained a voice, based on representation and social organization. The certification process required them to organize into associations with a legal status. As Mutersbaugh (2002) noted, such 'unionism' is important for providing a forum in which local producers (i) share experiences and develop joint strategies; (ii) are involved in international negotiations over certification practices; and (iii) are able to pool resources to hire trained staff which provides technical expertise. Bacon (2005) adds to this the economies of scale that enable smallholders to participate in alternative trade networks and reduce their vulnerability to international markets. In Madre de Dios, producer associations had a voice in the development of local certification standards through their participation in FSC's social chamber. Their interaction with NGOs resulted in enhanced capacities regarding certification standards and procedures, the implementation of forest management plans and post-harvest treatment of Amazon nuts. Both FSC and organic certification enhanced their monitoring capacities. Such inter-organizational learning processes enrich community and smallholder organizations with new strategic tools and

organizational cultures (Pattberg, 2006: 589). Gaining a voice may therefore have ramifications well beyond the certification process and in some cases strengthen community claims to land and resources, as well as foster new market relationships (Shanely et al., 2008). The latter is illustrated by recent developments in Madre de Dios which show that the increased ‘power with’ is leading to efforts to obtain greater economic autonomy. Two associations deliberately gave up certification due to internal organization problems and mistrust following the disagreements with marketing firms about the amounts to be received from Amazon nut exports and sale. They are now setting up a processing plant, expanding their commercial network and seeking new market opportunities to become independent of marketing firms. Recent value chain governance literature referred to this as self-exclusion – a deliberate choice to remain an ‘outsider’ in order to define one’s own priorities and values (Hospes and Clancy, 2011; Kabeer, 2000). The association that maintained its certification is seeking greater economic autonomy by developing an internal credit system capable of replacing the *habilito* system and paying certification costs. Similar developments have been observed among organic coffee farmers in Mexico, who constructed their own processing plant (Bray et al., 2002). It is indicative of the potential to increase smallholders’ agency (‘the freedom to act in accordance with one’s goals’) through their organization in associations (i.e. the formation of social capital). Efforts to find greater independency corresponds with Rowlands’ (1995: 102) generative interpretation of empowerment as greater awareness of one’s own interests and how these relate to those of others (*in casu* the Amazon nut firms and NGOs on which they depend in a hierarchical and unequal relationship which is no longer desirable).

In Madre de Dios there is still scope to enhance this source of empowerment, as cooperation between associations is still limited. However, further research could clarify whether expanding the scope of action beyond the limited group of *castañeros* would not

overload local leaders of producer associations who may already face a heavy burden associated with the new certification duties (Mutersbaugh, 2002). Similarly, further research is needed to shed light on gender differences in empowerment potential, as participation in producer organizations may add up to women's workload (Bacon, 2010).

5.6 Increased self-confidence and 'power from within'

The findings suggest that another potential of smallholder certification lies in the increased 'power from within'. Through the certification process, *castañeros* became aware of the dynamics of oppression (c.f. Rowlands, 1995: 102) – not only through the traditional *habilito* relationships and their experiences with price premiums which were delayed or were never received, but also through the new dependencies created in the certification process. In Madre de Dios efforts to get rid of these traditional and new dependencies could only be made after smallholders' increase in social and political capital. This affected 'the way they perceive themselves and their ability to act and influence the world around them' (Rowlands, 1995: 102) and hence their 'power from within' (Rowlands, 1999; Ibrahim and Alkire, 2007). In fact, the associations realized that economic empowerment (power over resources and power to benefit from new opportunities and make meaningful economic choices) will remain limited as long as producers remain dependent on external support NGOs and donors (Drigo et al., 2009) or on intermediate firms. Given that collective action against the dependencies was only possible after the *castañeros* had organized into producer organizations, we therefore argue that political empowerment ('power with' and 'power from within') is a necessary first step towards economic empowerment. This aligns with the work of Bray et al. (2002) who found that organic coffee producers in Mexico were only able to benefit from organic certification only through the formation of social capital.

6. Conclusion

Integrating the concepts of empowerment and social and political capital allowed us to analyze the effects of Amazon nut certification in Madre de Dios, Peru in terms of various dimensions of empowerment. The study showed that the alliances among producers, marketing firms and NGOs involved in certification in Madre de Dios have not brought the economic empowerment outcomes (increased assets, capabilities and freedom to make economic choices) that were originally expected. However, these alliances have helped increase the *castañeros*' political empowerment (giving them a voice and increased self-confidence in their ability to effect change) by strengthening their collective social and political capital. Although this does not yet go together with economic empowerment, it is a prerequisite for achieving it. Only well-organized producers in strong associations whose members understand the certification process, the uncertainties of international markets, and how to form alliances among various actors can take advantage of emerging market opportunities. Moreover, only stronger social organization will enable certification to break the hierarchical economic structures that disadvantage producers and prevent their replacement with new dependencies on donor and NGO support.

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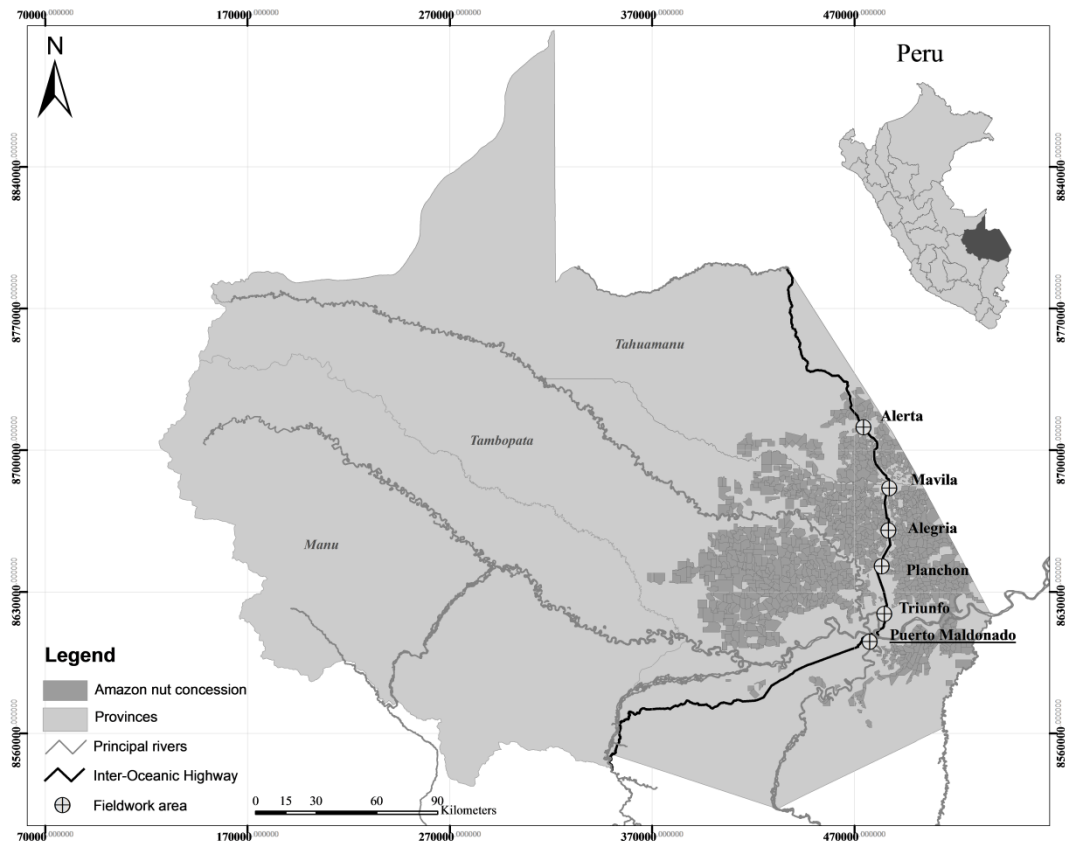


Figure 1. The study area.

Table 1. Composition of the interviewees sampled.

Interviewees	Methods	No. of resp.
Local producers Amazon nut concessionaires involved in one or two certification schemes.	Survey with closed and open questions, serving mostly quantitative but also qualitative purposes.	77
Association leaders, association members (ACCOT, RONAP, ASCART) and individual Amazon nut concessionaires.	In-depth interviews	20
Members and leaders of native communities Amazon nut concessionaires in the process of becoming certified (Boca Paríamanu, Palma Real, Tres Islas)	Individual and group conversations on 'community' structure, livelihood and Amazon nut activities, plus observation of and participation in daily activities.	20
Public organizations Representatives from UNAMAD, UNSAAC, Fondebosque, INRENA (several departments), Tambopata, Regional Government (natural resources department), IIAP, SENASA, PromPeru.	Semi-structured in-depth interviews about experiences with Brazil nut sector practices, historical overview and present developments.	11
Non-governmental organizations Representatives from ACCA, WWF-Peru, Caritas, Conservation International.	Semi-structured in-depth interviews about involvement in Brazil nut development projects and opinions regarding certification.	8
Companies Representatives from Brazil nut enterprises with or without involvement in certification	Semi-structured interviews about agreements with producer/associations and opinions regarding certification.	7
Group discussion (organized by ACCA and ACCOT)	Participation in two group discussions about problems facing the certification process.	2 x 25

ACCA = Asociación para la Conservación de la Cuenca Amazónica; ACCOT = Asociación de Castañeros Orgánicos de Tahuamanu; ASCART = Asociación de Castañeros de la Reserva Nacional Tambopata ; IIAP = Instituto de Investigaciones de la Amazonía Peruana; INRENA = Instituto Nacional de Recursos Naturales; PromPeru = Promoción del Perú; RONAP = Recolectores Orgánicos de Nuez Amazónica del Perú; SENASA = Servicio Nacional de Sanidad Agraria; UNAMAD = Universidad Nacional Amazonia de Madre de Dios; UNSAAC = Universidad San Antonio Abad del Cusco; WWF = World Wildlife Fund.

Table 2. Characteristics of Amazon certification schemes operational in Peru.

Scheme	Year of establishment	Operational in Peru since	Features
Forest Stewardship Council (FSC)	1993	2003	Forest certification based on nine principles (plus one for plantation management) that relate to ecologically appropriate, socially beneficial and economically feasible management. Total certified area: 143,162,335 ha in 81 countries, encompassing 1,044 certificates (June 2011). NTFP certification occurs mainly under the program for Small and Low Intensity Managed Forests (SLIMF).
Fairtrade Labelling Organization (FLO) International	1988 as Max Havelaar; 1997 as FLO	1996	Product certification based on two distinct sets of Fairtrade standards: one for smallholders working together in cooperatives or other organizations with a democratic structure and one that applies to workers, whose employers pay decent wages, guarantee the right to join trade unions, ensure health and safety standards and provide adequate housing where relevant. Fairtrade certification guarantees a minimum Fairtrade price for the producers and a Fairtrade Premium for investments in their communities. There are Fairtrade standards for food products (e.g. tea, coffee, fresh fruits, nuts) and non-food products (e.g. flowers, plants, sports balls, seed cotton). More than 1.2 million producers and workers in 58 developing countries, brought together in 827 Fairtrade-certified producer organizations benefit from global Fairtrade sales.
International Federation of Organic Agriculture Movements (IFOAM)	1972	1983	Product certification based on organic agriculture principles of health, ecology, fairness and care. It defines organic agriculture as “a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects.” NTFPs are relevant to the ‘wild harvesting’ component of organic certification. NTFPs can be certified organic if they come from an ecosystem where sustainable harvesting is practiced and the harvest does not cause ecological damage to the species or the ecosystem in which it is found.

Sources: Ervin and Mallet (2002); <http://info.fsc.org>; www.fairtrade.net; <http://www.organic-world.net/statistics-data-tables-excel.html> (accessed December 2012).

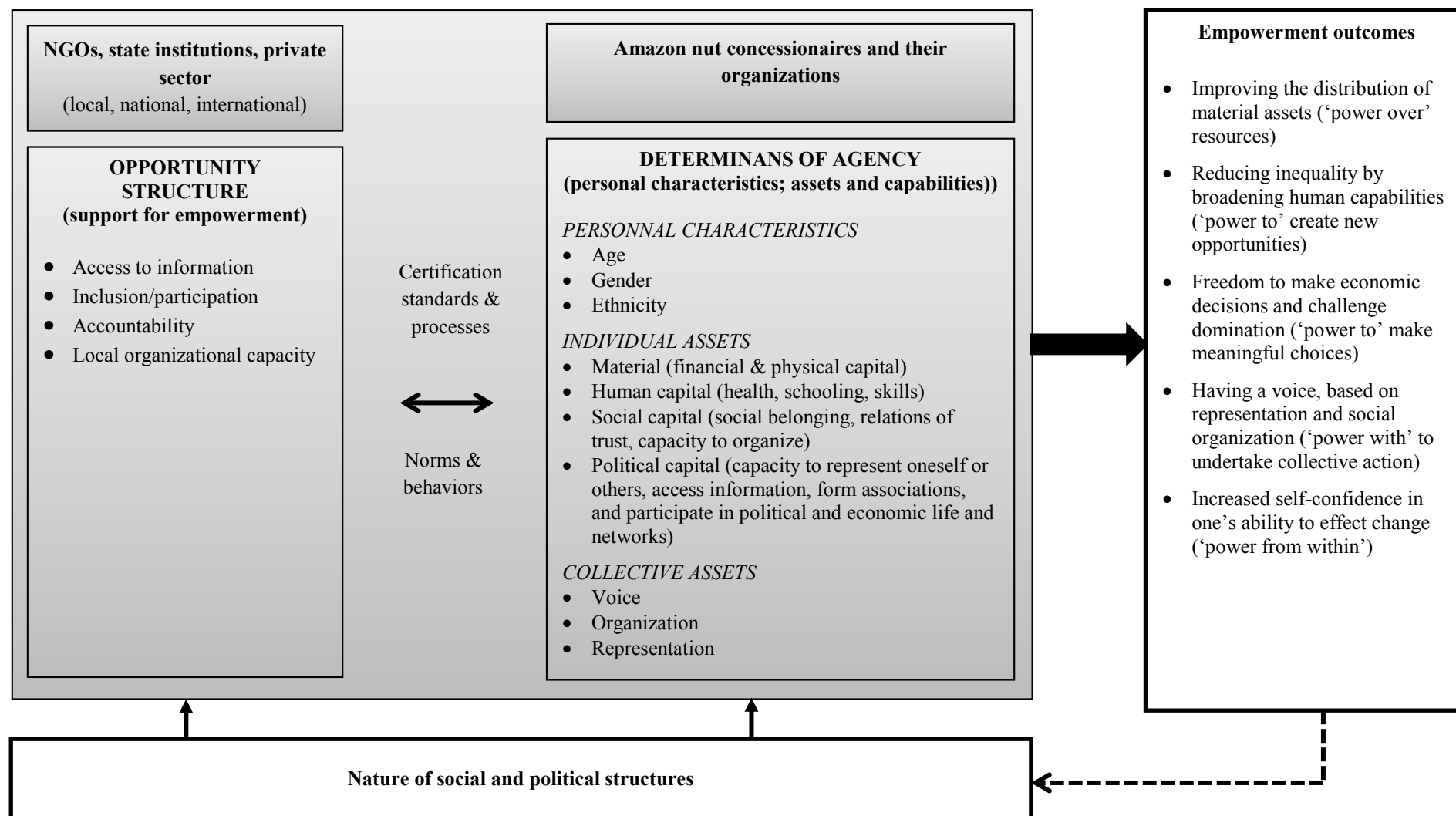


Figure 2. The empowerment framework (adapted from Narayan 2002).

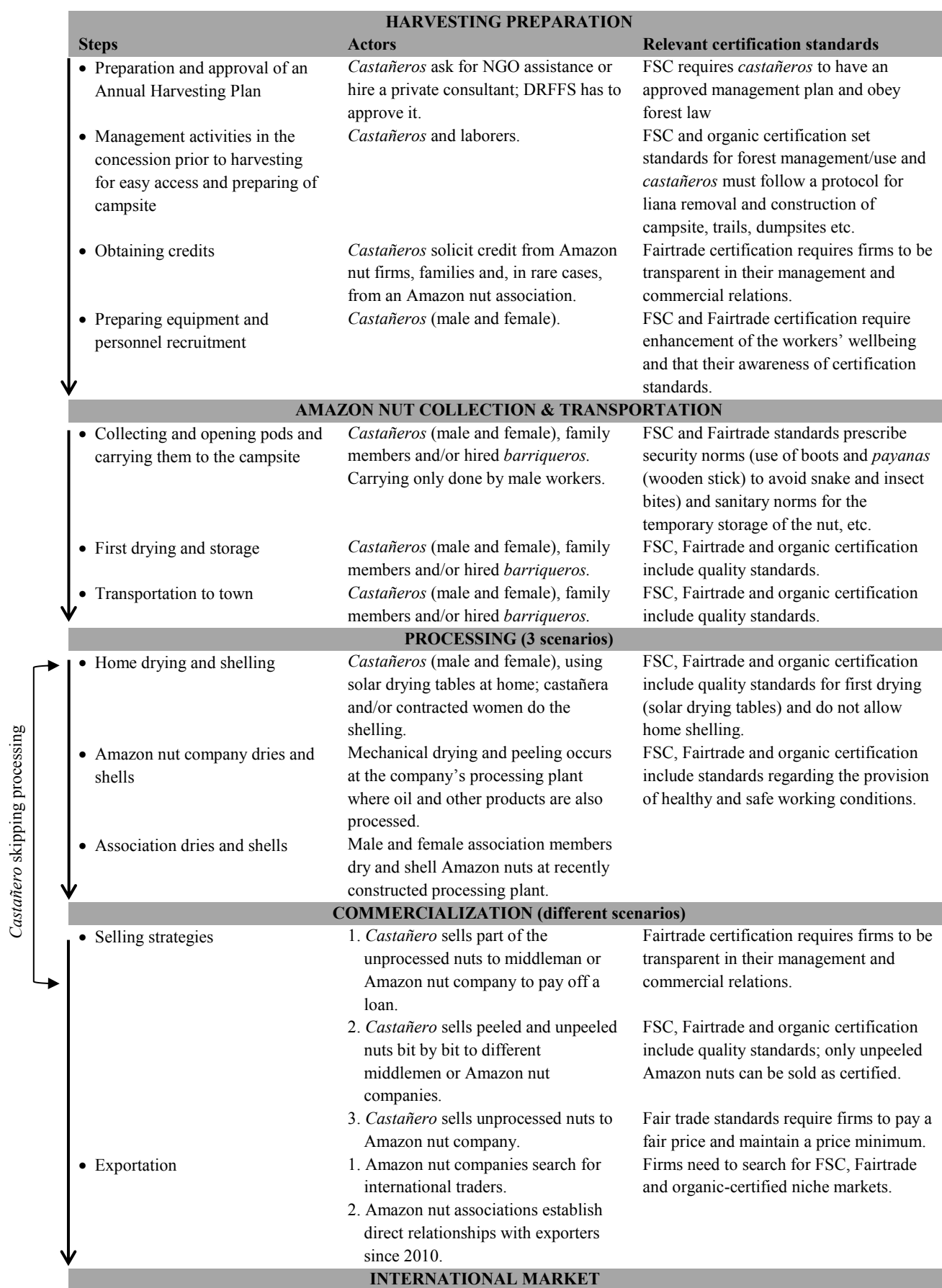


Figure 3. The Peruvian Amazon nut production chain and implications for certification.
Sources: Interviews; Comité Técnico Multisectorial de la Castaña (2006); CFV-Perú (2005).

Table 3. Export volume and value of Fairtrade-certified Amazon nuts from Peru (2004-2010)

Year	Amazon nut first category in kg	Processed Amazon nut in kg	Total Fairtrade Amazon nut in kg	Total value in US\$
2004	40,500	n.a.	40,500	n.a.
2005	54,500	1,966	56,466	n.a.
2006	56,520	6,358	62,878	n.a.
2007	74,000	16,697	90,697	n.a.
2008	71,589	14,275	85,864	559,698
2009	49,046	11,017	60,062	319,228
2010	29,838	7,050	36,888	192,525

Source: Candela Perú, 2011, Fairtrade 2010.

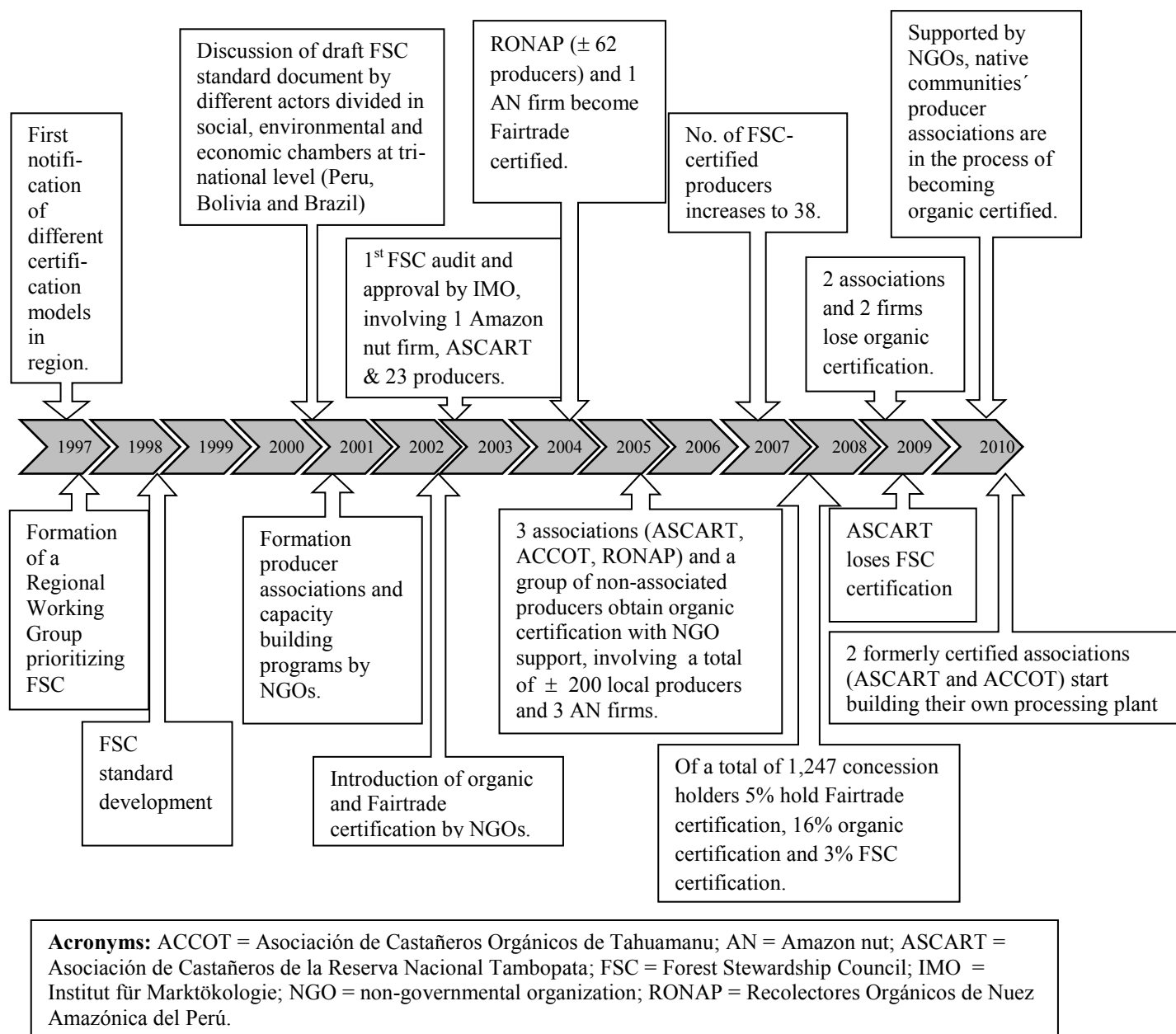


Figure 4. Timeline of Amazon nut certification in Peru.

Table 4. Export volume and value of organic-certified Amazon nuts from Peru (2003-2008).

	Year					
	2003	2004	2005	2006	2007	2008
Export volumes (kg)						
All Amazon nut	2,575,000	2,458,000	3,619,000	3,033,000	3,208,000	2,923,000
Organic-certified Amazon nut	39,000	95,200	130,400	235,800	n.a.	n.a.
Proportion of organic-certified Amazon nut	1.52	3.88	3.60	7.77	n.a.	n.a.
Export value (mln. US\$)						
All Amazon nut	6.38	9.85	18.19	12.11	13.90	13.85
Organic-certified Amazon nut	0.13	0.44	0.71	1.3	n.a.	n.a.
Proportion of organic-certified Amazon nut	2.04	4.47	3.90	10.73	n.a.	n.a.

Source: FAO Statistics Division (2009); PROM Perú (2007).