Participative organic certification, trust and local rural communities development: the Case of Rede Ecovida*

CESARE ZANASI**, PAOLO VENTURI**, MARCO SETTI**, COSIMO ROTA**

Jel classification: Q180, O180

Abstract

The participatory guarantee systems (PGS) for organic certification do not involve a third party certification body; therefore, the lower certification costs involved make it particularly suitable for rural communities in developing countries. Its success is related to the chance of being recognised at a national as well as international level and to its role in promoting the local rural development. The goal of the present study is to explore how social cohesion, trust and market relate one to another along the supply chain and to explain the interaction between participatory organic certification and the development of rural communities. The analytical approach, based on the work of Henry Farrell, considers how the level of formalism among the agents involved in the certification process interacts with the flexibility and scope of the relationship, including the extension of the market area in which the social control can provide guarantees comparable to those a third party certification body can give. We analysed the case of Rede Ecovida, a network of organic and conventional farmers and other stakeholders operating along the production chain, including local NGOs. The data and information collection has been carried out involving an empirical survey analysing the reasons leading to perform organic farming and set up a participatory organic certification, and an evaluation of the participatory organic farming impact on trade relationships. Collected data have been integrated with the results of another survey on the Rede Ecovida. The survey had an exploratory nature since the estimators are biased, coming form an non random and non representative sample. Results showed the positive effect of the participatory approach on the local economic, social and environmental development, and its still very low chances to have access to the export market. An interesting finding regards the role of the farmers network (Rede Ecovida) in promoting trust in the organic products beyond the boundaries of local communities.

Key-words: organic certification, transaction costs, participatory guarantee systems, developing countries, local markets.

Résumé

Les systèmes de garantie participatifs pour la certification biologique ne comportent pas d'intervention d'un organisme tiers de certification; par conséquent, les couts de certification sont plus bas, ce qui rend ce type de système particulièrement adéquat pour les communautés rurales des pays en développement. C'est un système de succès parce qu'il peut être reconnu à l'échelle aussi bien nationale qu'internationale et qu'il joue un rôle primordial dans la promotion du développement rural et local. Cet article analyse les relations établies entre la cohésion sociale, la confiance et le marché le long de la filière et il explique quel type d'interaction existe entre certification biologique participative et développement des communautés rurales. L'approche analytique, basée sur le travail d'Henry Farrell, considère comme le niveau de formalisme relationnel entre les acteurs impliqués dans la démarche de certification interagit avec la flexibilité et le champ d'application de la relation, y compris avec l'extension de la zone de marché où le contrôle social peut donner des garanties similaires à celle fournies par un organisme tiers de certification. Nous avons investigué le cas de Rede Ecovida, un réseau de producteurs biologiques et conventionnels et d'autres operateurs de la filière, y compris des ONG locales. La récolte de données et d'informations a été faite de manière empirique en analysant les raisons menant à produire biologiquement et à mettre sur pied une certification biologique participative et en évaluant ses répercussions sur les relations commerciales. Les données collectées ont été intégrées aux résultats d'une autre recherche menée sur Rede Ecovida. Telle recherche avait une nature purement investigatrice comme les sujets choisis étaient biaisés, provenant d'un échantillon non aléatoire et non représentatif. Les résultats obtenus montrent l'effet positif de l'approche participative sur le développement économique, social et environnemental de la région considérée et ses très peu de chances d'avoir accès au marché de l'exportation. Une donnée intéressante concerne le rôle du réseau des exploitants (Rede Ecovida) dans la promotion de la confiance dans les produits biologiques au delà des frontières des communautés locales.

***Mots clés**: certification biologique, coûts de transaction, systèmes participatifs de garantie, pays en développement, marches locaux.*

1. Introduction

The contribution of organic agriculture to the environmental, social and economic sustainability in developing countries has been recently stated by different authors participating in the FAO Conference on Organic Agriculture and Food Safety (Aubert, 2007; Halweil, 2007; Juma, 2007).

Promoting organic farming, and fair trade, also increases the competitiveness of the agricultural sector (both for export and internal consumption) in the countries of Sub-Saharan Africa or marginal rural farmers in Latin America and Asia, where the consequences of the agricultural trade liberalization can be very negative.

The product differentiation, due to organic and fair trade production, can stimulate an income increase due to an increase in both prices and volumes traded; at the same time, organic production and fair trade are willing to promote education, health, social equity and local communities self-reliance; they are of paramount importance for the communities development. In this case, the social return on investments could be very high.

The growth of organic agriculture is strictly related to providing a guarantee system able to create trust in consumers. There are different guarantee systems for organic products that can be classified according to their level of «formalisation»..

A totally informal system is the one where single or associated consumers buy organic products directly on farm; their trust in the organic nature of food is only based on a direct relationship with farmers and no paperwork or third party certification body is involved in the transaction.

The most formal guarantee system is the third party organic certification provided by certification bodies officially appointed by accreditation institutions; this type of certification is normally adopted for the national and international trade and is based on different sets of standards defined for the main organic markets in the world[1]. The system is also expensive; its cost reduces the growth of organic production and consumption mainly for marginal rural communities in developing countries.

At an intermediate stage, there exist the collective and participatory organic certifications.

* The paper was written by different authors: in particular Cesare Zanasi worked on paragraphs 1, 2 and 5; Paolo Venturi on paragraph 3, Cosimo Rota on paragraphs 4.1 and 4.2 and Marco Setti on paragraphs 4.3, 4.4 and 4.5.

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[1] Regulation EC no. 2092/91, USDA NOP (USA), JAS (Japan), CGFDC (China).

The third party certification bodies play a more limited role in the case of the collective certification (AIAB Toscana, 2003) or no role at all in the case of the participatory certification (Dos Santos, 2005). The cost of these certification systems is consequently lower as it strongly reduces (or eliminates) the cost of the third party certification bodies; it is therefore very interesting for the small farmers working in developing countries[2].

The participatory organic certification is part of the Participatory Guarantee Systems (PGS) and implies the participation and joint responsibility of all the stakeholders involved in guaranteeing the quality of the final product; a participatory certification results from the integration of the production, distribution and consumption stages of the certified product. It represents an interesting way of supporting the rural communities' development; it mainly involves local markets and cannot be adopted for export as the participatory certification bodies do not comply with the ISO 65 standards and with other norms that must be observed in order to be accredited as third party certification bodies.

An important application of the participatory certification is currently taking place within the Rede Ecovida, a network of Brazilian farmers, traders and other associations involved in organic farming (Dos Santos, 2002). The development of the PGS in terms of national or international markets access seems to be under the influence of variables such as social control, trust, collaboration, third party unbiased view, according to different authors analyzing the Rede Ecovida, (Fonseca, 2004; Ruzzi, Coladangelo, Piccioli, 2006; Santacoloma, 2007) and similar experiences in India (Khosla, 2007).

2. Paper objective and method of analysis

2.1. Paper objective

The objective of the present study is to set up a theoretical framework including the above-mentioned variables: social cohesion, trust and market relationships along the supply chain, and to explore its capacity to explain the interaction between participatory organic certification and development of rural communities. Social and economic aspects are considered; the influence of the participatory certification on organic products access to different market areas (local, national and international) is one of the main goals.

2.2. The analytical approach

The theoretical framework

The adopted approach is defined by Henry Farrell in a study comparing the inter-firms relationships in two industrial districts, one in Italy and the other in Germany (Farrell, 2005) (see Scheme 1). The author defines two types of relationship: formal and informal.

An informal relationship is defined by».unwritten rules enforced through bilateral relationship within a given community of actors».; a formal relationship involves «written rules enforced by a third party such as the State» (Farrell, 2005. p. 463).

An informal relationship is more effective when the physical (and cultural) distance among the institutions involved in the transaction is small; this encourages social cohesion, leading to a strong social control.

The role played by social control is of paramount importance in explaining these theoretical assumptions. The more relevant to the community the issue at stake, the higher the level of trust needed. Trust, in turn, is enhanced by social control as a guarantee against dishonest behaviour.

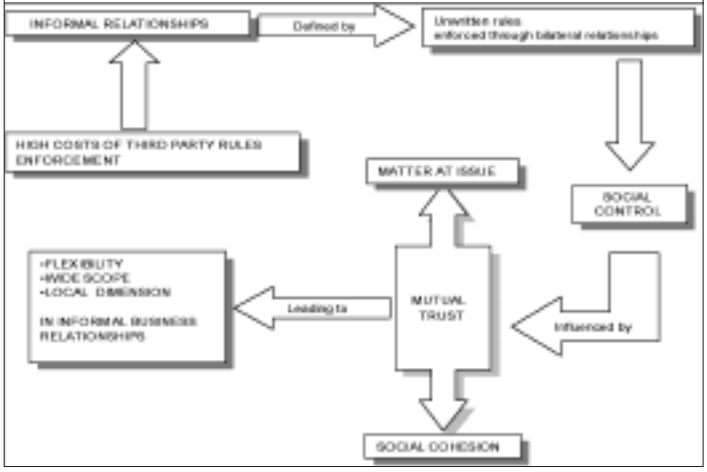
As tool to promote trust, social control favours information sharing, elasticity and speed in adapting the contractual relationship to sudden changes, within the community.

Vice versa, a formal relationship regulated by written rules makes it possible to realize contractual agreements on a larger spatial scale; the third party enforcement is not affected by social control of local communities; on the other hand, written rules cannot easily be modified; formal relationships are consequently narrower in their scope and less elastic than informal relationships.

As contract enforcement tool, social control mainly takes place in areas where the legal system is not efficient and the transaction costs related to legal expenses are relatively high; formal contracts can be more efficiently applied when the legal system efficiency in terms of costs, duration and perceived equity is high.

A third party organic certification can be considered part of a formal contractual agreement whose cost is unsustainable in those areas of developing countries where two conditions apply: a) low farmers' incomes and very small farms' size; and b) a relatively inefficient legal system.

Scheme 1 – *The theoretical framework.*



[2] The collective organic certification is only set up "when the sub-contractors are small farmers in developing countries whose total turnover is less than 20,000,000 € and present similar structural characteristics and production typologies» (ICEA, 2006. p. 4)

Under these conditions, the application of a formal contract becomes very difficult as shown in a study on PGS in India (Khosla, 2007. p.12). A participatory certification system resembles an informal relationship, where enforcement of the rules is not regulated by a third party body.

The analytical steps

The analytical steps necessary to the theoretical framework application are the following (see also a summary of the steps and analytical indicators on Table 1):

1) Assessment of the compliance of the participatory organic certification to an «informal» relationship by checking for bilateral agreements and unwritten rules existence in the certification implementation;

2) Determination of the importance of the matter at stake by analysing the reasons leading to organic production and participatory organic certification;

3) Evaluation of the interaction of the participatory certification with the rural community social cohesion, influencing the level of social control and mutual trust:

- the level of pre-existing social cohesion was determined through the analysis of the institutions influencing the decision to adopt the organic production and participatory certification: the higher the resulting share of local people or institutions involved (neighbouring farmers, local farmers' associations, etc.), the stronger the community social cohesion; the underlying assumption is that local people or institutions are influential when shared values, mutual knowledge and trust are present within the community;

- the other part of the interaction, that is the influence of participatory organic certification on social cohesion, was assessed by analysing the way the participation of the community to the certification was implemented.

4) Assessment of the social control implementation directly related to the participatory certification by examining the certification procedures;

5) In the last step, the consequences of the adoption of a participatory certification were reported with respect to the following aspects:

- intensity, scope and elasticity of the market and institutional relationship among stakeholders. The certification process was analysed to this purpose;

- access to different market areas and supplier/customer relationship; informal relationships, involving also consumers, lead to prevailing local trade where the social control can easily be implemented. This should also reduce opportunistic behaviour in the business-to-business relationship. To this end, we adopted the share of Rede Ecovida products sold through different marketing channels and other indicators related to the efficiency and fairness of the supplier/customer relationship (see Table 1).

The case study

The Rede Ecovida, a network of organic and conventional farmers and of other production chain operators, including local NGOs, was analysed.

Data and information collection was carried out in different steps, involving both an empirical survey and the available literature. First, the history and role of Rede Ecovida in promoting organic farming was considered; in a second moment, the participative organic certification rules and implementation were analysed. In the third and last step, a survey on a convenience sample of 18 out of 2432 farms was carried out; farmers were interviewed during their meetings at the Centro Ecologico, where the interviewer was located; sampled farmers come from the Ipè municipality in Rio Grande do Sul where the NGO Centro Ecologico operates. Centro Ecologico is also a member of the Rede Ecovida. Given the sampling method, the sample relatively small size when compared to the population of survey and its reference to a single municipality, the sample cannot be considered as representative of the whole Rede Ecovida. The estimators coming from a non-random and non-representative sample are actually biased. The survey has consequently an exploratory nature. This is consistent with the goal of the paper, focused on the theoretical approach capacity to provide a useful tool for the PGS impact analysis in developing countries rural communities.

Table 1 – *The analytical steps and indicators adopted.*

Analytical steps	Indicators
1. Factors influencing the level of formality of the participatory organic certification	Existence of unwritten rules; no third party rules enforcement but bilateral relationships
2. Relevance of organic production for the community	a. Reasons leading to organic farming adoption b. Reasons leading to participatory organic certification adoption
3. Certification interaction with local rural communities in influencing social cohesion	
Pre- existing social cohesion	a. Agents influencing organic farming adoption b. Agents influencing participatory organic certification adoption c. Motifs and frequency of participation in meetings and seminars held by Rede Ecovida technicians
Influence of participatory organic certification on social cohesion	Analysis of the participatory approach implementation
4. Social control implementation	Analysis of the social control related procedures in the participatory organic certification process
5. Intensity, scope and elasticity in the market and institutional relationship among stakeholders	Analysis of the institutional relationships defined by the participatory organic certification process
6. Market access and trade relationship efficiency and fairness	a. Distribution channels structure b. Trade relationship with suppliers and customers - % purchases and sales in association with other farmers - suppliers payment (days) - customers payment (days) - price definition - perceived contractual power against suppliers and customers

The survey objectives are:

- the analysis of the motifs leading to organic farming and participatory organic certification;

- the evaluation of the participatory organic farming impact on the trade relationship.

Collected data have been integrated with the results of another survey on the Rede Ecovida related to the year 2003 (Dos Santos, 2005).

The ICEA (Ethical and Environmental Certification Institute) and the AIAB-Emilia Romagna (Italian association for organic agriculture) provided contacts and documentation essential to the implementation of the study in Brazil. The Centro Ecologico of Rede Ecovida gave information and logistic support to the survey implementation.

3. Background information

3.1. Role and structure of Rede Ecovida for the development of a participatory organic certification scheme in Brazil

Rede Ecovida was created in 1998 as a result of a progressive aggregation process of different local NGOs whose goal was to find an alternative to the Green revolution. The network operates in three States of South Brazil (Paranà, Santa Caterina, Rio Grande do Sul).

The principles guiding their actions are: respect of the environment, solidarity, cooperation, respect of differences and of local cultures, promotion of life and of human resources. This vision applied to agriculture is defined «agroecology».

The Rede Ecovida strategy aims to:

- Mutual recognition among groups and environmentalists associations;
- Implementation of a non hierarchical network among the different stakeholders (groups, associations, NGOs), respecting the principles and goals defined to promote the agroecology;
- certification of organic products based on a participative approach; the responsibility related to the product quality guarantee is shared among farmers, technicians and consumers;
- creation of a label representing the entire Rede Ecovida. The label will be present on each product sold and its cost (1 cent BRL) will be used to finance teaching and extension programs supporting the growth of agroecology.

The organic farmers belonging to the Rede Ecovida are organized in progressively larger clusters. Farmers are not the only members of the network. Rede Ecovida operates in three States of South Brazil (Paranà, Santa Caterina, Rio Grande do Sul) and it includes (see also Fig.1):

- 2432 organic farmers' families clustered in 270 groups (cooperatives, organizations) and 30 NGOs;
- 24 Regional Nuclei;
- 32 other organisations (consumers, agroecology supporters, small manufacturing enterprises and traders involved with agroecology);
- 133 local organic markets (ferias).

More in detail, the Rede Ecovida agroecology principles can be listed as follows:

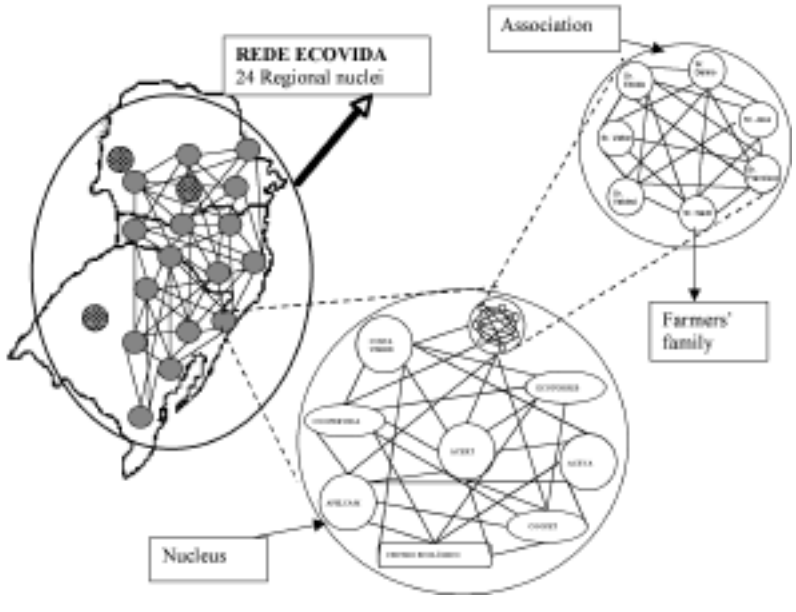
- production of healthy food with no chemical inputs or GMOs, environmental sustainability, consumer protection, healthier working conditions for farmers;
- production, processing and trade of products do not involve workers exploitation or opportunistic behaviours;
- the farmers' family involvement in organic production should be encouraged: also small scale family businesses involving food processing should be encouraged as a way to support the women and young people involvement; children and young people work should not interfere with their education;
- support of self sufficiency: recycling the on-farm resources (seed, fungicides and herbicides self-production, officinal herbs cultivation etc.);
- sale of products at a fair price granting a sustainable income for the farmers and at the same time a reasonable price for the consumers; the organic certification cost reduction and direct sales to the local markets are the main strategies adopted to reach these goals;
- product diversification to protect biodiversity (using indigenous varieties) and to differentiate the income sources;
- promote producers and consumers meeting with experts to encourage information/knowledge exchange and mutual trust;
- trying to increase the number of members in order to make the Rede Ecovida bigger and more effective;

The above-listed principles and strategies show how joining the Rede Ecovida and organic production involves important consequences for the local rural communities not only in economic terms but also from the environmental, sanitary and social point of view; the local communities self-reliance, social cohesion and social justice should be positively influenced.

The organic farming role is therefore part of a broader and complex development strategy implemented by the Rede Ecovida following a grass-root approach.

The analysis of the participatory organic certification process is necessary to evaluate if and how it is coherent with the principles of agroecology and how it contributes to their implementation.

Figure 1 – *«Rede Ecovida fot Agroecology» organisation.*



3.2. The participatory organic certification process

Following the indications provided by the Rede Ecovida's «Training Manual of Participatory Guarantee of Ecological Products» (Ecovida Network of Agroecology, 2004), the following steps must be followed to obtain the Ecovida Seal (Fig. 2):

a. Entering a farmers' association;

b. Establishment a trust-based relationship among producers and consumers through visits to the farm and direct sale of the farm products;

c. Request of the certification from the regional nucleus and filling in of the form to obtain the certification;

d. Analysis of forms by the Ethical Council (the council is composed of stakeholders not belonging to the farm to be certified);

e. Visit of the Ethical Council to the property (farm) or agro-industry: the number of units to be visited is left to the group discretion and must be appropriate to the size of the group. Its choice is made according to the need observed by the Ethical Council or randomly;

f. Report of the Ethical Council: the report can be approved or rejected. In both cases, it is suggested that the necessary improvements of the property or agro-industry are pointed out by the Ethical Council;

g. Consent of certification by the regional nucleus and possibility to use the Red Ecovida Seal: the seal for organic vegetables can be obtained only after 18 months of conversion to organic farming, abandoning the conventional production practices[3]. The conversion plan is jointly defined by the farmer and the Regional Nucleus considering also the specific environmental and socio-economic characteristics of each farm;

h. The seal validity lasts one year; in order to continue using the seal, an Ethical Council monitoring must be performed.

3.3. Level of formality of the participatory certification

The absence of a third party certification body, the bilateral relationship between farmers and the remaining community members, the vast amount of informal discussions and the daily relationship between farmers and other stakeholders define the participatory certification as a type of informal relationship. There are also written rules but their enforcement is delegated to social control.

Figure 2 – *The ecovida Seal.*

4. Results of the survey

4.1. Sample statistics

As already stated, this sample includes 18 out of 2432 farmers, it is a convenience sample and farmers come from a single municipality, while the surveyed population (The Rede Ecovida) refers to three Brazilian Federal States. For these reasons, it cannot be considered representative of the entire population. The main goal of the reported sample data (Table 2) is a better understanding of the demographic and technical-economic characteristics of the analysed farms; a prevailing small size of farms emerged, with mostly male and relatively young (45-year old) farmers with a quite high education level. When commenting the results of the analysis, all these aspects will be considered.

4.2. Relevance of organic production for the community

The analysis of the reasons for starting the organic production (Graph 1; Table 3) shows that very important issues are at stake. Both *selfish motivations* (healthy working conditions[4], higher income, increased soil fertility) and *altruistic*

Table 2 – *Sample structural data.*

Gender	%	Total area	ha	Farming system	%
Male	83.3%	Average	17.9	Grapes, vegetables	39%
Female	16.7%	Standard dev.	11.5	Bananas, vegetables	11%
Age	Years	Cultivated area	ha	Grapes	17%
Average	44,9	Average	5.8	Vegetables	28%
Standard dev.	10,2	Standard dev.	3.8	Meat and milk	6%
Education	%	Workforce	no.	Turnover	BRL/year
Primary	44%	Average	2.7	Average	21,027.8
Secondary	50%	Standard dev.	1.0	Standard dev.	17,091.0
Degree	6%				

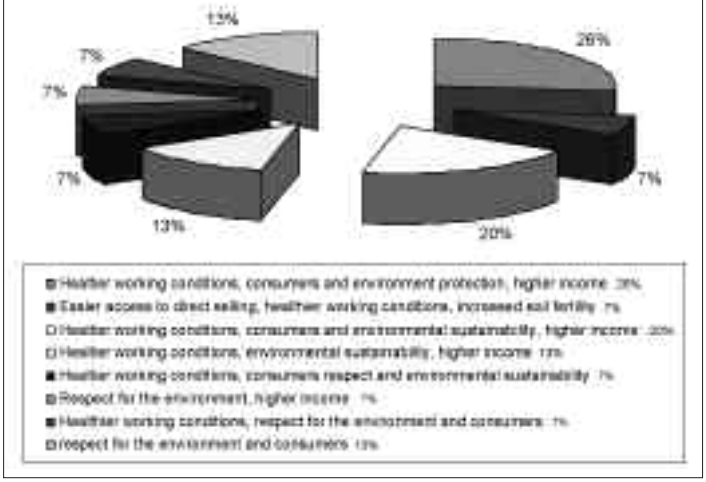
Source: our survey

[3] In particular, other rules must be followed to conform with the organic participative certification:
- maintaining at least 20% of the native forest area in the property, or defining a reforestation program;
- protecting springs and rivers with belts of native forest areas;
- removing non-biodegradable wastes such as plastic;
- aiming to a constant reduction of external inputs;
- adopting practices to limit the soil erosion;
- clearly separating between organic and conventional agricultural areas must be done to avoid contamination; for the same purpose machinery and equipment used for conventional agriculture must not be used in organically cultivated areas.

[4] It must be underlined that the high share of «Healthier working conditions» is linked to the chance the Rede Ecovida offered farmers to quit the tobacco cultivation; it was a widespread farming system in that area and farmers were forced to use chemicals, often with no protection or adequate guidance; the consequences on their health conditions were consequently negative.

motivations (environmental concerns, sustainability, consumers' protection) are reported. The not prevailing altruistic attitude towards adopting organic production is in our opinion positive. Selfish motivations are often less volatile when compared to ethical driven ones; this contributes to the sustainability of the organic production in the long run.

Graph 1 – *Reasons for starting organic production.*



Source: our survey

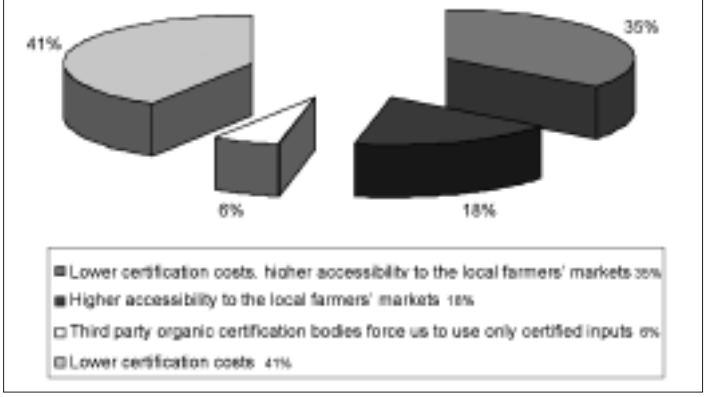
Table 3 – *Frequency of each reason in multiple answers.*

Healthier working conditions	70.6%
Environment protection/respect	82.4%
Higher income	47.1%
Sustainability	35.3%
Consumer protection/respect	23.5%

Source: our survey

When analysing the reasons for entering the participatory organic certification (Graph 2, Table 4), economic considerations are by far the most important, from both the supply side (lower certification costs - see also Table 5; lower need to use certified inputs) and the demand side (higher accessibility to the local farmers' markets).

Graph 2 – *Reasons for entering the participatory organic certification.*



Source: our survey

Table 4 – *Frequency of each reason in multiple answers.*

Lower certification costs	76,5%
Higher accessibility to the local farmers' markets	52,9%
Third party organic certification bodies force us to use only certified inputs	5,6%

Source: our survey

Table 5 – *Participative organic certification costs.*

Certification cost	BRL/year	Certification cost / prod cost	%
Average	60.7	Average	0.8%
Standard dev.	32.7	Standard dev.	0.6%

Source: our survey

This confirmed the importance for farmers and other stakeholders to achieve a high level of trust within a relatively informal relationship; a high level of social cohesion is needed to grant the social control able to guarantee the respect of the certification rules.

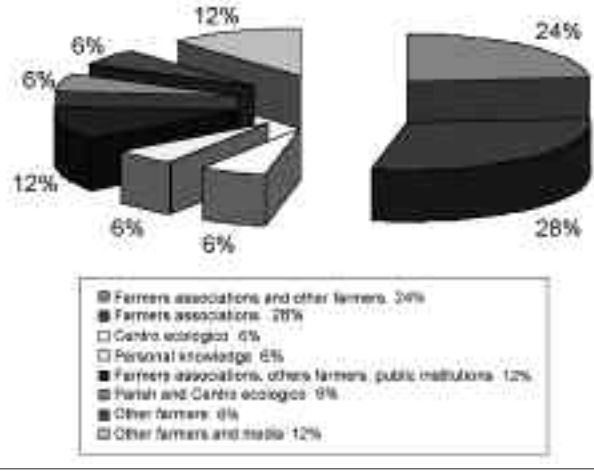
4.3. Certification interaction with local rural communities in influencing social cohesion

Pre-existing social cohesion

A necessary pre-condition for an effective social control is represented by social cohesion. The stronger the social cohesion, the more important the reputation among the community members; the fear of loosing their reputation becomes an important factor preventing farmers from breaking the rules.

When asking: «who did influence your decision to start up organic production?» (Graph 3), the important role of neighbouring farmers, or farmers' associations, emerged; relatively weaker resulted the influence of public institutions or other more centralised institutions belonging to the Rede Ecovida (e.g. the NGO Centro Ecologico). The local community central role in generating and supporting the agroecological approach in general and organic production in particular, grants a high «social sustainability» to the Rede Ecovida experience in Ipè.

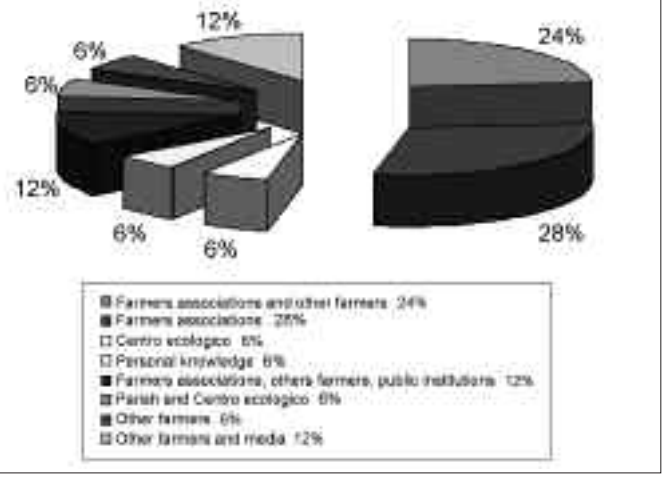
Graph 3 – *Who did influence your decision to start up organic production?*



Source: our survey

As for the institution influencing their choice to enter the participatory certification (Graph 4), the local community influence (farmers organisations and other farmers) is confirmed.

Graph 4 – *Who did influence your decision to enter the participatory organic certification?*



Source: our survey

Influence of participatory organic certification on social cohesion

It is also important to consider the role of organic farming and participatory organic certification in reinforcing the social cohesion and mutual trust; this can start a virtuous circle where the respect of the certification rules increases social cohesion and trust which, in turn, encourages the development of an efficient participatory certification approach.

From our interviews to farmers and to other stakeholders participating in the Rede Ecovida at the Ipè municipality, it clearly emerged that the role of the Rede Ecovida in facilitating mutual knowledge and trust among the community members is very important.

As a consequence, it often happens that at the local market consumers consider the Ecovida Seal for organic products as being something superfluous.

Rede Ecovida participatory certification process contributes to increasing social cohesion and trust through the organization of meetings and seminars on organic production and agroecology: during these seminars, a very informal atmosphere reigns, making it easier to promote mutual respect and trust among different stakeholders and technicians.

These indications obtained from our interviews are confirmed by the results of a survey on the structure and management of the Rede Ecovida, carried out in 2003 (Dos Santos, 2005). In this study, we examined the frequency of the meetings, the main obstacles or problems influencing the attendance rate and the Ethical Council problems related to the implementation of their tasks.

Results show that the class «I attended more than five meetings per year» represents 61% of cases, the strong motivation of stakeholders is confirmed by a mere 10% of the Rede Ecovida members who showed no interest in participating. The Ethical Council problems are typical of any participatory approach and relate to the difficulty of gathering the Ethical Council members (22% of the respondents) and of clearly communicating the certification rules (33% of the respondents).

4.4. Implementation of the social control

Social control is not only stimulated by encouraging social cohesion. The participatory certification implies the social control implementation through a monitoring process that includes visits by local Associations and by the Ethical Council. On the occasion of the visit, the compliance with the certification rules is checked and possible new targets are discussed: they will be monitored during the following visit. Consumers are also encouraged to periodically visit farms.

4.5. Social and economic impact of the participatory organic certification

Intensity, scope and elasticity of the market and institutional relationship among stakeholders

Informality and a strong social cohesion encourage trust and the establishment of relationships among the different Rede Ecovida members which are broad in their scope and very elastic. The organic production, distribution and consumption phases are involved.

The previously described Ethical Council visits are indeed not only related to the follow up of the compliance with the certification rules, but it is rather an important moment for the farmers to discuss different aspects related to the agroecologic principles and organic production implementation; they range from developing new strategies to reducing the impact on the environment and/or introducing new farming techniques or varieties of plant. Further visits will take place to evaluate the results of these experiments.

Generally speaking, at the end of each day of visits, the Ethical Council and farmers meet and debate on the visit outcome. This moment is very important for the farmers, because they feel involved and not only «controlled»..

The Rede Ecovida organisation (Figure 1), the social structure and the technical and economic relationships within the network are all characterized by a strong cohesion, a high level of informality and elasticity when dealing with both the organic production and the participatory certification; following the theoretical approach adopted in this study, a prevailing local dimension in the organic marketing is expected.

Table 6 shows that the Rede Ecovida products are marketed on local, national and international markets. The export of organic products is directly managed by single farmers who also obtain a third party certification following the export markets certification standards. The main share of products sold by farmers belonging to the Rede Ecovida goes to the local weekly organic markets, the *Feiras Ecologica*, partially confirming our theoretical assumptions.

The direct relationship between farmers and consumers at the Feiras represents a very important communication strategy increasing trust and credibility on the products and the agroecological principles.

The contractual relationship between farmers and their clients and suppliers also show a high level of satisfaction among the participatory certified farmers (Table 7).

The share of sales and purchases in association with other farmers is high (53%), this should guarantee a relatively higher contractual power for farmers; the perceived contractual power level of farmers with respect to their client or customers is positive for 78% of the interviewed farmers, supporting our assumption.

The transparency of the transactions is confirmed by a widespread adoption of the market prices in the price agreement between farmers and their trading partners.

The cash flow analysis shows a very short time span in both the suppliers and customers payment; the most frequent data (mode) is one day in both cases, implying a «cash on delivery» form of payments. From the logistic point of view, the suppliers and customers delivery times are satisfactory in 100% of cases. A comparison with average Rede Ecovida data was not possible; it seems anyway reasonable to infer that the stakeholders participation (including suppliers and customers) in the organic certification and production process increased collaboration and fairness in the trading relationships.

Table 6 – *Marketing channels, values and share of organic products sold by the Rede Ecovida members, 2003.*

Marketing channels	Value BRL	%
1. Local organic markets (Feiras Ecológicas) (***)	8,946,662	26.89
2. Export (*) (**)	6,975,796	20.97
3. Catering	5,854,783	17.60
4. Supermarket chains (*) (**)	2,238,804	6.73
5. Food industry(*) (**)	1,434,371	4.31
6. Wholesalers	1,123,408	3.38
7. Specialised retailers	1,111,225	3.34
8. Others	5,584,714	10.05
TOTAL	**33,269,783**	**100.00**

Source: Dos Santos, 2005 (p.19)
(*) organic and non organic;
(**) third party organic certification included;
(***) only PGS organic certification.
For other channels the products certification is not specified.

Table 7 – *Farmers relationship with customers and suppliers.*

Purchase and sell in association with other farmers	**53%**	**Selling price definition**	**%**
Suppliers payment	**days**	Market price	50%
Average	9.8	Bargaining	17%
Mode	1.0	Fixed prices	33%
Customers payment	**days**	**Contractual power perception**	**%**
Average	14.2	My contractual power is adequate	78%
Mode	1.0	**Logistics**	**%**
Diff. suppl. – customer payment	**days**	Food waste and losses	9%
Average	-4.4	Suppliers delivery time adequate	100%
Mode	0.0	Customers delivery time adequate	100%

Source: our survey

The organic products coming from Rede Ecovida are also sold to school canteens and hospitals, supermarket chains, food industry and other traders and retailers specialised in organic products.

The markets where the participatory certified organic products are sold are not only local (where social control can easily be implemented) but also at State or interstate level.

The most important contribution to the enlargement of the market areas is given by the «Feiras» where the products with Rede Ecovida Seal, also coming from different municipalities or even states, are sold. The states where these products are sold are those where Rede Ecovida operates; its reputation feeds the consumers' trust on the Rede Ecovida products sold outside the local boundaries.

The same does not apply when export to international markets is concerned; third party certification is still needed and participatory organic certification is not an internationally accepted standard. In any case, the organic participatory certification played an extremely positive role in promoting a local sustainable development for the rural communities; this is in our opinion a reason good enough to support the expansion of organic PGS experiences in other areas of the developing world.

5. Conclusions

The theoretical approach allowed for an effective analytical framework definition; the analysis showed:

- the informal nature of the participatory organic certification;
- the positive role of social cohesion and mutual trust in influencing the effectiveness of social control;
- the influence of social control in granting the certification rules enforcement;
- the role of the participatory organic certification in the definition of a virtuous circle leading to local communities development and market accessibility.

In particular the advantages for the different stakeholders, deriving mainly from the collaborative management supported by the participatory system, are the following:

- farmers: better market access, stronger contractual power, lower costs of production, increased on-farm welfare (from a social, environmental and economic point of view);
- traders: better market access thanks to the Rede Ecovida Seal reputation and better logistics in their relationship with farmers;
- consumers: better quality products at relatively lower prices;
- rural community: better living conditions thanks to improved environmental, social and economic sustainability; in particular, the increase in the community self-reliance, social cohesion and trust can create a virtuous circle of local development.

The study outcome suggests that a successful participatory certification can be influenced by strong local awareness on its advantages not only in altruistic but also *egoistic* terms; a strong social cohesion, the sense of belonging to a community, becomes another necessary condition to start a participatory process.

The network structure and the coordination of different local experiences also led to a very positive outcome in terms of Rede Ecovida reputation; this allowed a wider market areas accessibility than the one expected.

The central role of the local community and of markets seems important in granting trust and reputation for the Rede Ecovida

products; it contributes to certification and other transaction costs reduction, influencing the products competitiveness and markets accessibility. The lesson learned from the positive effects of collaboration should encourage the different stakeholders to increase their control on the processing stage of the supply chain, thus adding value to their organic products.

These aspects relate to the organic production growth in a specific rural community of any developing country.

The analysis of a small-sized sample of farmers, concentrated in a single municipality, did not allow for an evaluation of the role played by different contexts (social, economic and environmental) in influencing the success of the participatory certification, in particular of those factors affecting social cohesion and trust. For instance, the relatively high level of education of farmers could play an important role in the successful implementation of a Participatory system which can be considered sophisticated from both the technical and organisational point of view.

Further studies should therefore analyze the factors influencing the growth and sustainability of PGS through a cross section analysis comparing different social economic and geographical contexts. Another important aspect to be investigated is related to the definition of new organic certification systems involving a participatory approach which can also comply with the ISO 65 standards, focusing the attention on their economic and legal feasibility.

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