ORGANIZATION OF THE ORGANIC COFFEE INDUSTRY IN THE "SUL DE MINAS" REGION, BRAZIL

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ABSTRACT

The Brazilian certified organic coffee production began in the "Sul de Minas"region in 1992, when the exports of green beans to Japan amounted to 250 60Kg bags. In the 1990's, conventional coffee growers were very concerned about improving coffee quality mainly due to the quality contests that started in the country in that decade, such as the *Illy Award* and the *Cup of Excellence* Award. When an organic coffee grower won the second place in the Cup of Excellence contest in 1999, that fact was considered as a mere matter of luck, as if organic coffee would not be capable of reaching high quality standards.This study aims to assess the organization of the organic coffee industry in the"Sul de Minas"region in Brazil, under a net-chain perspective, to identify potential sources of cooperation. The "Sul de Minas" is well known as a high quality coffee region in southern Minas Gerais state: some growers from the local cities of Machado and Poço Fundo are dedicated to organic and fair trade coffee production.

Emphasis is placed on strategic alliances among the different actors involved in the production, processing and distribution of organic coffee, so a special highlight is given to the articulation among agents. Besides, this work delineates a few prospects, along with their main bottlenecks, such as the multiple certification requirements according to the different markets, and the challenges the organic coffee sector still faces in Brazil.

Key-words: organic coffee, "Sul de Minas" region, cooperation, net-chains

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INTRODUCTION

The last fifteen years showed a change in the global coffee market, and more specifically in the Brazilian market, with the development of both the specialty coffee industry and the organic coffee segment. Although Brazil is the most important coffee producer in the world, accounting for roughly 30% of the world´s production, the specialty coffees amount to 6% and the organic coffee industry represent less than 0.5% of the country´s current production.

This study aims to assess the organization of the organic coffee industry as it is currently structured in Brazil. The net-chain approach is used to identify potential sources of cooperation gains on the production side of this market. Although the main production areas spread out over eight states: Minas Gerais, Sao Paulo, Parana, Espirito Santo, Bahia, Mato Grosso, Goias, and Rio de Janeiro, the paper focuses specifically on the cities of Machado and Poço Fundo in a Southern Minas Gerais state region known as "Sul de Minas", once they are the oldest certified organic coffee growing areas and the most important producers in the country.

Emphasis is placed on the strategic alliances among the different actors involved in the production, processing and distribution of organic coffee, so a special highlight is given to the orchestration among agents. In addition to that, a few prospects are delineated with attention drawn to the sector as a whole along with its main bottlenecks, such as the requirement for multiple certifications according to the different markets, as well as some challenges the organic coffee sector still faces in Brazil.

THEORETICAL APPROACH

The net-chain concept, as proposed by FARINA et al. (2002) to study the organic industry, is our basic theoretical approach. Organic chains show vertical and horizontal interdepencies, working as networks. It is important to identify the vertical and horizontal inter-relations, not only because of their association to potential sources, which generates economic value, but also because of their specific governance structures, which allow for the creation and appropriation of value.

In a broader sense, vertical relations lead to competitive gains thanks to the optimization of the production and operational flows, which reduces transaction costs across segments, as a result of the coordination among raw materials, financing and information flows. In horizontal, or mutual relations, in turn, the competitive gains may come by means of two different coordination mechanisms. On the one hand, when relations are indirect and spread, that is, agents are anonymous and social ties are weak, it is possible to profit from the creation of patterns which allows exploring scale returns. On the other hand, when relations envolve reciprocity, that is, the product of one agent depends on the product of another agent, the process of mutual adjustment or learning together is what leads to higher competitiveness (LAZZARINI, CHADDAD & COOK, 2001:3).

Three potential sources of value may be highlighted: the social structure, the learning process and the network externalities. More ou less long-standing social structures show positive effects on economic development and lead to cooperative behavior. On dense networks, which are a result of strong affective and social ties created by means of recurrent relations, trust and social norms promoting cooperation emerge more easily, thus reducing transaction costs.

The second kind of source of value is the learning process, which is associated to conjoint efforts to obtain knowledgement in order to explore the several individual capacities and to create co-specialization. Dense networks favour this kind of knowledge because they promote cooperation. Cooperation and the interchange of experience in growers' communities have been factors of success in organic production. The process of feedback or mutual adjustment shows positive externalities, which garantees opportunities for inovation. The development of specific routines linked to co-specialization is often easier on account of the strong cultural and ideological ties among the cooperating growers.

Networks externalities, which are the third kind of source of value, occur when the benefits of adopting a certain technology or contract increases along with its diffusion and adoption. Organic agriculture is developing thanks to growers and NGOs´ efforts out of the canons of conventional agriculture. This capacitation envolved a knowledge domain which was not readily available on university shelves or at public and private research institutes.

This is a typical case of mutual apprenticeship favoured by the growers' geographical and social proximity,which allows them to form dense networks based on common life philosophy and the sharing of personal values. This process facilitated the development of the organic industry, as can be seen on the organic coffee chain studied, as it generates specific knowledge, which is the basis to create economic value. Organic coffee, as organic agriculture considered as a whole, shows strong site specificity and requires specific

knowledge of the production areas, where dense networks and geographically delimited clusters favour the development of the necessary technical knowledge.

According to ZYLBERSZTAJN & FARINA (2004) gains in networkings are fuelled by the sub-addictive costs of conjoint production. Total individual production costs are higher than production costs in horizontally integrated firms.

The kinds of interdependency among agents of the productive system are shown in Table 1, below.

Table 1. Kinds of Interdependencies and Competitive Gains.

Interdependency	Kind of relation	Competitive gains	Coordination mechanism
Vertical (sequencial or systemic)	Among segments	Reduction of transation costs (production flow optimization)	Contracts Vertical integration Standardization Certification
Horizontal (mutual)	Mutually dependent clusters	Standardization to explore economies of scale Strong ties favouring trust, new social norms Cooperation: adoption of conjoint solutions	Clusters Associations Normatization / laws Standardization
Net-chain	Vertical and horizontal inter-relation	Reduction of transation costs Economies of scale Higher investment Sub-addictive costs	Certification Standardization Contracts

Source: FARINA et al., 2002.

Standardization is a particularly crucial subject as far as the interdependencies of organic production are concerned.Vertical interdependencies are related to the whole chains, since certification patterns require traceability mechanisms to guarantee food safety. As processing and marketing are carried out through the supply of several growers, it is necessary to guarantee that they all strictly follow the certification pattern established, otherwise all the growers will be damaged by loosing value in their assets, which may generate horizontal interdependencies.

Both vertical and horizontal interdependencies characterize the organic systems as net-chains. The complexity of this market makes the agents' collective action very important in the coordination of the net-chain, so as to surpass potential conflicts and cooperate in order to promote gains throughout the system.

These concepts will be applied to the organic coffee industry, especially in Machado and Poço Fundo in the "Sul de Minas" region. The "Sul de Minas" is well known for its conventional and very high quality coffee production, in southern Minas Gerais state, in Southeastern Brazil, where a few growers have been dedicated to organic and fair trade coffee production since the early 1990's.

ORGANIC COFFEE PRODUCTION BACKGROUND

In the 1990's conventional coffee growers were very concerned about improving quality, mainly motivated by the quality contests that started in the country in this decade, such as the Illy Award and the Cup of Excellence Award. The certified organic coffee production of the country was officially started by Mr. Carlos Franco from Machado a farmer who converted into the organic production in 1992, when the exports of green beans to Japan amounted to 250 60Kg bags.

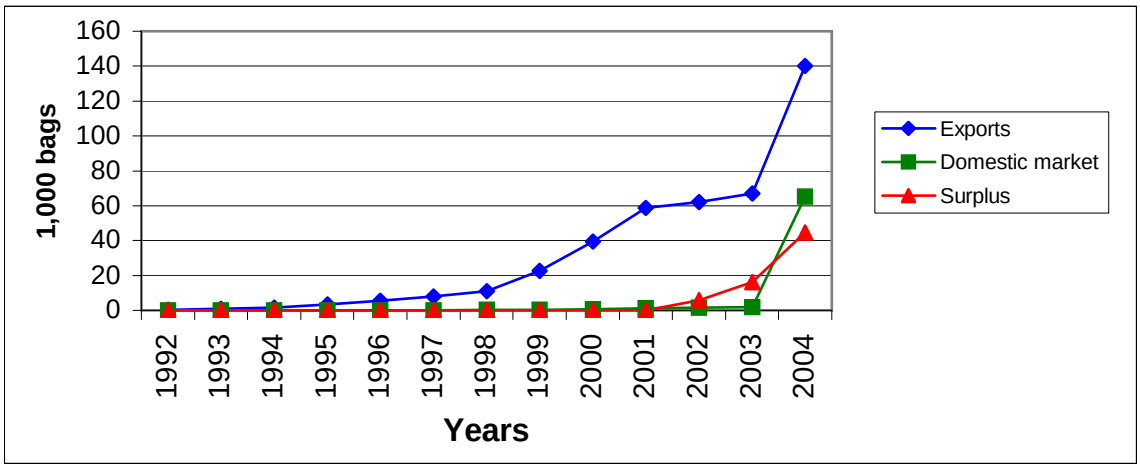
When a second organic coffee farmer, Alex Nannetti, also from Machado, won the second place in the Cup of Excellence contest in 1999 among 315 participants, that fact was still considered as a mere matter of luck, as if organic coffee would not be capable of reaching high quality standards. That was the very beginning of conventional growers' awareness about organic coffee.

However, only after 2001 did the organic coffee production experience a big push, when Paulo Sérgio de Almeida, an organic coffee grower from the city of Paraisopolis, also in the "Sul de Minas"region, won the first place in the Cup of Excellence Award among 375 high quality coffee growers. His lot of 96 60 kilos bags was sold through an electronic auction at US$ 735 each, at a time when the conventional coffee market paid no more than US$ 35 per bag (Gonçalves and Souza, 2002:50). The premium of US$ 700 per bag created a stimulus strong enough to attract several new coffee growers into the organic market, although not all of which met such high quality standards.

Moreover, the lack of governmental research concerning organic coffee systems has not hindered the expansion of new production areas. Even in the high quality conventional coffee segment, very large groups started going organic, in at least a small plot of their land. Presently, the largest organic coffee grower is a German who leaves in the city of Guaranesia, in the state of Minas Gerais, who owns three farms with a total area of 1,050 hectares.

In 2002, the estimates for organic coffee production reached 34,000 bags, out of which 27,000 bags were exported. By 2003, organic coffee had reached 0.25% of the Brazilian coffee production, and 2004 prospects estimated an organic coffee production of around 250,000 bags, as shown in Figure 1, below.

Figure 1. Estimates of organic coffee production in Brazil.



Source: ACOB, 2004.

The main hindrance in the new scenario was the production surplus, which was absorbed neither by the domestic nor by the external market. In order to avoid increasing stocks of organic coffee, the product had to be sold at the same price as that of conventional coffee. Nevertheless, this production surplus trend tends to be reduced in 2005, as both the external demand for organic coffee and the prices increase. The higher premium price for organic, as compared to that of conventional coffee, still remains the main stimulus to foster organic coffee production.

According to Mr. Franco, the pioneer of organic coffee production in Brazil, higher prices of specialty organic coffee are due to the fact that its production does not deteriorate the natural resources. Yieldings are lower than those in conventional farming and labour requirements are higher, due to the selective picking and sun drying (FARINA et al., 2001:78). Thus the organic coffee production costs raise proportionally to the prices of the final product. Certified organic coffee prices for range from around US$ 100 to US$ 120 per bag in the domestic market for non classified ones, to US$ 140 to US$ 160 for the specialty classified ones in the domestic and export markets, respectively (ACOB, 2005).

Certification costs also vary from R$ 2,500 to R$ 4,000 per each 1,000 bags or 50 ha, (roughly from US 1,000 to US$ 1,600) according to the certifier. Smaller growers benefit from group certification, when they are organized in associations. That reduces the certification costs to around R$ 100 (US$ 40) per grower, due to the building of internal control systems. Most certifiers charge a fixed price plus a percentage on sales.

Because the organic growers' margins are very similar to those of the conventional ones, the entry to and the exit from the organic coffee market depend mainly on two factors. The first one is related to the conventional market, since high prices in this market deeply reduce the stimulus to convert into the organic production. The second factor is the personal satisfaction of some of the growers, who are considered the 'ideological' ones, which is associated to the process of being part of an ecological production. These growers persist on the organic production even when the economic incentives are low (ACOB, 2005).

The main competitors of the Brazilian organic coffee in the international market are Mexico and Peru. These countries show intrinsical characteristics, which are very important to

understand the dynamics of the international organic coffee prices formation. They do not show a specific strategy for the organic production, but they benefit because they are very small growers, with average areas of less than 3 ha, and they do not adopt conventional practices because they have no financial devices to buy conventional inputs such as chemical fertilizers and pesticides. Their costs of production are much lower than in Brazil and their supply in the international market pushes the international prices of organic coffee down (SAES; NAKAZONE, 2002).

HORIZONTAL RELATIONS: BUILDING GROWERS' ASSOCIATIONS

The need for cooperation among coffee growers, specially among the smaller ones, emerged in the "Sul de Minas" region prior to the organic production. In 1991, the Associação de Pequenos Produtores de Poço Fundo (Association of Small Producers of Poco Fundo), a small municipality of 15,000 people next to Machado, was founded to promote the organization and cooperation of around 75 family farmers to improve their quality of life. Most of them later converted into the organic production, as they faced financial constraints to buy the inputs to produce coffee conventionally.

Nevertheless, the knowledge concerning organic practices was acquired by means of the cooperation with another association, the ACOB – Associação de Cafeicultura Orgânica do Brasil, which was founded in Machado mostly by medium-size growers in 1995. Only two out of the 36 ACOB associates are family farmers associations, being the Associação de Pequenos Produtores de Poço Fundo one of them.

Among other collective actions, the ACOB was responsible for the creation and diffusion of specific technologies for the organic coffee production. They organized the first Fair Trade Coffee Conference, including organic production, which was held in Machado in 2000, besides several technical courses in cooperation with both the ESACMA – Escola Superior de Agronomia e Ciências de Machado (private Faculty of Agronomy) and the Escola Agrotécnica Federal (governmental technical school). These courses ranged from shade grown coffee techniques to a post-graduation program offered by the ESACMA.

However, besides collective actions, such as the provision of technical information, there is room for different marketing strategies. Collective and cooperative actions, such as providing common knowledge and information, favoured medium sized and family farmers as well, as a result of a horizontal cooperation where all the growers benefit, although keeping independent marketing strategies. The growers geographical proximity was mostly responsible for the success of these initiatives.

Similar results of the benefits of the horizontal cooperation to provide knowledge and information can also be found in other organic coffee regions. Such is the case of the Baturite Mountains, located in an Environmental Protected Area and forming an "island" in the Atlantic Forest amidst the semi-arid region, about 100 km far from Fortaleza, the capital of the state of Ceara, in the Northeastern region of Brazil. The state is considered a marginal area as far as coffee production is concerned, although the Baturite growers have been responsible for shaded coffee production since mid-19th century.

The shaded system in use in the region provides an alternative to deforestation, allowing agricultural production to respect natural resources. The "Projeto Café Ecológico", which has been carried out there since 1995 by the NGO CEPEMA Foundation, serves a threefold

objective: to enhance biodiversity and sustainable development, while obtaining agricultural production and preserving natural resources; to improve agriculturalists income and reduce rural exodus; and to generate employment and income for rural workers.

By deepening the knowledge about the local ecosystems, the socio-cultural ties and the historical roots of the Baturite region, the "Projeto Café Ecológico" aims to generate adequate technologies and to train the growers of the APEMB – Associação dos Produtores Ecologistas do Maciço de Baturité in agroecologial 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 (SAES; SOUZA; OTANI, 2003:5).

The "Sul de Minas" and the Baturité regions are examples of how horizontal integration favours the sub-addictivity of costs, especially regarding economies of scale, in which cooperation among growers improve technical and marketing information.

VERTICAL RELATIONS: PROCESSING AND DISTRIBUTION

The ACOB's associates have different strategies to access the organic market. On the one hand, the marketing strategies of the medium-sized growers in the "Sul de Minas" changed from green beans exports, exclusively, to both green beans and roast and ground sales internally and abroad. They sell their coffee mainly to Japan, the United States, Europe and Australia. It might be highlighted that roast and ground coffee provides much higher margins to growers, although requiring a new marketing structure. On the other hand, the Associação de Pequenos Produtores de Poço Fundo has been participating in the European fair trade market since 1997.[4] In 2004, about 5,000 bags were exported, with an average of 70 bags per grower. The fair trade prices according to the FLO – Fair Labelling Organization are presented on Table 2.

Table 2 - Fair trade coffee prices (FLO) (in US$ cents/pound)

Kinds of Coffee	Conventional		Certified Organic	
	Central America, Mexico, Africa, Asia	South America, The Caribbean Area	Central America, Mexico, Africa, Asia	South America, The Caribbean Area
Mild	126	124	141	139
Natural	120	120	135	135
Washed Robusta	110	110	125	125
Unwashed Robusta	106	106	121	121

Source: LEWIN, GIOVANNUCCI, VARANGIS (2004).

This strategy allows for more stable conditions to negotiation.Unlike the organic coffee, with barriers to entry and prices varying according to the supply conditions, the coffee sold under fair trade norms shall guarantee a stable and sustainable income to growers. The fair trade

[4] *Fair trade* is a "trade partnership based on dialog, transparency and respect, which aims better equity in the international trade. It contributes to the sustainable development by promoting better exchange conditions and guarantees the rights of marginalized producers and workers, mainly in countries of the South. Fair trade certification is given to a productive chain: of small producers (agriculturalists or not), who must be congregated in cooperatives or associations to the following segments of industry and retailing. It aims at the equal distribution of gains, the environmental preservation and the social commitment. *Fair trade* products are sold at "fair prices", normally above those in the conventional market, in order to guarantee the survival of workers who, if not attended by this kind of transaction, would be marginalized in the markets (NICOLAU, sd.).

coffee production in the region was responsible for several improvements, not only in the growers' quality of life, one of the fair trade requirements, but also in their profits. In addition to that, there has also been improvements in the municipality as a whole: part of the profits from the Sales has to be be invested in community projects. With the new resources the Poço Fundo´s growers built a coffee warehouse, a home for the elderly and a health station in the city.

On the industry side, Brazilian coffee roasters started to roast organic coffee in 1998, mainly for the domestic market. Since then, at least five – Café Bom Dia, Cia Cacique de Café Solúvel, São Braz, Sara Lee and Santa Clara - out of the ten largest roasters have launched organic coffee brands in their specialty coffee lines (ABIC, 2003:3), besides a handful of small and medium roasters, such as Astro, Cia Orgânica, Native, Ecoville, and Spress. In 2003, the Bom Dia company, which has been selling roast and ground organic coffee in the domestic market since 2000, launched a new brand of gourmet organic roast and ground coffee in the U.S. market, whose sales amounted to US$ 4.8 million. It is presently launching its own brand also in Europe. This strategy of exporting roast and ground coffee still remains a challenge for the conventional coffee sector.

Since 2003 the ACOB's associates benefit from a coffee roasting plant built in the Escola Agrotécnica Federal (Federal Agrotechnical School) of Machado city. Although it was initially designed for students training in the conventional coffee roasting, it presently roasts the organic coffee production of the region as well.

PROSPECTS AND BOTTLENECKS

The Brazilian organic coffee market has been growing at an average rate of 50% per year. Premium prices are around 15% to 50% above those of conventional coffee, although the increasing supply of green coffee may threaten higher margins. There is a stronger trend for private labels, in parallel to roast and ground coffee exports (ABIC, 2003:4; ABIC, 2005:1).

Alongside big roasters, new players such as larger growers, and even the biggest ones are presently very interested in the conversion into the organic coffee production. This may threaten the family farmers´ participation in the market, who represent 25% of the total number of Brazilian coffee growers, unless they join the fair trade certification.

Increasing stocks, which prevailed in 2003, are currently lowering due to higher exports. Brazil was the 'Country of the Year' in 2005 at the Biofach, the largest world organic fair, annually held in Nuremberg, Germany. Moreover, there were three Ministers - Development, Industry and Foreign Trade, Agriculture and Agrarian Development - who demonstrated the Brazilian government´s intention to support organic production by means of the APEX, the Exports Promotion Agency. The high quality of the Brazilian organic coffee is the main differential when compared to that of other producing countries (ABIC, 2005:1).

The lack of Brazilian consumers´awareness about the environmental and social impacts of coffee production and the higher prices are important barriers to a larger domestic consumption of organic coffee. Brazilian consumers are worried about higher prices of both organic and gourmet coffees. If cheaper organic coffee were available, they would prefer it, mainly in Sao Paulo. Only 25% of interviewees responded that they bought organic coffee (SPEERS; SAES; SOUZA, 2004:58-59).

However, the lack of information about organic coffee in the domestic market is strengthened by the lack of cooperation between the organic and the specialty coffee associations. The latter still resist the idea of promoting organic coffees as a part of the specialty coffee segment (ACOB, 2005).

Technological barriers are somehow strong, but not enough to prevent new growers´ conversion into organic practices, inasmuch as research and extension of organic practices grow slowly, but steadily.

There are no official statistics about organic coffee, a factor that impairs a better organization of this sector. Furthermore, the lack of credit for conversion and for agro-forestry, such as shade grown coffee, is a reality, notwithstanding the fact that the "Banco do Brasil" has a specific funding line to finance already certified organic products.

However, organic certification is one of the most gargantuan bottlenecks. Generally speaking, there are two different sets of rules, according to different levels of recognition in both the domestic and the export markets. The internationally recognized certificate imposes a conversion period of 36 months upon growers, while the nationally recognized one requires 18 months for the conversion (ACOB, 2005).

The existence of multiple certification requirements according to the different markets is also a bottleneck, insofar as the need for several organic certificates or organic and fair trade certifications for the same farm increases costs of production, especially in the case of family farmers.

CHALLENGES AND FINAL REMARKS

One of the main challenges the Brazilian organic coffee sector faces is the question of how to enlarge the domestic market by providing information that increases consumers' awareness about the positive social and environmental impacts of organic coffee production. Research studies carried out in 2001 with consumers in two important Brazilian cities showed that consumers knew little about organic coffee.

Another important issue is how to sustain the growers' higher margins as the organic coffee production increases. The high prices motivated the entry of new growers who had converted into the organic systems into the market; albeit resulting in a higher supply, this entry also causes the lowering of prices. The increasing supply, despite the fall in prices, is explained by the gains from network externalities, according to the model of ZYLBERSZTAJN and FARINA (2004).

One possible solution would be to stimulate roast and ground along with fair trade and organic coffee exports.

Finally, the few important initiatives regarding the enhancement of origins are well worth an in-depth future discussion. This is another important issue in which the building of strong horizontal relations of cooperation among growers in geographical areas must be highlighted.

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