

COSTS AND MANAGERIAL SKILLS IN ORGANIC CERTIFIED PRODUCTS¹

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INTRODUCTION

Certification is critical in organic markets because it gives buyers the confidence that a product meets the quality and process standards of organic production. The achievement of internationally recognized certification standards and procedures — mostly established by institutions in the more developed countries — can require institutional capacity and financial means which are often beyond the reach of many small scale farmers in the developing world. Alternative certification schemes offer possibilities for small scale producers to overcome such constraints. This paper reports a comparative analysis of cost-benefit and the managerial learning needs required at the farm and farmers' organization levels of different types of organic certification schemes in Asia and Latin America.

Two alternative schemes running in the developing world will be appraised. The first scheme is the Internal Control System (ICS) inside the internationally recognised certification system. It is led by international agencies with representative offices distributed worldwide. It facilitates market access through the link to international networks. ICS is seen as an alternative that can help groups of small farmers to reduce costs and simplify procedures for certification. A legally-recognized farmers' association, co-operative, or exporter might act as the local partner for international certification bodies. The international recognition allows access to markets and premium prices, which are the main incentives. The second scheme corresponds to participatory certification, which targets local or national markets involving the participation of small farmers, small enterprises, traders and consumers. Quality assurance relies on social conformity supported by participatory norms, procedures and conventions. Different from the previous one, decision-making regarding the status of certified producers is decentralised. Building local food security and food sovereignty is considered by farmers as important as receiving a fair price.

Cases were selected from organically produced commodities for export (Basmati and Jasmine rice) in India and Thailand respectively, and vegetable and fruit production for local markets in Brazil. The two former cases comply with internationally accredited certification systems under ICS while the latter case stands for a participatory certification scheme.

CASES SELECTED

India ICS/Trade firm case: this corresponds to a project located in Northern India, spread over the Himalayan Tarai region. There are 190 farmers with a collective area of 1250 ha. Mono-cropping Basmati rice with low-input had been a tradition before the project started in 2001. Farmers deliver cleaned rice directly to the export firm. To facilitate certification and market, the trade firm which leads the project is involved as part of the ICS. Certification is collective but marketing is done individually with the firm. The conformity assessment is carried out by SGS, Switzerland and ECOCERT, Germany, following EU standards for inspection and certification (Katyal, 2005).

Thailand ICS/NGO case: is located in the Northeastern region of Thailand. It corresponds to a producer group with about 200 farmers, which was set up as an ICS in 2002. Farmers produce organic Jasmine rice for export and other crops for self-consumption. Certification is done for the group. Collective negotiations determine the prices with the export firm. The national organic network of Green Net-Earth Net provides technical assistance in farmers' organization, production and post-harvest management. The Market Green net cooperative exports all the organic rice. The conformity assessment is done by Organic Agriculture Certification, Thailand and Bioagricert, Italy, both following IFOAM standards (Panyakul, 2005)

¹ The views expressed in this paper are those of the author and do not necessarily reflect FAO's stances on the subjects here discussed.

Brazilian Alternative certification case: is located in the South-eastern region in Brazil. A sample of 82 farmers from 16 farmer groups belonging to the ECO-VIDA Agro-Ecology Networking was selected for the study. From the diverse number of products cultivated, only one product per farmer group was surveyed. The conformity assessment is done by a network of organizations and people involved in the production, distribution and consumption. Farmers often manage all the supply chain supported by NGOs. Farmers are certified as individuals and also market their products individually (Santacoloma, 2005).

ANALYTICAL APPROACH

To calculate the costs associated to supply certified organic products a value chain management approach needs to be considered. The key issue that links stakeholders participating in the chain is the setting-up of quality assurance systems. Organizational structure and objectives pursued in each certification scheme determine the quality assurance measures to be applied and the recording systems to monitor product quality. Decision makers at all levels need to inter-relate to ensure that product assurance is continuously maintained. Independent of the scheme, organic standards and procedures involve management changes at the production, processing, certifying and marketing level. To ensure lasting quality assurance, managerial and technical skills should be developed along the chain. The costs of certification therefore should include costs relating to quality assurance and improving managerial and technical skills. This approach differs from previous studies where the emphasis has been the impact of social and environmental certification either on farm economics (Dankers and Liu, 2003) or macro-economics (Wynen, 2004).

MANAGERIAL AND TECHNICAL SKILLS

The managerial and technical skills needed to participate in organic certification may be different for the supportive organization and for the farmers.

For the Indian case*, the required knowledge and skills are related to the logistics for managing market deliveries of the organic rice, while meeting the quality of the organic process. They comprise skills for managing input supply and post-production activities for export. Skills are needed to plan and establish training and extension services for production, record-keeping and farmers' organization. At the farmer level, skills should be developed for quality control management and proper agronomic practices. They involve mostly proper fertilization practices as well as better handling and cleaning of the produce.

In the Thailand case*, a project management approach is taken to enhance the skills and knowledge for planning, implementation and monitoring of activities. Strong emphasis is given to technology development, farmers' training and ICS establishment. The organization needs to start planning and designing training materials, as well as to develop a research plan and documentation forms. For verification of organic compliance, the implementation of an internal mechanism to comply with standards and certification is required. It includes knowledge on organic standards, technical skills in farm inspection and writing reports. After production, specific managerial skills are needed for handling, packing and storing. Farmers require managerial skills in soil fertility, preventive pest control and prevention of external contaminants. Specific requirements exist for storing, milling, packing and trading. They involve knowing and choosing the appropriate technology, machinery and equipment.

In the Brazilian case*, NGOs and farmers jointly develop managerial skills to implement agro ecological principles and guarantee the quality system. Emphasis is put on training and empowering participants in the network to take an active role in understanding agro-ecosystems and suitable technological development, as well as the norm setting and certification process. Organizers need skills and knowledge in participative research tools, design of training manuals and training. Farmers' managerial skills are required for soil fertility, pest control and residue reduction at production and for fostering alternative markets. Data collection and record-keeping is less important than developing "social responsibility" in a quality assurance system.

* (It does not imply extrapolation at the national level, only a name simplification)

CALCULATING COSTS

The type of costs incurred in certified products differs between the schemes as in Table 1. The project level – NGO, trade firm or ICS- may incur costs for planning and management, training, marketing, technology development, organization y/o certification (i.e. staff salaries and operational costs in the setting-up and maintenance phases). At the farmer level, the costs incurred may comprise investments,

services and input procurement, learning costs and certification fees. Marketing costs may be sometimes shared among the participating stakeholders.

Table 1: Setting-up and maintenance cost for certification

Setting-up costs			Maintenance costs		
	Project	Farm		Project	Farm
Training and extension	ITB		Production planning	IT	TB
Technological development	ITB	TB	Technological development	ITB	TB
Costs of conversion	I		Farm Management		ITB
Yield reduction		I	Soil management		ITB
Infrastructure investment		T	On-going training	ITB	ITB

Continuation Table 1

certification					
Establishing farmers groups	ITB	B	Fees	I	TB
ICS establishment	TI	T	Visits and inspection	IT	B
Training	ITB	TB	Monitoring and social-networking	B	B
Record- keeping	ITB	ITB	On-going training	ITB	ITB
Accounting systems	ITB	ITB	Record- keeping	ITB	ITB
			Accounting systems	ITB	ITB
marketing					
Marketing planning	ITB	B	Marketing management	ITB	B
Investment in facilities	IT	B	Cleaning-selection	IT	ITB
Developing market skills	ITB	B	Transport to the markets	IT	B
			Load-unload	IT	B
			Sales	IT	B

Indian case; T:Thailand case; B:Brazilian case

In Table 2, setting-up and maintenance costs per farmer at the project level are compared. In the Indian case, setting-up costs are high particularly in regard to staff payments to establish the project (production) and payments of price premium to the farmers enrolled in organic cultivation (marketing). The firm pays a premium to farmer during the three first years of “conversion period”, which is also an investment to ensure product availability during a 5 year contract. Certification costs grow more than twice in the fourth year due to triple certification, which also makes costly business planning and marketing in the maintaining phase. In the Thailand case, ICS system implementation and training activities account for most of the costs, which are not much different at the setting-up and maintaining phase. In the Brazilian case, the setting-up phase dated back to several years ago making measuring difficult. The higher costs for the NGO in the maintaining phase, are in regard to technological development and strengthening farmers associations.

Table 2: Comparative costs at project level year 2005– (US\$/farmer/ year)

Item	Indian case		Thailand case		Brazilian case
	Setting-up	Ongoing	Setting-up	Ongoing	Ongoing
Production	127,0	100,0	6,1	8,1	50,0
Certification	18,0	37,1	24,7	16,5	20,0
Marketing	185,0	139,0	0,6	12,5	12,5

• exchange rate (\$USD 1: 40 TBT) ; (\$USD 1: 44 Rupees); (\$USD 1: 2,5 Reais) for India, Thailand and Brazil, respectively

In Table 3, the cost structure and benefit/cost ratio at farm level for the Brazilian and Indian cases are shown. In the Brazilian case, farmers manage the complete supply chain, whereas in the Indian case farmers manage the production until harvest and the firm deals with the product until export. Production costs include activities to ensure organic integrity such as friendly soil and fertility management and organic pest control as well as activities to monitor product quality such as record-keeping and documentation. Pest control for the Brazilian case, fertility and soil management for the Indian case, are the main costs in the production. In the former case, this is explained because of the labor intensive technology used, whereas in the latter case the high costs of the purchased fertilizers are the responsible factor.

In the case of the Brazilian farmers, marketing accounts for more than half of the total costs. It involves harvest, post-harvest and sometimes processing activities, as well as marketing planning and management. These activities are done mostly individually, although there are some cases of associative processing, transport and/or selling. On the average, certification represents nearly 10 percent of total cost for farmers. This is explained because participating in training and organization activities are

accounted in the certification costs, although they also serve other purposes in the organizational structure. Record-keeping and documentation are not significant costs within certification.

Table 3: Benefit/cost ratio in the Brazilian and Indian cases ((US\$/ha) *2005)

Item	Brazilian case	Indian case
Production	669,8	628
Certification	214.8	
Marketing	1003	
Cost/ha	1877	
Farmer revenue/ha	3941	1048
Benefit /cost ratio	2.09	1.66

- exchange rate (\$USD 1: 2,5 Reais) ; (\$USD 1: 44 Rupees) for Brazil and India, respectively

In the Indian case, the firm manages the marketing and certification activities. Therefore there are not directly charged to the farmers. Training and extension for farmers to ensure organic quality and documentation, record-keeping, as well as the certification fees from external bodies, are expenses charged by the export firm which makes part of the ICS. The amount of costs shared by farmers depends on the trade arrangements and on farmers' bargaining skills.

Financial benefits are calculated by multiplying the average yield per ha by the selling price. In the Indian case, premium prices per kilo of product and sales of green manure are other relevant revenues. In the Brazilian case, as some farmers processed food, a conversion ratio of yield per ha of the produce in the region is used for calculation. The benefit-cost ratio is much higher for farmers in the Brazilian case than in the Indian case, as well as their income level. The difference in benefit/cost ratios could be attributed to the certification scheme only under the particular conditions they work in the current examples. The type of produce and market conditions may be explanatory factors in the income level differences. Resource availability, bargaining and business management capabilities of farmers are also factors explaining profitability differences.

NON-FINANCIAL BENEFITS

Farmers and intermediary organizations are conscious of the non-quantifiable benefits derived from growing certificated produce. Improving overall product quality and farm resources are benefits that provide long-term sustainability. The cessation of agro-chemical application contributes to maintain balanced ecosystems, by reducing adding harmful substances to the ecosystem. It also contributes to increase the diversity of plant and animal species. Developing knowledge and skills and improving farm management planning are seen as essential in strengthening farmers control on the productive process. The intermediary organizations obtain also benefits from better market access, knowledge and skills in ICS management and improved planning capabilities in the supply chain. They all contribute to raise farmers' self-confidence and social networking to boost better rural societies.

In addition, farmers and NGOs in the Brazilian case are convinced to be contributing to food security and food sovereignty of local communities. Building long-term and direct market relationships with the consumers is seen as a more relevant benefit than obtaining premium prices. Since farmers participate in all stages of the supply chain, they can also exert more influence on the overall planning process and retain more of the financial advantages than their partners in the cases mentioned.

CONCLUSIONS

Certification costs should not refer only to the fees that farmers pay to be certified. Certification standards and procedures entail changes for the different managerial levels involved in the supply chain. Implications on costs and on managerial skills needed by farmers depend much on the certification scheme. This, in turn, is usually tied to specific markets and to linkages with other chain stakeholders. In fact, direct certification costs for farmers were very low under Internal Control Systems (ICS) and participative certification schemes. However, costs associated to farm management changes may be affecting profitability and income levels. Learning processes to improve managerial skills require time and organizational structures. Other variables that may explain profit difference are the type of produce, the targeted market and the farmers bargaining and business' skills. In the participative schemes, farmers are more able to control these variables, due to the emphasis placed on empowering participants to build a transparent, trustworthy and long-term relationship to local markets. Non-financial benefits are common to

all the experiences, contributing to farmers' self-confidence and social networking to boost better rural societies.

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