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## Strategic Alliances and Sustainable Coffee Production: The shaded system of Baturite, State of Ceara, Brazil<sup>★</sup>

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### Abstract

The study aims to assess the entry of coffee producers into the specialty coffee segment that is differentiated by social and environmental attributes. It shows the experience of shaded coffee growers participating in the Projeto Café Ecológico, placed in the Baturité Mountains Environmental Protection Area, an Atlantic Forest region in Ceará State, Brazil. Emphasis is placed on horizontal and vertical strategic alliances among actors involved in the production, processing and distribution of ecological coffee. It highlights the articulation between government and NGOs, under both contractual and institutional approaches.

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## **1. PROBLEM STATEMENT**

The recent interest and increasing demand of healthy and social and environmentally-sound products, particularly in developed countries, have fostered the presence of some of these attributes in the foods displayed on the shelves of main supermarkets worldwide. Environmental preservation and consideration for farm workers is becoming increasingly more incorporated as a competition tool for the final product, hence making it differentiated. The possibility of differentiation makes it special, and that has been a relevant factor influencing its competitiveness.

The segment of specialty coffees accounts for approximately 12% of the international market, with a scope of differentiation possibilities reaching beyond the final quality of the beverage. The wide array of quality concepts for coffee ranges from physical characteristics - origin, varieties, color and size - to sensorial characteristics – body and aroma - to social and environmental concerns, such as the production systems adopted and the labor conditions under which coffee is grown.

Besides environmental preservation, a positive social and economical upturn of the creation and growth of this market alternative is the possibility to embrace small growers in this process. Most market niches are adapted to small-scale enterprises and family labor employment due to the need for specific quality attributes. Nevertheless, producers cannot tap into the specialty products market without the effective support from distinct actors.

Regarding agricultural occupation in protected areas, notwithstanding the fact that low-impact production systems, such as the organic ones, are deemed adequate to promote biodiversity conservation in Conservation Units, the implementation of a rational agricultural occupation in protected areas does call for strategic alliances among nature conservation and ecological agriculture organizations (STOLTON et al., 2000). Governments and NGOs are not able to individually implement efficient actions in this sense.

## **2. OBJECTIVES AND PROCEDURES**

This study aims to evaluate entry strategies for coffee growers into socially and environmentally differentiated segment. Its main focus is on shaded coffee traded under the principles of a new social ethics. The case study depicts the experience of shaded coffee growers participating in the Projeto Café Ecológico, which has been carried out since 1995 by the CEPEMA Foundation in the Baturité Mountains Environmental Protection Area (EPA), a region of the Atlantic Forest in Ceará State, Northeastern Brazil.

Under both agribusiness system and institutional approaches, emphasis is placed on the strategic alliances among production actors involved in the production, processing and distribution of ecological coffee. A special highlight is given to the articulation between public and non-governmental organizations.

The theoretical approaches for the analysis are grounded on the transaction costs economics and the agency theory. Both transaction costs economics (WILLIAMSON, 1985) and the agency theory (MILGROM & ROBERTS, 1992) are branches of the New Institutional Economics, sharing the hypothesis that the governance framework choice aims at economic efficiency. The agency theory focuses on the ex-ante principle of contractual relations, prioritizing efforts to overcome incentive deficiencies in both traditional contractual relations and property rights definition. In turn, transaction costs economics highlights contract enforcement, admitting that ex-post institutions supporting contracts is important. It also recognizes the need for designing governance structures that not only solve conflicts, but also prevent their emergence. The study's main hypothesis is that the higher the degree of asset specificity, the higher the tendency for contractual governance structure.

Coffee market segmentation relies on physical and sensorial attributes, such as the superior quality of the product. Sustainable coffees incorporate environmental and social concerns, which are intangible assets. In this case, the measuring up of information by consumers is more complex (DICUM & LUTTINGER, 1999). These products are thus known as credence goods because the attributes consumers desire in the product are not easily noticed, even after consumption (DOUGLAS, 1992).

Information asymmetry resulting from this specific product characteristic may even make differentiation strategies unfeasible, if the presence of desired attributes is not sufficiently guaranteed to consumers. Support institutions are necessary to promote both strategic alliances and traceability to avoid information losses throughout the coffee chain. Information asymmetry between buyers and sellers can foster opportunism.

Opportunism is closely related to incomplete information. If superior quality coffees are not overvalued with a premium price, adverse selection may occur, since the market mechanism fails to promote efficient resource allocation (AKERLOF, 1970). On the other hand, this situation can lead to an unbalanced transaction, harming one of the parties involved, which may result in moral hazard (MILGROM & ROBERTS, 1992).

### **3. RESULTS**

In the Baturité Mountains, several factors brought forth the formation of alliances aimed at promoting the awareness among growers and the maintenance of environmentally friendly agricultural activities, mainly with the proposal of valorizing environmentally sound coffee production. Among those factors were the

predatory occupation of the region; soil erosion, destruction of groundwater supplies; and the threat to the water supply in the state capital. Civil society's claims for preservation of the mountain range brought about a successful State action: the creation of a conservation unit imposing environmental restrictions to that occupation. Also, the need to recover shaded coffee farms, with techniques suiting different kinds of producers, was met by local and international NGOs, as well as governmental agencies, both at federal and state level.

The EPA is a legal instrument that fosters the preservation of an area, but which does not have enough means to ensure the promotion of sustainable development and biodiversity. It is crucial to generate strategies that harmonize the actions of governmental agencies, NGOs dealing with agro ecology, and growers. New alternatives should be proposed in a participatory way and should be very well adapted to the local ecosystems and cultural traditions so as to be more easily adopted. Flexible solutions can ensure the survival of both producers and natural resources.

Although the terms shaded, ecological and organic coffee are eventually synonyms in this text, a distinction among them must be made. When compared to the sun grown coffee (monoculture) the coffee grown under the shade of other plants can be considered ecological. That improves biodiversity, as far as an increase in the number of vegetal and animal species in the same area is observed. Besides, the shade system uses neither soluble fertilizers nor pesticides. The humus resulting from the decomposition of residues of the higher vegetation levels fertilizes coffee areas. Natural enemies control pests and diseases. Once certified, these agroecological practices can be considered as organic systems.

Sun-grown coffee and bad results twice associated with its inadequacy to the local ecosystem meant serious losses. The first one was still in 19th century, fifty years after coffee plantations started in the mountain, at which time the bad performance of open sun crops made it possible to envision the local adaptation to the shaded system. Also disastrous was the experience of the 1970s, when the Instituto Brasileiro do Café fostered investments in monocultures subsidizing private credit. The mountains growers who had been lured by the governmental plan did not succeed.

Whereas the State exerts its social function creating CUs in areas facing risk or threat of extinction, NGOs, mainly those promoting sound agroecological practices, are also active. They have been responsible for projects and programs directed to sustainable conservation and management of natural resources. By taking on a few prerogatives of State entities, such as the provision of collective goods, NGOs are identified as key pieces for the success of initiatives relative to the environmental issue. They are particularly efficient both in the promotion of sustainable management in protected areas, and in the gathering and dissemination of

information on the environment and natural resources (FONSECA & PINTO, 2000).

The lack of market incentives encouraging Baturité's producers to voluntarily stop the degradation intensifies mere short-term actions (DURÁN, 2000). However, in the case of the Projeto Café Ecológico, long-term action proposals and the possibility of shaded coffee valorization represent a concrete alternative orchestrating higher gains and a deeper awareness of the need to preserve natural resources, and thus foster sustainable development.

Despite their common vision, Baturité coffee growers could not mobilize themselves to achieve enduring marketing access joint strategies. Their individualistic style while trading their products provides an excellent source of income for intermediaries. Two examples are the ecological arabica coffee often bought at inferior prices, not achieving the premium price usually ascribed to a differentiated product, and the ecological bananas bought at a lower price than those from conventional agriculture that are sold at Fortaleza's supermarkets.

The shaded system in practice provides an alternative to deforestation, allowing agricultural production to respect natural resources. The revitalization of coffee plantations in the municipalities that still have areas from the Atlantic Forest in Ceará serves a multifold objective: to enhance biodiversity and sustainable development, while obtaining agricultural production and preserving natural resources; to improve agriculturists income and reduce rural exodus; and to generate employment and income for rural workers.

The CEPEMA Foundation has carried out the Projeto Café Ecológico since 1995 with funding from the Swedish Society for Nature Protection and the International Network Land of the Future, in the Baturité mountain range. As of 2000, funds have also been funneled through the National Fund for the Environment, of the Environment Ministry, as part of an educational program focused on sustainable development of the Atlantic Forest areas.

By deepening the knowledge about the local ecosystem, the socio-cultural ties and the historical roots of the Baturité region, the Projeto aims to train producers in agroecological practices. It also seeks an alternative way of marketing coffee, so as to break down traditional trade structures and raise producers' income, thus fostering equity. This means an improved distribution of revenues throughout the production system.

Awareness about the importance of environmental preservation and valorization of agroecological practices is among the main values shared by the 110 certified organic growers of the Projeto. Knowledge is produced through development and dissemination of locally adapted agroecological practices and improved by the local

articulation of: a) the APEMB (growers association); b) the UEPQs (agroecological research body); and c) the ADAEs (agents commissioned to ensure the development of ecological agriculture in harmony with the forest). Historical roots ensure that the learnings from ecological production be easily passed on from father to son and among the community.

The first exportation of ecological coffee, directly to the Swedish roaster Classic Kaffe, happened in 1997, through a multiple agreement among the CEPEMA, APEMB, Swedish Society for Nature Conservation, Land of the Future International Network and the State government of Ceará. The marketing strategy focused on offering a specialty product: shaded coffee from the Atlantic Forest of Ceará. The roaster eventually made a blend with other types of shaded coffee from Central America. Organic certification was made by organic certifiers such as the Swedish KRAV and the Instituto Biodinâmico de Desenvolvimento Rural - IBD (Biodynamic Institute for Rural Development) of Botucatu in the state of Sao Paulo.

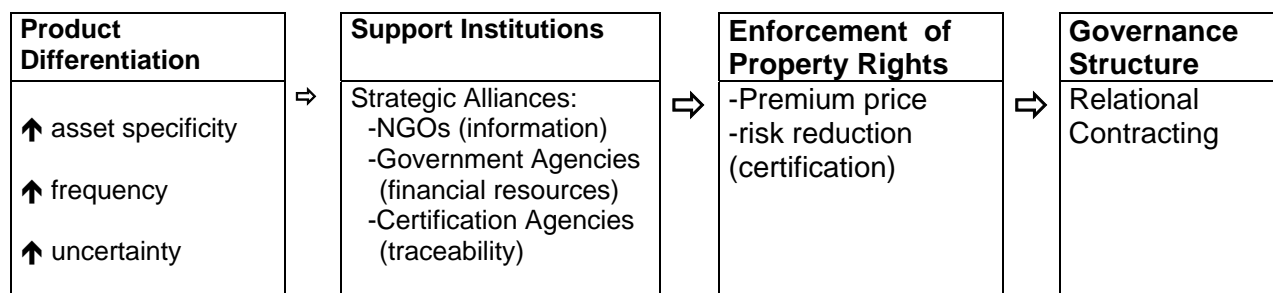
The second relevant change achieved was the creation of a coffee selection or picking unit, to separate quality grains. Sixty women from the community were employed, an important factor both for the women's integration and for income generation.

Coffee sales in the international market brought good quotes. The price reached a higher ground because growers now had a basis for negotiation. The ecological coffee of the associates received a remuneration of US\$ 160 per bag, when market prices ranged between US\$ 100 and US\$ 110. Among APEMB's future targets is the promotion of a quality contest to foster the adoption of practices in this sense (GARCIA, 2001).

The valorization of the ecological coffee played a decisive role in improving the growers' self-worth, motivating them to believe in this activity and invest in production. The quality of the coffee was proven, despite the devaluation it suffered due to its alleged bad quality, according to national buyers. The Swedish roaster analyzed seventeen samples, being only one refused (ALENCAR, 2001). Results were quite satisfactory and, during the first year, 35% of the coffee growers sent to the APEMB was exported, in the amount of 6 tons. In 1999, 60% of the coffee sent was exported, reaching 30 tons.

This case typically shows how institutional arrangements at both government and non-government levels may promote strategic alliances to valorize the product differentiation in the external market (see Table 1 below).

**Table 1.** Contractual arrangements arising from the external market strategy for sustainable coffee production in Baturite



The partnership between Baturité growers and Classic Kaffe, however, lasted only three years. A breach in contract resulting from a situation of supply surplus in the international market caused a steep fall of international prices. Facing a bear market, the Classic wanted to benefit from the situation, based on the logic of not sharing losses, but reducing costs and increasing profits. That strategy became viable due to the growth of the world organic coffee production, which was already leading to a predatory competition among growers. According to ALENCAR (2001) “buyers do not want to open the black box of costs. They do not wish to share risks.” Under these circumstances, the contract was broken.

Yet another export opportunity, this time with the North-American Zenway also failed, given the difficulty in obtaining resources for the commercialization and, in particular, for the payment of the Krav organic certification, which, in 2000 amounted to US\$ 5,000. Resources are scarce for trade and organic certification costs. APEMB obtained financial support from the Banco do Nordeste (or Bank of the Northeast) for the 1996/97 and 1997/98 crops. However, internal problems in that association hindered the concerted marketing in 2000.

Certification is a thorny problem because in addition to being a costly process for small farmers, some certificates do not suit the production systems of the region. For instance, IBD standards do not mention coffee production in forestry systems. Also, they try to impose a technological package on the growers making the use of animal manure in the fertilization mandatory. In the case of the fair trade, certification requirements enormously restrict the number of hectares by farmer, even for small holders, so only a few growers can be contemplated (ALENCAR, 2001).

In fact, certification plays the role of an off market mechanism to guarantee the agents' strategies of higher returns in an environment of incomplete information and a highly specific asset: sustainable coffee. Selling a differentiated coffee in the commodities market means a loss of value, since spot markets are not able to pay a premium price for specialty attributes. Thus, although more costly, certification is a

more efficient coordination tool to promote equity than spot market governance, since assets specificity is a source of uncertainty.

These drawbacks led to a redefinition of the strategies regarding local growers and self-certification. A broader project envisions the creation of a network to sell environmentally friendly products, including processed local tropical fruits.

Coffee is included in this proposal as a project to contract a local roaster, thus raising its aggregated value for growers. The products range is marketed with the same “Pico Alto” brand, as a reference to the highest peak in the state of Ceara, at the Baturite area. Besides environmentally friendly attributes shaded coffee is now strongly associated to its origin territory by means of the brand. CEPEMA certification works as a tool to reduce uncertainty.

Optional marketing strategies for the international market focuses on the domestic market mainly that of the state of Ceara. Therefore, instead of selling green coffee to Europe or the U.S., the Pico Alto roast and ground coffee is sold directly by CONCAFE (growers cooperative) to local governmental agencies, NGOs, Inns and a supermarket chain.

The main positive effect of CEPEMA's intervention in its knowledge-building task refers to the raise in the growers' awareness of environmental preservation and the necessity to improve product quality. This was fruit not only of research in agroecological practices developed at the UEPQs, but also of the educational work of the ADAEs and consequent strengthening of the growers' organization.

Also relevant are the actions enhancing biodiversity with the distribution of coffee and fruit trees cuttings, and the maintenance of a plurality of systems. No longer did the project include only ecological coffee; its new focus also embraced the development of agro-forestry systems, with a sounder environmental equilibrium and the promotion of tools designed to reduce risks.

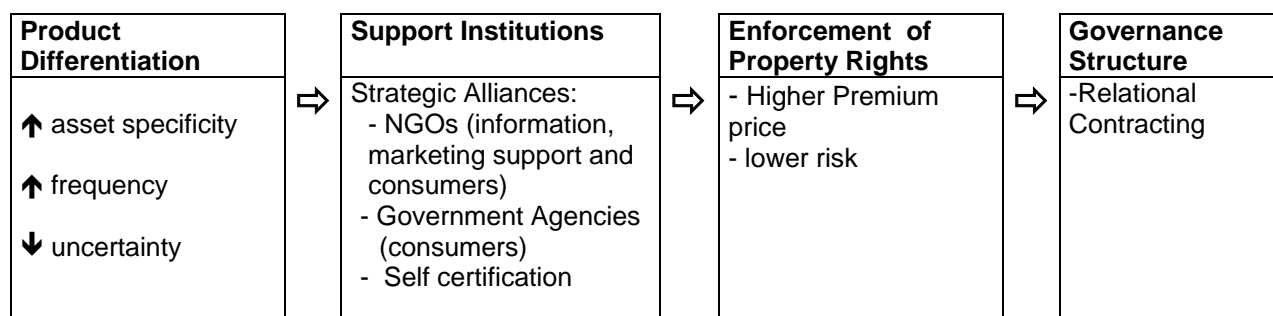
This shows a great flexibility both in the proposals and in the decisions required for the adaptation to new contingencies. For instance, with a view to organizing consumers, and because Guaramiranga is becoming an important tourism center, the possibility of bringing a fair of organic products to this place – and even of delivering baskets in the capital Fortaleza - is currently being analyzed.

This new arrangement leads to a change in one of the transactions attributes (i.e., uncertainty) in the role support institutions play, and in the enforcement of property rights. In the new marketing strategy, premium price is higher for growers due to value aggregated by local roasting. This, in turn, allows for a transfer of the quasi rent, which is then appropriated by the growers. Risk is presently lower due to guaranteed demand. Furthermore the sale of the processed product (roast and



ground coffee) is less subject to price volatility. However no major changes were observed in the governance structure, which remains relational contracting (see Table 2 below).

**Table 2.** Contractual arrangements arising from the regional market strategy for sustainable coffee production in Baturite



Downturns do exist: the major one concerns the lack of official credit for coffee in the state of Ceará. This crop is not a priority in governmental projects. Still at this same sphere, there are not enough tools to efficiently regulate the use of water resources. The rather fragmented land structure is yet another hindrance to the maintenance of families that rely upon the land income for survival.

Nevertheless, the valorization of this ecological coffee in the differentiated market is still a concrete experience. Although it did not have continuity in the external market, local and regional markets have been a feasible alternative. The strengthening and valorization of local and regional consumption seem to be an initiative that will have a better performance from now on. The reason for this is that the strategy of differentiation of the ecological product is coherent with the local tradition of shade grown coffee. These actions try to reduce risks, aggregate value and enhance the regional articulation, besides promoting equity.

#### **4. CONCLUSIONS**

The case of Baturité clearly exemplifies the role of strategic alliances in fostering contractual arrangements concerning differentiated products. Ecological coffee was not a market imposition. No external agent brought the technology. It was developed through the experience of growers cultivating the land, fruit of the local history of production in the forest. Support institutions to guarantee environmental and social attributes allow a better allocation of property rights by means of premium prices

Breaking the vicious cycle of low income responsible for low investments depends upon institutional changes. CEPEMA's action and the strengthening of the APEMB, proposing an initially horizontal coordination (among farmers) followed by

a vertical one (among sectors), through the creation of a network favored, at first, the possibility of turning this vicious cycle into a virtuous cycle, fruit of several strategic alliances. Nevertheless, relational contracting reveals the importance of flexibility for new contingencies governing transactions with specific attributes.

The high cost of the certification is prohibitive for these farmers and, consequently, an obstacle to their participation in foreign differentiated markets. This poses a strong entry barrier in the international market for developing countries.

This recent strategy, focused on internal market, reorganized the role played by support institutions thus reducing uncertainty. It also led to changes in the enforcement of property rights, reducing risks and increasing growers margins. Nevertheless, this transfer from external to internal market was not strong enough to shift the governance structures, since relational contracting still prevails.

Challenges still are abundant, but proposals are orientated to a new ethical and consistent way of placing coffee in differentiated markets, promoting both biodiversity and grower's environmental awareness. Also important, however, is to keep farm workers and families on their place of origin and give new generations the hope of fair prices closely linked to the sustainable occupation of the Baturité Mountains.

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