

## **5. Certification schemes and quality assurance system**

This chapter analyses the role of stakeholders in the quality assurance system in three types of certification schemes and illustrates each scheme with an example from the case studies.

Organic agriculture distinguishes itself from other concepts of sustainable agriculture by having production standards and certification procedures. Private associations started to develop organic standards more than 40 years ago, and today at least 100 regional or national organic standards have been developed worldwide. Several countries have also formulated laws and national regulations on organic production, processing, certification and trade. Such policy and institutional development responds to an outstanding market expansion. However, the proliferation of standards may also restrict market access for farmers.

The expansion of the organic market is mainly driven by consumers' concerns over food safety and environmentally friendly production. Certification reassures consumers' confidence in the organic quality of agricultural processes. Certification therefore plays an important role in domestic and international organic trade since it enables organic producers to access export and local markets, and to obtain premium prices while improving farming practices. It is also a way to protect consumers, producers and traders against the misleading use of labels. Furthermore, it ensures transparency and acknowledges product conformity to organic regulations.

Most of the regulations require the products to be certified by an independent body that guarantees that they have been produced following the organic standards (Herrmann and Rundgren, 2006). Third party certification is the most internationally recognized certification scheme and may apply to individual farmers or grower groups. An alternative guarantee system is the participatory certification scheme, also called the Participatory Guarantee System (PGS). In this chapter, three organic certification systems are examined – participatory, third party individual, and group certification schemes. The analysis focuses on the role of the stakeholders and their relationships in the custody chain system. Table 4 describes the functions of the main issues in this system.

**Table 4. Custody chain system issues and functions**

| Issue                   | Functions                                                                                                              |
|-------------------------|------------------------------------------------------------------------------------------------------------------------|
| Law/standards           | Sets out conditions of organic production, certification and trade.                                                    |
| Accreditation           | Accredits organizations for control and certification.                                                                 |
| Certification           | Supervises compliance with law, standards and procedures for organic agriculture.                                      |
| Inspection              | Carries out inspection at the farm and processing level.                                                               |
| Extension services      | Helps to develop farmers' skills in technical and organizational aspects to comply with organic agriculture standards. |
| Internal Control System | Farmers' organization to be certified as a group.                                                                      |
| Business model          | Business and technical services to organic farmers.                                                                    |

### 5.1 THIRD PARTY CERTIFICATION – THE INTERNATIONALLY RECOGNIZED CERTIFICATION SCHEME

Certification procedures and accreditation mechanisms are tools in the quality assurance system to ensure transparency and compliance with the standards and regulations that define organic agriculture.

*Certification procedures* include inspection and certification. Inspection aims to verify and ensure that the production and handling of a product is carried out in line with certification standards. Certification, rather, confirms that those processes conform to standards. These activities could be carried out by the same certification body or an inspection body may act on its behalf.

Certification procedures should make it possible to track the flow from primary production through the entire food chain right to the final consumer. All operators in the product chain – farmers, processors, manufactures, exporters, importers, wholesales and retailers – must therefore be certified as acting in compliance with the organic standards and regulations (Kilcher *et al.*, 2006).

Certification bodies should be accredited to meet the criteria of competence, impartiality and transparency in the certification processes. Accreditation status is given (or granted) by an authoritative body based on the assessment of the personnel, standards and inspection and certification procedures (IOAS, 2005). Several countries have established official bodies for the accreditation of certification bodies, which undertake certification or registration of quality systems and may also certify organic certification bodies.

There are several accreditation mechanisms. *ISO/IEC 65 Guide*,<sup>13</sup> a guide that establishes general principles for certification bodies, is seen as the most accepted norm for accreditation. The main reason is that its accreditation is required by a number of regulatory authorities, including the most important in terms of trade, EU Regulation 2092/91.<sup>14</sup>

13 *ISO/IEC 65 Guide, General requirements for bodies operating product certification system*, is a set of guidelines published by the International Organization for Standardization (ISO). See [www.iso.org](http://www.iso.org).

14 See [www.ioas.org/05brochures/IOAS/0502\\_ISO65.pdf](http://www.ioas.org/05brochures/IOAS/0502_ISO65.pdf).

Another accreditation mechanism is offered by the International Organic Accreditation programme (IOAS), which runs an accreditation programme based on norms from the International Federation of Organic Agriculture Movements (IFOAM). The IOAS implements a multilateral recognition agreement where IFOAM-accredited certification bodies can become signatories and recognize the equivalence of each others' inspection and certification work. The IFOAM Accreditation Criteria Programme is adapted from the *ISO/IEC Guide 65*, but adds further detailed requirements relating to inspection and certification. The number of certification bodies currently accredited by IOAS is still low (see Table 5). IOAS accreditation is not yet recognized by EU authorities because IOAS is not a member of any of the Multilateral Recognition Arrangements (MLA) at the International Accreditation Forum (IAF).<sup>15</sup>

IAF, the world association of accreditation bodies operating in the field of product conformity assessment, is working to establish mutual equivalence agreements and recognition of standards among their own members. Although 47 national accreditation bodies are currently being recognized by the IAF (Table 5), this does not imply that all of them have already accredited any certification body in their own countries.

Since the EU and the United States are the most important markets for organic products, their respective regulations EU Regulation 2092/91 and the National Organic Program (NOP) are obligatory references for producers and exporters from developing countries. Satisfying these regulations implies compliance not only with the standards and procedures for production and labelling, but also those for the conformity assessment systems. To export goods to the EU, the local certification body should come from an export country listed as a *third country* on the regulation list, or ISO 65-accredited as a local body for import permit approval, or recognized by the authority of import in the required country of import (IOAS, 2005). There are only six countries that are approved by EU regulation as a *third country*, as shown in Table 5.<sup>16</sup> The US regulation is more precise in its procedures and demands complete compliance from certification bodies to the NOP provisions. Out of nearly 100 certification bodies being accredited by the United States according to NOP, only one produce certified by these certification bodies is being exported to the United States (Kilcher *et al.*, 2006).

**Table 5: Member countries in IAF, countries approved as EU third countries, and certification bodies accredited by IOAS and ISO 65 Guidelines**

|                  | Europe | North America | Asia | Latin America | Near East | Africa |
|------------------|--------|---------------|------|---------------|-----------|--------|
| IOAS             | 14     | 5             | 4    | 4             | 2         | 0      |
| IAF              | 21     | 2             | 16   | 4             | 3         | 1      |
| EU third country | 1      | 0             | 2    | 2             | 1         | 0      |
| ISO65            | 69     | 20            | 5    | 13            |           | 3      |

Sources: IOAS, 2006 ([www.ioas.org](http://www.ioas.org)); IAF, 2005 ([www.iaf.nu](http://www.iaf.nu)); and ISO, 2006 ([www.iso.org](http://www.iso.org)).

15 The International Accreditation Forum, Inc. (IAF) is the world association of Conformity Assessment Accreditation Bodies in the fields of management systems, products, services, personnel and other similar programmes of conformity assessment. See [www.iaf.nu](http://www.iaf.nu).

16 The following countries are listed: Argentina, Australia, Costa Rica, Israel, New Zealand and Switzerland (Kilcher *et al.*, 2006).

In terms of trade opportunities, small-scale farmers from the developing world face restrictions to achieve internationally recognized certification. They are restricted by a lack of institutional development and financial means in addition to the limited government support through public policies and regulations. For many importers in the developed world, a certificate from a national certification body is desirable as an import requirement. However, equivalence involves very few countries, as shown in Table 5. In fact, very few countries in the EU consider equivalence of norms among them. Therefore, the best recognized certification schemes led by international agencies are disseminated worldwide. They are formed by certification, inspection and/or branch offices distributed in several countries. The increased demand of this type of services has led to the development of a “certification industry” with its own economic interest.

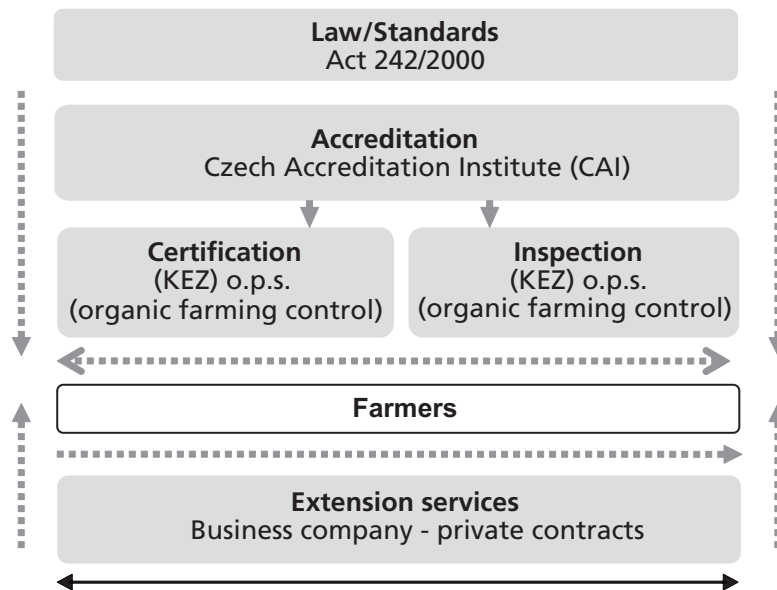
### **5.1.1 The Czech Republic case study**

The conformity assurance system for organic agriculture in the Czech Republic currently follows EU policies and norms. After its accession to the EU in 2004, EU Regulation 2092/1991 also applies in the Czech Republic. Act No. 242 of 29 July 2000 on organic farming and the amendment of Act No. 368/1992 on administrative fees are also subordinated to the EU regulation (Václavík, 2005).

Organic control and certification is carried out by KEZ, whose function is to supervise compliance with the organic farming law. KEZ is accredited with the Czech Accreditation Institute (CAI) – a member of IAF – as a certification organization. Moreover, the European Commission has included the Czech Republic and KEZ in the list of *third countries* whose system of control and certification of organic farming is compatible with the EU system.

KEZ has separate decision-making units – a Department of Inspection and a Department of Certification. Each farm is inspected at least once a year and the inspector examines mainly field crops, animals, stables, farm accounting and other production aspects. The inspector fills in a special questionnaire that must be signed by the inspected farmer. The Department of Certification analyses the inspection report form and decides on certification. Farmers may appeal to the department if certification is not issued. If the matter is still unsettled, they can also appeal to the Ministry of Agriculture. Random inspections may be also carried out to verify GMO presence in organic products or the use of prohibited substances in the processing stage. Figure 2 shows the relations within the quality assurance system in the Czech Republic.

PRO-BIO, a non-governmental and non-for-profit organization, provides technical assistance, advisory services and marketing support. Farmers, traders and agro-processors are among their members as well as consumers, schools and providers of other services, who focus on ecological agriculture and the use of its products. PRO-BIO assists its members in the transition from conventional to ecological farming, helps them solve their technical and administrative problems, and supports the sales and promotion of organic products (Václavík, 2005).

**Figure 2: Quality assurance system for organic agriculture in the Czech Republic**

Czech organic farmers receive generous government support through the agri-environmental policies for farming activities, but the payment of certification fees and the provision of technical assistance are managed on a private basis.

Hungary, like the Czech Republic, had set organic regulations considered equivalent to the EU Regulation (EC 2092/91) before its inception in the EU.<sup>17</sup> These countries have similar regulatory systems.

## 5.2 THIRD PARTY CERTIFICATION UNDER THE INTERNAL CONTROL SYSTEM (ICS)

Grower group certification is a scheme recognized by IFOAM and the EU Regulation as a mechanism to support the certification of small-scale producers. The scheme admits organized producers that are able to collectively manage production, handling and/or marketing. The group could be organized by a farmers' organization, an NGO, or a marketing company responsible for the project that will be the licensee and holder of an organic certificate.

The ICS is set up as a mechanism to ensure conformity to organic standards and requirements. In this case, external certification verifies whether the ICS is well established and evaluates its effectiveness and functionality. In order to perform the evaluation, the external inspector conducts random sampling of farmers. If the ICS works well, certification and inspection costs are reduced. Individual producer members are certified collectively and the organic certificate belongs to the ICS.

<sup>17</sup> Switzerland, Israel, Argentina and Australia are the other countries recognized as equivalent to EU 2092/01.

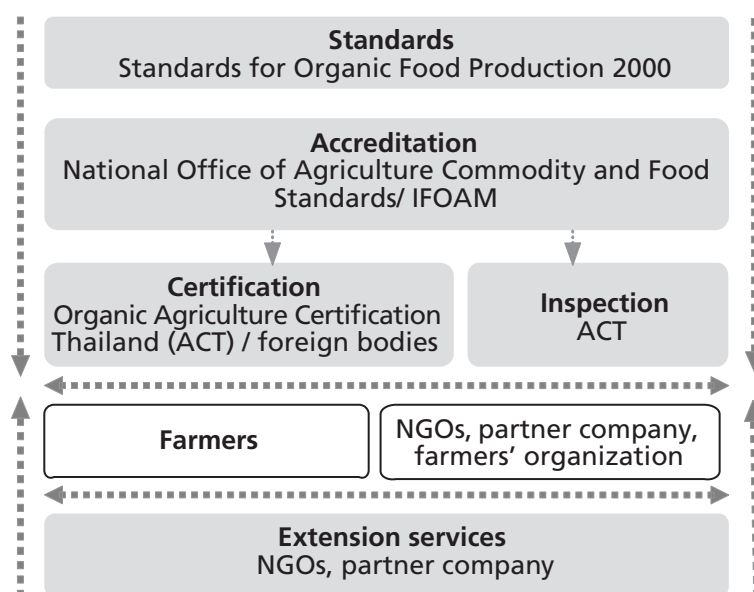
In the case studies on organic rice for export, two in Thailand and two in India, the grower group scheme operates to access organic certification. The following analysis focuses on the Thailand case studies to illustrate the institutional framework allowing grower groups to operate and export organic certified produce.

### 5.2.1 The Thailand case studies

The Thai Government adopted Standards for Organic Crop Production in 2000 after long internal discussions. As part of the conformity assessment system, Thailand also launched an accreditation programme and guidelines for national organic accreditation through the National Office of Agricultural Commodity and Food Standards (ACFS). To date, ACFS has accredited one local certification body, ACT, which received IFOAM accreditation in 2000.

In the first Thailand case study, the network organization Green Net-Earth Net Foundation (GNEN) and the farmers' organization Ban Ruea Organic Rice Group (BRFO) set up an ICS certified by ACT. In the second Thailand case study, an ICS was set up by Top Organic Products and Supplies Company Limited (TOPS), a subsidiary of an export rice company certified by Bioagricert.

**Figure 3: Quality assurance system with the Internal Control System – Thailand case studies**



There are not many differences in the procedures and compliance mechanisms between the two Thailand case studies. Some of the differences are: the conversion time, which varies from 12 in the BRFO case to 24 months in the TOPS case study; the allowing of parallel production of conventional and organic produce in the TOPS-Agricert case study, which is not allowed for export in the GNEN-ACT scheme; and the need to be re-certified by an EU certification body in the case of exports of ACT-certified produce to EU countries.

Along the entire production, post-harvest and processing chain of the produce, the project operator is responsible for ensuring the integrity of organic rice. Training and extension services, input supply services and careful supervision of handling and processing activities are some of the responsibilities carried out by the project. Figure 3 depicts the relationships in this scheme.

The two Indian case studies have a scheme similar to the Thailand case studies. In the first case study, the project operator, Sunstar, is the subsidiary of a rice export company that supports the group organization and holds the certification licence. In order to access markets in different EU countries, the ICS formed by the company and the group of farmers applied for various certification licences from European certification bodies. The second Indian case study is a government support scheme to help farmers gain market access of certified organic products in local and national markets. The Government provides technical assistance in ICS implementation and monitoring. Young farmers are trained/hired as organic inspectors to assist with the internal inspection of individual farms. An external certification body inspects compliance of the ICS with the organic requirements. Inspection fees are paid by the Government.

### **5.3 PARTICIPATORY CERTIFICATION OR THE PARTICIPATORY GUARANTEE SYSTEM (PGS)<sup>18</sup>**

The PGS is analysed as an alternative scheme. It basically targets local or national markets and involves small farmers and agro-processors, traders and consumers in the certification process. Quality assurance relies on social conformity supported by participatory norms, procedures and conventions. Procedures and standards are usually based on IFOAM, Codex Alimentarius (FAO, 1999) or national regulations. As opposed to the previous schemes, decision-making on the status of certified producers is decentralized.

There is a diversity of schemes and methodologies in the participatory certification worldwide, notably the Community-Supported Agricultural Scheme (CSA) in the United States, the Taikei System in Japan, Keystone in India, and the Ecovida Network in Brazil. Despite this diversity, common values and principles have been identified, such as food sovereignty, appropriateness to small-scale producers, targeting of local markets, flexibility, the trust-building approach and co-responsibility (IFOAM, 2006).<sup>19</sup> Such common principles were identified during the first workshop on participatory certification schemes held in Brazil on April 2004 and promoted by IFOAM, the Agroecological Movement for Latin America and the Caribbean (MAELA), and the Ecovida Network. The participation of representatives from 14 different countries indicates the importance of this alternative. The example of Ecovida, a Brazilian network of grassroots organizations<sup>20</sup> and member of MAELA, illustrates this scheme, as seen below.

<sup>18</sup> After the first workshop on participatory certification held in Brazil on April 2004, this scheme has been referred to as Participatory Guarantee System (PGS).

<sup>19</sup> See [www.ifoam.org/about\\_ifoam/standards/pgs.html](http://www.ifoam.org/about_ifoam/standards/pgs.html).

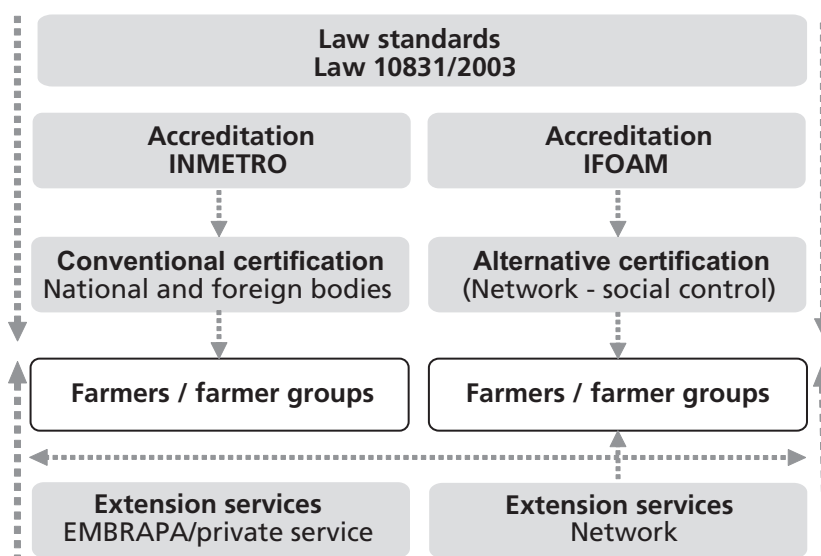
<sup>20</sup> Ecovida Network is formed by people and organizations involved in the production, distribution and consumption of certified produce.

### 5.3.1 The Ecovida Network case study in Brazil

In Brazil, Law 10,831 published on 23 December 2003 defines organic production along the value chain, recognizes that different types of organic certification might exist and that certified products may be sold directly if under some form of social organizational control. The acknowledgement of different production and marketing models, and certification systems has been an achievement of social movements in which the Ecovida Network actively participated. Figure 4 shows the parallel existence of third party certification and PGS, although only the PGS will be analysed here .

The principles of the participatory certification in the Ecovida Network are the promotion of farmers' sustainability and the enhancement of group empowerment, rather than compliance with market requirements. The recovery of agro-ecological systems and the concept of gender and age equity are also basic principles, which have resulted from long-standing discussions among grassroots' organizations. Participatory certification is based on peer review visits and social control, and is targeted to local and regional markets. In addition to the acceptance rules, the network has also established compliance mechanisms on organic standards, which are delivered through training activities such as field visits, farmer-to-farmer training and group discussions in order to provide advice on good practices and farm management issues.

**Figure 4: Quality assurance systems in Brazil including the participatory certification scheme**



Consumers participate with technicians and peer reviewers in the conformity assessment system and assume joint responsibility for the quality guarantee system in the *nucleus*. Each farmer group frequently establishes an ethical council as a technical decision body composed of technicians, farmers and consumers. Its functions include inspection, monitoring, evaluation and advice to farmers inside the *nucleus* and assessment of new member candidates. To avoid

conflicts of interest, the ethic council of one *nucleus* should undertake those functions in a different *nucleus*.

The admission process into the *nucleus* begins with the analysis of the requests for including new farmers. The request should specify farms and farm management characteristics. The ethic council then visits the farms and issues a report advising whether the new farmers can be accepted in the certification programme. The report includes an assessment and, if necessary, an indication of the necessary technical improvements. Upon acceptance, the successful candidates are visited and monitored according to certain set procedures.

In the participatory network, producers are certified as individuals and certification belongs to individual producers. PGS should markedly reduce the cost of certification for the small producers affiliated with an association because the external monitoring<sup>21</sup> is done by the ethic council rather than by an external inspector. Small organic producers have thus been strongly encouraged to become organized.

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21 In the participatory certification, the term “monitoring” is preferred to “inspection”.



## 6. Managerial skills and costs at the organization level

Chapters 4 and 5 introduced the marketing strategies and organizational structure involved in organic certification. The core of this chapter is the analysis of the organizational, managerial and business skills required by the lead stakeholders or project leaders, and the costs that they incur for effectively implementing and managing organic projects. Stakeholders driving this process could be NGOs, governments or business companies. Chapter 7 will analyse the costs and managerial skills from the farmer's point of view.

### 6.1 MANAGERIAL SKILLS

Particular managerial skills are required by supportive organizations to establish and manage organic certification. These may vary according to the certification scheme and characteristics of the supply chain. In the third party schemes, for instance, great emphasis is placed on planning and project management to guarantee success. In PGS, on the other hand, it is far more relevant to empower participants in the network to take an active role in understanding agro-ecosystems and building social organization.

This chapter will mostly focus on the Thai and Indian case studies on fragrant rice and the Brazilian case study on vegetables, where support organizations play an important role. In the Hungary and the Czech Republic case studies, organizations specialized in managing particular business projects to develop organic agriculture for farmers' organizations could not be identified. Most of the services such as technical assistance, research and extension are only available on a fully-priced business basis and are to be covered individually. This could be a possible area for further development by governmental, business or civil organizations.

The following are activities for which supportive organizations will need to develop particular skills:

#### a) Feasibility evaluation of the producers, areas and crops

The planning stage is critical in any organic project. The following planning activities are identified from the Thailand case studies: a site survey to find a suitable area for the organic project; assessment of production; assessment of producers and their organization; identification and selection of stakeholders; design of project activities; identification of supply chain actors; and selection of production technology (Panyakul, 2006).

#### b) Marketing and logistics

The required knowledge and skills relate to the logistics for managing market deliveries of the organic produce while meeting the quality of the organic process. These skills include managing input supply

and post-production activities to export or local markets. In the participatory certification scheme, market linkages are developed together by producers and consumers through a learning process, which is understood as developing social responsibility to supply sufficient and quality food.

### **Box 1: Supply chain management in organic rice – the Thai and Indian case studies**

The coordination of marketing and logistic activities at different levels is challenging. All operators should be aware of organic standards and certification requirements. For instance, the manager should understand that organic rice needs to be handled so as not to mix with non-organic rice, right from the harvest to the packing stage, and that the organic rice must be clearly identifiable at all stages. The project must therefore provide for special bags to store the newly harvested paddy and specific warehouses or at least specifically designated areas for storage, accompanied by documentation for following and identifying the rice status at each handling stage. The logistics for managing the organic rice deliveries require utmost importance. In this regard, clean and preferably new containers should be used from the first-class rated shipping lines. Therefore, the freight cost would be a 20-25 percent higher than for the containers used to export conventional rice deliveries. These higher charges also account for direct deliveries made to destinations rather than those following a trans-shipment route. A direct route is taken to minimize any delays and stops that could generate infestations of the organic produce, among other problems, thereby spoiling its quality.

Source: Panyakul, 2006; Katyal, 2005.

### **c) Establishment of an Internal Control System**

By definition, an ICS is “a documented quality assurance system that allows the external certification body to delegate the annual inspection of an individual group to an identified body within the certified operator” (IFOAM, 2003). Documentation and different legal forms describe the certified operator’s management structure. Noteworthy examples include: internal regulations, field records, maps, inspection protocols, farm inspection reports, farmers’ agreements and post-harvest procedures. The supportive organization should ensure that these elements are not only described, but are operational. All the actors in the chain and their relationships should be identified and documented in order to set up an ICS. If some players in the chain are not part of the ICS, they should have contractual agreements with the ICS managers.

### **Box 2: ICS in Thai organic rice case studies**

The basic structure of the ICS should include: the overall responsible body that is licensee to the external organic certification agency; the organization that will be responsible for implementing the internal control activities of the ICS; the company that will be responsible for processing and handling; and the producer members. All of these players, if not an integral part of the same body, need contractual agreements to ensure that they agree to undergo organic certification requirements of the certification agency and that they are accountable to the project holder (the licensee). The company responsible for processing-handling and/or internal control may be external to the project holder, in which case sub-contract agreements must be drawn in order to regulate their relationships.

Source: Panyakul, 2006.

#### **d) Assessment, preparation of inspection documents; organization of organic inspection; local knowledge; and field assistance**

This stage includes designing forms and developing an ICS manual, a grower member file system and simplified organic standards to serve as reference for farmers. Contractual agreements with producers and sub-contractors must also be signed and skills developed for assessing risks in terms of certification.

#### **Box 3: ICS in the Uttaranchal Organic Commodity Board (UOCB)**

The following requirements had to be satisfied in order to establish the certification scheme at the farmers' organization level in the Uttaranchal Organic Programme:

- One member from the farmers' group had to be trained on the certification standards and quality control.
- The members of the group had to be trained on the required documentation.
- Internal inspectors had to be trained on inspection skills.
- The farmer organization needed a facility where the documents could be kept safely.
- The functions of the approval committee had to be well defined.

Source: UOCB, 2005.

#### **e) Technology development**

Supportive organizations and farmers should be aware of the production and post-production technologies permitted in organic produce. Different organic crops require appropriate technologies to cope with specific problems. Research institutions are often involved in the development of these technologies, whereas extension services and NGOs provide technical assistance. As a general rule, the two basic production technologies needing the most attention are soil fertility management and pest management techniques. The sustainable use of agricultural inputs, with emphasis on local resources, is a challenging task. In the PGS and ICS schemes, organizers need skills and knowledge in participatory research tools, design of training manuals and training.

#### **Box 4: Actors in technology development –The Ecovida Network case study**

At the local level, supportive NGOs of the Ecovida Network provide technical assistance to farmer groups working in organic production, marketing and processing. The NGOs are occasionally associated with universities and research institutions to undertake specific research programmes according to farmers' needs. The Governmental Agency for Technical Assistance and Rural Extension Services (EMATER) also provides technical assistance to farmer groups in some municipalities, especially in the southern and southeastern states of Brazil. During the previous administration in Rio Grande do Sul, EMATER was explicitly oriented towards ecological agriculture in the State (A. Goncalvez, personal communication, 2005).

Source: Santacoloma, 2005.

### **f) Preparation of training materials and documentation forms**

The supportive organization must plan and design training materials, as well as develop a research plan and documentation forms. The implementation of an internal mechanism to comply with organic standards and certification is required. This mechanism implies acquiring knowledge on organic standards, technical skills in farm inspection and report writing. Farmers would need to be trained in organic farming activities, organic standards and in the establishment of ICSs.

#### **Box 5: A training curriculum – lessons from the Thai and Brazilian case studies**

In both the Thai and the Brazilian case studies, training materials were developed for farmers on organic farm management (including soil fertility management and pest management) and certification (such as organic standards and certification requirements). In the participatory scheme, the design of the training manuals and activities implies that organizers need skills and knowledge in participatory research tools and material design. Managers may be able to create awareness among farmers on the importance of collective learning and alternatives for managing farmer groups.

In addition to these topics, in the Thailand case, project staff received in-depth training on ICS documentation, ICS farm monitoring, report writing and training skills.

Source: Panyakul, 2006; Santacoloma, 2005.

### **g) Post-production management**

After production, specific managerial skills are needed for handling, packaging and storing. There are specific requirements for these activities, which involve knowing and choosing the appropriate technology, machinery and equipment.

#### **Box 6: Post-harvest management in organic rice**

Storage has to be done separately from all other produce in order to avoid cross contamination, and in a clean and dry place to prevent the moisture level from generating infestation in the organic produce. Organic produce has to be handled and packaged with utmost care: packaging must be done in clean bags, and hair cover and hand gloves must be worn during packaging. The processing is done separately from that of conventional paddy to avoid cross contamination.

Source: Katyal, 2005.

### **h) Sustainability of an organic certified produce project**

Aspects in the certification process requiring further institutional support and development of skills and knowledge are:

- organization and training of the administration of the certified group;

- development of an appropriate mechanism for producer-cost-share;
- auditing;
- training and informing of farmers and inspectors;
- internal farm control for overseeing physical farm inspections, evaluation and documentation;
- monitoring of product flow (documentation of all steps of product flow, purchase, transport, stocking, processing, sales).

## 6.2 CALCULATING THE COSTS ASSOCIATED WITH THE SUPPLY OF CERTIFIED ORGANIC PRODUCTS

A value chain management approach was considered for calculating the costs associated with the supply of certified organic products. The conformity measures and the recording systems to monitor product quality depend greatly on the market targeted with a certified produce. The compliance with requirements in a specific certification scheme may involve managerial changes at the production, processing, certifying and marketing levels to assure the integrity of the organic produce. To this aim, managerial and technical skills should be developed along the chain. The costs of certification therefore include those relating to setting up a quality assurance system as well as to improving managerial and technical skills at different levels. This approach differs from previous studies where the emphasis of the costs analysis was on the social and environmental impact of certification, either at the farm (Dankers and Liu, 2003) or at the macro-economic level (Wynen, 2004).

The project leader/manager – the NGO, trade firm or ICS – may incur costs for items involving planning and management of activities in training, marketing, technology development, organization and/or certification. The project manager should consider, for instance, staff salaries and operational costs in the set-up and maintenance phases of the project. Marketing costs may be shared among the different stakeholders participating in the chain.

To show the differences in the type and extent of costs that each scheme may incur, three case studies will be analysed in more depth: two case studies from the third party certification under ICS which target exports, the BRFO-GNEN case study from Thailand and Sunstar from India; and a third case study under the PGS managed by the Ecovida Network in Brazil.

### Type of costs

#### *Setting-up costs*

##### *At the production level*

- *Project planning:* The costs involve project design, project programming and the setting up of the required business support and technical services.

- *Technology development:* These costs may be associated with developing field technology directly at the farm by using participatory methods (such as Farmers' Field Schools), as in the BRFO-GNEN case study (Thailand) and in the Ecovida Network case study (Brazil), or by accessing technological research centers, such as in the Sunstar case study (India).
- *Cost of conversion:* In Sunstar, the project manager paid a premium price to the farmers during the three-year conversion period in order to commit them to continue within the project.
- *Training and extension:* These costs are for developing/adapting curriculum and training materials, and for running the training programme (in terms of staff time and materials).

#### ***At the certification level***

- *Establishing a farmers' group:* As a condition to establishing an ICS, a legal organization should be in place with a documented description of the management structure and internal regulations. In the particular case of the Ecovida Network, forming a legal entity is a condition for membership.
- *ICS establishment:* These costs cover development of farms and farm visits in order to gather information for ICS documentation, farm pre-inspection and assessing farmers' training needs.
- *Training:* This refers to particular training on standards and regulations of personnel, internal inspectors and farmers.
- *Record keeping and accounting systems:* This basically refers to costs for preparing documentation and collecting information at the farm level for internal and external inspection.

#### ***At the marketing level***

- *Marketing planning:* All marketing activities and costs are closely related to the type of certification, certification body appointed and type of markets. The import country has specific demands to meet, particularly to provide documentation, which should be sorted out by the exporter.

#### ***Ongoing costs***

##### ***At the production level***

- *Technical development and ongoing training* should continue after the project is set up.

##### ***At the certification level***

- *Certification fees:* Both in the Indian and Thailand case studies, the support organization is part of the ICS and pays the certification fees of the farmers' group and the agro-processing firm .

- *Monitoring and social networking:* In the Ecovida Network, there are several activities for strengthening social networking and training, rather than inspection and verification of compliance with standards. These include participation in seminars, peer review visits to farmers, and selling in fairs, which imply transport and time costs incurred by family members. Once the project is set up, a number of activities require permanent attention, which demand regular time costs. These include: ongoing training, internal farm visits, peer review visits to other farmers, and maintenance of record keeping and accounting systems.

### At the marketing level

- *Market skills development:* Costs are associated with participating in national and international fairs in order to research demand requirements and/or install new shops. Organizations participating in both the export and in the participatory scheme incur these costs.

The different costs incurred in each one of the three case studies is shown in Table 6. Marketing costs such as cleaning, selection and sales were assumed directly by the farmers in the Brazilian case study. Conversion costs were not relevant at the project level in the Thailand and Brazilian case studies. There were no certification fees or inspection visits in the Brazilian case study.

**Table 6: Setting-up and ongoing costs for organic certified produce at the organization level**

| Setting-up costs                   | Case study |   |   | Ongoing costs                    | Case study |   |   |
|------------------------------------|------------|---|---|----------------------------------|------------|---|---|
|                                    | I          | T | B |                                  | I          | T | B |
| <b>Production</b>                  |            |   |   |                                  |            |   |   |
| Project planning                   | x          | x | x | Technological development        | x          | x | x |
| Technological development          | x          | x | x | Ongoing training                 |            | x | x |
| Costs of conversion                | x          |   |   |                                  |            |   |   |
| <b>Certification</b>               |            |   |   |                                  |            |   |   |
| Establishing farmer groups         | x          | x | x | Certification fees               | x          | x |   |
| ICS establishment                  | x          | x |   | Visits and inspection            | x          | x |   |
| Training                           | x          | x | x | Monitoring and social-networking |            |   | x |
| Record keeping/ Accounting systems | x          | x | x | Ongoing training                 | x          | x | x |
|                                    |            |   |   | Record keeping/accounting system | x          | x | x |
| <b>Marketing</b>                   |            |   |   |                                  |            |   |   |
| Marketing planning                 | x          | x | x | Marketing management             | x          | x | x |
| Investment in facilities           | x          | x |   | Cleaning and selection           | x          | x |   |
| Developing market skills           | x          | x | x | Transport to the markets         | x          | x |   |
|                                    |            |   |   | Sales                            | x          | x |   |

Note: I= Indian case study; T= Thailand case study; B= Brazilian case study

### **6.3 COST AND BENEFIT ANALYSIS AT THE ORGANIZATION LEVEL**

In Table 7, the set-up and maintenance costs at the organization level are shown in terms of costs per farmer per year. The most prominent result is the large difference between the selected Indian and Thailand case studies in the total cost of setting up an organic project. In the maintenance phase, where information was also available from the Brazilian case study, costs continued to be many times higher for the Indian case study than for the other two analysed case studies.

When carefully examining the cost structure in the Indian case study, the costs associated with enhancing production and marketing activities were the most prominent. Costs included payments to staff for setting up project activities, such as input supply, business and technical advice, market linkages and certification. The premium price payments to the farmers enrolled in organic cultivation explained a large percentage of the marketing costs. The firm paid a premium to the farmer during the first three years of the conversion period, even when the product could not yet be labelled organic and consequently, could not obtain a premium in the market place. The firm considered the costs as a long-term investment to ensure product availability because farmers are under a five-year contract with the firm. The certification costs more than doubled in the fourth year due to triple certification making certification for the Indian case study very costly. The triple certification represents a financial burden in two ways: as direct certification fees, and as indirect costs to keep business planning, management and marketing activities separate in response to the diverse requirements of each import country.

In the Thailand case study, the ICS system implementation and training activities accounted for most of the costs, which were not much different at the set-up and maintenance phase. Some reasons explaining the relatively lower costs than in the Indian case study may be related to the nature of the particular value chain selected, which is a vertically integrated supply chain with low transaction costs. In the cost structure, costs to directly support the farmers' certification are relatively higher. Main activities are related either to capacity building, such as the design of training manuals and training programme, or the building of an ICS through participatory learning. The costs in the Indian case study are higher mainly for the reasons previously given: first, the payment of premium price to the farmers during the first three years of conversion period, and second, the need to have multiple certification in order to access to markets in four different European countries. For reasons of confidentiality, it was not possible to carry out the cost-benefit analysis of these two examples.

In the Brazilian case study, the set-up phase dates back to several years ago, making measuring difficult; data were available only for the maintenance phase. In the cost structure, the highest costs were related to technological development and strengthening of farmers' associations. Technological development includes participatory learning through peer review of other farmers and participation of consumers. Educational and social control should be in place involving the food chain actors in order to ensure the integrity of organic food. Planning and implementing their participation in meetings, field and markets activities and other social events are time-consuming activities that represent costs for the organization.

**Table 7: Comparative costs at the organization level (US\$/farmer/year)**

| Item          | Indian case study |         | Thailand case study |         | Brazilian case study |
|---------------|-------------------|---------|---------------------|---------|----------------------|
|               | Set-up            | Ongoing | Set-up              | Ongoing | Ongoing              |
| Production    | 127               | 100     | 6.1                 | 8.1     | 50                   |
| Certification | 18                | 37.1    | 24.7                | 16.5    | 20                   |
| Marketing     | 185               | 139     | 0.6                 | 12.5    | 12.5                 |
| Total         | 330.00            | 276.1   | 31.4                | 37.1    | 82.5                 |

Note: Exchange rates: Thailand (US\$1:40 baht); India (US\$1:44 rupees);

Brazil (US\$1:2.5 reais).

Source: Author's calculations

## Benefits

Benefits for the supportive organizations are both monetary and non-monetary. Most of these organizations tend to consider the non-monetary benefits – social, environmental and organizational – just as important as the monetary ones. The supportive organizations also obtain benefits from better market access, knowledge and skills in ICS management and improved planning capabilities in the supply chain. They all contribute to strengthening farmers' self-confidence and social networking to support better rural societies.

In a classic analysis of the subject, a cost-benefit ratio would have to be calculated; however, accurate information on the profits of these enterprises is not available, because business managers are rather reluctant or vague addressing this topic. Nonetheless, the benefits identified and ranked by organizations' managers as the most important are highlighted:

- *Knowledge and skills acquired in setting up an ICS* – Basically, the knowledge acquired is reflected in better project organization and management. When farmers' organizations are involved, they develop skills in collective farming planning, monitoring, documentation and market requirements. Developed skills in an ICS could set the basis for generating quality employment in rural areas. In the second Indian case study, for instance, a professionally trained and experienced team of ICS specialists is now available. This team is made up of young farmers trained as internal inspectors who are also able to provide extension support to farmers. It is expected that internal inspectors will continue to provide extension services as a private business after the project finishes.
- *Knowledge of organic production technology* – An ample range of knowledge and skills on organic technologies are developed, which are difficult to quantify. These include understanding adaptable technology interventions basically by adopting measures and practices appropriate to local conditions and small-scale farmers. Staff skills in technology development improve organizational effectiveness to deliver technical advice services.
- *Quality improvement for farm produce*: The improved quality of produce is usually recognized in the price premium. The average premium over the market price given to farmers is between 10 and 25 percent, depending on the organic status of the farms, quality of produce and prevailing market price in the crop year.

- *Established social networking:* This is also a non-monetary, non-quantifiable benefit, which led to the building of social legitimacy. In Brazil, the alternative certification has been recognized in the legislation as appropriate to small-scale farmers' circumstances.
- *General improvement of supply chain planning:* The supportive organizations provide better support to farm members' input, knowledge and buy-back schemes. In the Indian case study, for instance, managers see a great benefit in the full control of agricultural and agro-processing activities through contract farming schemes. It facilitates a stronger agri-input distribution and supply system enabling the company to comply with export requirements.