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- The International Requirements for Organic Certification Bodies (IROCB), a reference norm that can be used by governments and private accreditation and certification bodies as a means of accepting certification of organic products outside of their own system (ITF, 2008a).
- The Guide for Assessing Equivalence of Organic Standards and Technical Regulations (EquiTool), a set of procedures and criteria for deciding when a standard applicable in one region of the world is equivalent to a standard applicable in another region (ITF, 2008b).

The ITF agreed to support the two international standards for organic production and processing (IFOAM standards in the private sector and Codex Alimentarius Commission standards in the government sector), and encourage harmonization and equivalence based on these standards.

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# 7

## FAO's ecolabelling guidelines for marine capture fisheries: an international standard

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**Abstract:** Many of the world's marine fisher resources are either overfished or fully exploited and global production from wild stocks is close to its long run biological maximum. Consumer awareness about the serious condition of many marine fishery resources has grown, especially in OECD countries. The objective of eco-labelling of fish and fishery products is to achieve the goal of sustainable fisheries, in line with the FAO Code of Conduct for Responsible Fisheries and other related international instruments.

**Key words:** fisheries ecolabelling, FAO guidelines, equivalence, barriers to trade.

### 7.1 Introduction

Many of the world's marine fisher resources are either overfished or fully exploited. In 2008, the Food and Agriculture Organization's *State of World Fisheries and Aquaculture* (SOFIA) reported that more than one quarter of the monitored fish stocks were overfished, depleted or recovering while another more than one half were fully exploited, which means that they were estimated to be producing catches at the maximum that could be sustained over time. In a poorly managed fishery, full exploitation may just be an intermediate state of a stock on its way to being over-exploited. Only one-fifth of the stocks – down from two-fifths in the 1970s – remain under-exploited or moderately exploited. Global production of

seafood from wild stocks is therefore close to its long run biological maximum (FAO 2008a).

The world's marine fisheries are also performing badly in economic terms. A recent World Bank–FAO study notes that the contribution of the harvest sector of the world's marine fisheries to the global economy is substantially smaller than it could be. It estimates the annually lost economic benefits in the order of \$50 billion. Over the last three decades, the cumulative global loss of potential economic benefits is estimated in the order of \$2 trillion. The losses represent the difference between the potential and actual net economic benefits from global marine fisheries (World Bank and FAO 2009).

Those who carry the heaviest burden of over-exploited fishery resources in biological and economic terms are the millions of often poor and vulnerable fishery-dependent communities of developing countries and low income consumers who rely on fisheries and fish for their livelihoods and food security.

## 7.2 Why ecolabelling

The objective of ecolabelling of fish and fishery products is to achieve the goal of sustainable fisheries. This is in line with the objectives pursued through the FAO Code of Conduct for Responsible Fisheries (CCRF) and other related international instruments, in particular the 1982 United Nations Convention on the Law of the Sea and the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.<sup>1</sup>

Ecolabelling is a market-based instrument which usually relies on and reinforces management measures taken by government fisheries management agencies.<sup>2</sup> The Nordic Technical Working Group on Eco-labelling Criteria (2000) identified the following positive incentives that are created by ecolabels for products from capture fisheries:

- The fishing community is provided with a market incentive to request that authorities manage fish stocks in a responsible precautionary way.
- Governments are given an incentive to upgrade their fisheries management practices to improve the market situation for national fisheries products.
- Authorities are given an incentive to improve research and the monitoring of their fish stocks and fisheries.

Consumers' product choices and their willingness to pay a higher price for an ecolabelled product will depend on their general responsiveness and capacity to

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<sup>1</sup>The text of the 1982 Convention and 1995 Agreement can be found on this Internet address: [http://www.un.org/Depts/los/convention\\_agreements/texts/unclos/closindx.htm](http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm)

<sup>2</sup>A comprehensive review of the principles and practice of seafood ecolabelling has been edited by Ward and Phillips (2008).

address environmental concerns through their purchasing behaviour and their awareness and understanding of the specific objectives pursued through the labelling scheme. Consumer awareness about the serious condition of many of the world's marine fishery resources has grown globally but especially in OECD countries which include many of the major importers of seafood products. Fishery products are among the most traded and valued food products. In 2006, nearly 40 percent of global fish production was internationally traded at an aggregate value of \$85.9 billion of which nearly one half by developing countries (FAO, 2008a).

There are growing numbers of consumers in Japan, Germany, Switzerland, the UK, the USA, and other countries, including urban consumers of developing countries, who take into account the environmental impact of their purchases including fishery resources. For some years, there have been ecolabelled seafood products from the Marine Stewardship Council (MSC) or following the numerous and varied recommended buyers' lists from environmental organisations of 'sustainable' or 'non-sustainable' fish purchases, although some are not fully reliable. Consumers are increasingly lured by many of the major retail chains which have guidelines for their suppliers regarding various criteria including environmental friendliness as well as employee working conditions.

### **7.3 History of the FAO ecolabelling guidelines for fish and fishery products**

The impetus for addressing the issue of ecolabelling of fisheries products in FAO arose from the launch of the MSC initiative by Unilever PLC/NV and WWF, a leading environmental organisation, in early 1996. In their joint Statement of Intent, WWF noted its wish for 'a new approach to ensure more effective management of marine life', while Unilever PLC/NV, a major buyer of frozen fish and manufacturer of many of the world's best-known frozen-fish products, expressed 'its commitment to long-term fish stock sustainability to ensure a future for its successful fish business'.<sup>3</sup>

The reactions to the initiative of WWF and Unilever were mixed. While it was applauded by some industry groups, conservation organisations and governments, many fisheries stakeholders and governments were initially sceptical about the intentions of this unlikely partnership between a big corporate player in the fish processing and retailing business and an environmental non-governmental organisation (NGO) which until that time was perceived as having greater interests in marine conservation than supporting the fishing industry.

At the intergovernmental level, the matter was discussed controversially in several sessions of the FAO Committee on Fisheries (COFI) and sessions of its Sub-Committee on Fish Trade from 1997 onwards. It was also considered in a technical consultation of government-nominated experts in 1998 which investigated the feasibility and practicability of developing non-discriminatory, globally

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<sup>3</sup>Cited in ICSF (1998; p. 6).

applicable, technical guidelines for the ecolabelling of fish and fishery products from marine fisheries. Unanimity among FAO members on the need for an international normative instrument on fisheries ecolabelling was, however, only reached at COFI, 2003.

Several factors are likely to have influenced a change in COFI, 2003 by relatively few countries which had opposed international ecolabelling guidelines. The issue of labelling requirements for environmental purposes had become, since the 4th World Trade Organization (WTO) Ministerial Conference in Doha, November 2001, an issue of special focus in the work of the WTO Committee on Trade and Environment (CTE). At Doha, WTO members instructed the CTE to undertake further work on labelling requirements for environmental purposes and in particular to:

- look at the impact of ecolabelling on trade,
- examine whether existing WTO rules stood in the way of ecolabelling policies, and
- identify any WTO rule that would need to be clarified.

In its report to the 5th Session of the WTO Ministerial Conference in Cancún, most CTE Members agreed that voluntary, participatory, market-based and transparent environmental labelling schemes were potentially efficient economic instruments that informed consumers about environmentally friendly products. Importantly, the report noted that ecolabelling tended, generally, to be less trade restrictive than other instruments. However, it also noted that environmental labelling schemes could be misused for the protection of domestic markets. Hence, these schemes needed to be non-discriminatory and not result in unnecessary barriers or disguised restrictions on international trade (WTO, 2003).

Another important factor that might have tipped the balance in favour of the development of FAO ecolabelling guidelines was the fact that the MSC programme was moving successfully ahead and encompassing an increasing number of fisheries and certified product lines. There was also an increasing number of large wholesale and retail chains which announced green procurement guidelines for their fishery products and commitments in the medium term to only procure fish from sustainable sources, including MSC certified fisheries. Thus, it became clear that important segments of market demand in the large fish importing countries were moving towards certified products. A 'green image' became an important strategy to maintain and expand market shares in the food products industry.

Thus a consensus emerged among FAO members on the need for international harmonisation of criteria and procedures and related issues such as equivalence and mutual recognition. This would avoid ecolabelling programmes in fisheries discriminating against certain producers, kinds of fisheries or countries. It would also help to avert a situation that may arise where a series of competing ecolabelling schemes were to apply different standards and criteria causing confusion rather than providing for more informed purchasing behaviour by consumers (Cochrane and Willmann, 2000).

## 7.4 The development of the FAO ecolabelling guidelines

With the blessing of its members provided at COFI, 2003, FAO initiated the process of developing international ecolabelling guidelines for fish and fishery products from marine capture fisheries. FAO first convened a consultation of experts in their individual capacities in October 2003. The Consultation brought together experts from different disciplines, regions and institutional backgrounds (government, industry, conservation organisations, small-scale fishers) of whom several took part in subsequent negotiation stages as members of their government delegations or as non-governmental observers. The report from the Expert Consultation (FAO, 2003) provided a background document for the subsequent Technical Consultation. The Technical Consultation of experts representing their governments and observer organisations initiated the intergovernmental negotiations proper, in October 2004 (FAO, 2005a). As number of issues of concern and controversy could not be resolved during that meeting, another round of consultation was held to try to reach agreement on these just prior to the 26th session of COFI in March 2005. A particular concern, particularly amongst developing countries, was, and still is, that the ecolabels could be used as technical barriers to trade. Negotiations continued alongside COFI in a small group representing the different regions and interest groups. COFI adopted the final text by consensus, but a few country delegations expressed reservations that have been reflected in the COFI Report (FAO, 2005b). Subsequently, the FAO Secretariat was asked to undertake further work on the minimum substantive requirements set out in the guidelines. After consultation with a group of experts, some amendments to and expansions of this section of the 2005 guidelines were proposed (FAO, 2008b). These amendments were adopted by the 2009 Session of COFI in March 2009 and the revised final guidelines will be published this year.<sup>4</sup>

In the following section, selected provisions of the guidelines including the latest revisions are presented to explain the key intent of the guidelines and comment on the evolution of the text through the various drafting and negotiation stages. Their normative basis is indicated in the guidelines themselves and includes, in particular, the 1982 UN Convention on the Law of the Sea, the 1995 UN Fish Stocks Agreement, the 1995 Code of Conduct for Responsible Fisheries, relevant guides of the International Organization for Standardization (ISO) and provisions of the WTO Technical Agreement on Barriers to Trade, especially ANNEX 3 *Code of Good Practice for the Preparation, Adoption and Application of Standards*.

The text of this chapter follows the structure of the guidelines – Scope, Principles, General considerations, Terms and definitions, Minimum substantive requirements and criteria and Procedural and institutional aspects.

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<sup>4</sup>The text of the 2008 amendments to the 2005 Ecolabelling Guidelines is shown in Appendix E of FAO (2008b): <ftp://ftp.fao.org/docrep/fao/010/i0006e/i0006e00.pdf>. The text of the 2005 Guidelines is shown here: <ftp://ftp.fao.org/docrep/fao/008/a0116t/a0116t00.pdf>

### 7.4.1 Scope

The initial mandate by COFI in 2003 was to develop guidelines for the ecolabelling of marine capture fisheries only. This was extended to inland capture fisheries, as a separate set of guidelines, by COFI in 2005. Draft ecolabelling guidelines for inland fisheries were developed by an expert consultation in 2006, but further work was requested by COFI, 2007 and 2009. As they are not yet finalised, they are not cited in the following. However, key differences between the two sets of guidelines are explained in the annotations.

The text of Paragraph 1 on the scope reads as follows:

*These guidelines are applicable to ecolabelling schemes that are designed to certify and promote labels for products from well-managed marine capture fisheries and focus on issues related to the sustainable use of fisheries resources.*

The exclusion of social and economic or health and safety aspects from the scope of the guidelines is notable. This is in keeping with the views expressed by most governments at the 1998 FAO technical consultation. It would have been very unlikely, if at all possible, that international consensus among governments could have been reached on standards relating to social and economic factors.

As a significant portion of production from inland waters is derived from culture-based and enhanced fisheries these fisheries, are included within the scope of inland capture fisheries although the actual boundary between aquaculture and capture-based fisheries for the purposes of ecolabelling guidelines still needs to be clarified (FAO, 2006, 2008b).

### 7.4.2 Principles

The full set of principles elaborated by the 1998 technical consultation were maintained with some amendments and re-ordering. For the inland fisheries guidelines, references to the Convention on Biodiversity and the Ramsar Convention on Wetlands were added.

The text of the Principles reads:

2. *The following principles should apply to ecolabelling schemes for marine capture fisheries:*
  - 2.1 *Be consistent with the 1982 United Nations Convention on the Law of the Sea and the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, the FAO Code of Conduct for Responsible Fisheries and the World Trade Organization (WTO) rules and other relevant international instruments.*
  - 2.2 *Recognize the sovereign rights of States and comply with all relevant laws and regulations.*

- 2.3 *Be of a voluntary nature and market-driven.*
- 2.4 *Be transparent, including balanced and fair participation by all interested parties.*
- 2.5 *Be non-discriminatory, do not create unnecessary obstacles to trade and allow for fair trade and competition.*
- 2.6 *Provide the opportunity to enter international markets.*
- 2.7 *Establish clear accountability for the owners of schemes and the certification bodies in conformity with international standards.*
- 2.8 *Incorporate reliable, independent auditing and verification procedures.*
- 2.9 *Be considered equivalent if consistent with these guidelines.*
- 2.10 *Be based on the best scientific evidence available, also taking into account traditional knowledge of the resources provided that its validity can be objectively verified.*
- 2.11 *Be practical, viable and verifiable.*
- 2.12 *Ensure that labels communicate truthful information.*
- 2.13 *Provide for clarity.*
- 2.14 *Be based, at a minimum, on the minimum substantive requirements, criteria and procedures outlined in these guidelines.*
- 3. *The principle of transparency should apply to all aspects of an ecolabelling scheme including its organizational structure and financial arrangements.*

Principle 2.1 was included to give assurance that ecolabelling schemes will not contravene widely accepted or ratified international instruments.

Principle 2.14 establishes the FAO guidelines as a minimum standard for any capture fisheries ecolabelling scheme. Whether the guidelines should be considered *the* international standard within the framework of WTO rules and regulations is open to interpretation for reasons discussed in greater detail in Wessells *et al.* (2001): WTO does not claim to be the appropriate forum for discussions on the general usefulness of ecolabelling schemes or what constitutes appropriate criteria for assessing sustainability. Indeed, WTO explicitly defers such issues to international agreements or bodies with appropriate expertise (Wessells *et al.*, 2001).

The precise formulation of Principle 2.6 was controversial until nearly the end of the negotiations that took place during the process of adoption of the guidelines in COFI, 2005. Some felt that its intent was already reflected in Principles 2.1 and 2.5. Others argued that the idea of gaining better access to international markets through ecolabelling schemes should be a principle by itself. Whereas Principle 2.1 already refers to consistency with WTO rules, a reiteration of this requirement was felt necessary for Principles 2.5 and 2.6. This emphasis needs to be interpreted in the context of the debate in WTO, in particular within its Committee on Trade and the Environment, on the applicability of WTO rules to environmental labelling (see Wessells *et al.*, 2001). In relation to this subject, it needs to be recalled that the tuna–dolphin and shrimp–turtle trade disputes have likely caused sensitivities

among several countries and a cautious attitude to the potential implications of international ecolabelling guidelines should a trade dispute arise.<sup>5</sup>

### 7.4.3 General considerations

The intention of this section is to create, to the extent possible, an equal playing field among countries by, *inter alia*, recognising the special conditions and requirements of developing countries and countries in transition on the one hand, while calling for one unique minimum standard on the other hand, in order to avoid any notion of superior or inferior categories of ecolabelled fish and fishery products.

The section also addresses the view of many governments that they should be fully involved, not just individually but also as members of Regional Fisheries Management Organizations (RFMOs) in ecolabelling schemes.<sup>6</sup> It recognises that governments play, or need to play, a paramount and often indispensable role in fisheries management.

In the strict sense, RFMOs do not exist for inland capture fisheries, but the inland fisheries experts agreed to adopt throughout the text of the guidelines the wider term of regional fishery body (RFB) applicable to both RFMOs as well as to bodies having purely advisory functions.

4. *Ecolabelling schemes should take into account that principles, minimum substantive requirements, criteria and procedures set out in this document will apply equally for developed, transition and developing countries.*
5. *Bearing in mind that ecolabelling schemes relate to fisheries management, and rights and duties of States, it is recognized that the involvement of States in ecolabelling schemes is desirable and should be encouraged. It is also recognized that States and, as appropriate, Regional Fisheries Management Organizations (RFMOs) may develop ecolabelling schemes in a manner consistent with these guidelines. Ecolabelling schemes should give full consideration to the recommendations and advice by States, and, as appropriate, RFMOs.*
6. *In accordance with Article 5 of the Code of Conduct for Responsible Fisheries, and recognizing that all countries should have the same opportunities, and in view of the special*
7. *conditions applying to developing countries and countries in transition and their important contribution to international fish*

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<sup>5</sup>Information on these trade disputes is available on the WTO Internet site at: [http://www.wto.org/english/tratop\\_e/envir\\_e/edis04\\_e.htm](http://www.wto.org/english/tratop_e/envir_e/edis04_e.htm) and [http://www.wto.org/english/tratop\\_e/envir\\_e/edis08\\_e.htm](http://www.wto.org/english/tratop_e/envir_e/edis08_e.htm)

<sup>6</sup>RFMOs are intergovernmental fisheries organisations or arrangements which have the competence to establish fisheries conservation and management measures that are binding on their members. They are the principal mechanism for cooperation between and among coastal states and fishing nations for the management of international fisheries.

*trade, it is acknowledged that in order to benefit from applying ecolabelling schemes, states, relevant intergovernmental and non-governmental organizations and financial institutions should provide developing countries and countries in transition with financial and technical assistance to develop and maintain appropriate management arrangements that will allow them to participate in such schemes. Such assistance should also consider direct support towards the often high costs of accreditation and certification. Development agencies and donor institutions are encouraged to support FAO in facilitating financial and technical assistance to developing countries and countries in transition.*

#### **7.4.4 Terms and definitions**

The section draws heavily on terminology, definitions and standards agreed within the framework of the International Organization for Standardization (ISO) dealing with general requirements on accreditation and certification. It also contains a series of definitions that were specifically developed by the expert and technical consultations for the marine and inland capture fisheries ecolabelling guidelines.

The concept of the unit of certification (paragraph 25) is of special interest as it provides for the possibility of a fishery becoming certified which harvests only a component of a stock. As will become evident in the next section, for purposes of gauging the health of the stock, however, the impact of all fisheries on this stock would have to be taken into account.

The inland fisheries experts concluded that geographic boundaries of inland fisheries did not need to be defined. ‘As fish stocks contributing to river, lake and reservoir fisheries may also, in some cases, be caught in estuarine and marine areas, the consideration of impacts of all fisheries utilizing a stock or stocks across their entire area of distribution, including all life stages, is an important element of assessing the state of the “stock under consideration”’ (FAO, 2006).

The expert consultation on inland fisheries added terms for culture-based fisheries, enhanced fisheries and introduced species. The experts drew a line between capture fisheries and aquaculture that permits artificial stocking but not artificial feeding. Whereas the 2006 expert group meeting concluded that the enhancement features of many inland fisheries are the critical distinction from marine capture fisheries, a more recent expert consultation convened by FAO in March 2008 concluded that enhancements are increasingly used too in marine fisheries. It noted that there is no agreed boundary to determine when a fishery applying enhancement measures should cease to be considered a capture fishery. Thus the 2008 group of experts was not in full agreement on the validity of the definitions provided by the 2006 consultation and recommended that additional work be undertaken on these definitions (FAO, 2008b).

7. *For the purpose of these International Guidelines, the following terms and definitions apply.*

Accreditation

8. *Procedure by which a competent authority gives formal recognition that a qualified body or person is competent to carry out specific tasks.*  
(Based on ISO/IEC Guide 2:1996, 12.11)

Accreditation body

9. *Body that conducts and administers an accreditation system and grants accreditation.*  
(Based on ISO Guide 2, 17.2)

Accreditation system

10. *System that has its own rules of procedure and management for carrying out accreditation.*  
11. *Note – Accreditation of certification bodies is normally awarded following successful assessment and is followed by appropriate surveillance.*  
(Based on ISO Guide 2, paragraph 17.1)

Arrangement

12. *A cooperative mechanism established by two or more parties be they governmental, private or non-governmental entities.*

Audit

13. *A systematic and functionally independent examination to determine whether activities and related results comply with planned objectives.*  
(Based on Codex Alimentarius, Principles for Food Import and Export Certification and Inspection, CAC/GL 20)

Certification

14. *Procedure by which a third party gives written or equivalent assurance that a product, process or service conforms to specified requirements. Certification may be, as appropriate, based on a range of inspection activities which may include continuous inspection in the production chain.*  
(Based on ISO Guide 2, 15.1.2 and Principles for Food Import and Export Certification and Inspection, CAC/GL 20)

Certification body

15. *Competent and recognized body that conducts certification. A certification body may oversee certification activities carried out on its behalf by other bodies.*  
(Based on ISO Guide 2, 15.2)

Chain of custody

16. *The set of measures which is designed to guarantee that the product put on the market and bearing the ecolabel logo is really a product coming from the certified fishery concerned. These measures should thus cover both the tracking/traceability of the product all along the processing, distribution and marketing chain, as well as the proper tracking of the documentation (and control of the quantity concerned).*

Complaint

17. *An objection by a person or body to a decision regarding accreditation, de-accreditation, certification or de-certification.*

Conformity assessment

18. *Any activity concerned with determining directly or indirectly that relevant requirements are fulfilled.*

19. *Notes: Typical examples of conformity assessment activities are sampling, testing and inspection; evaluation, verification and assurance of conformity (supplier's declaration, certification); registration, accreditation and approval as well as their combinations.  
(ISO Guide 2, 12.2)*

Decision

20. *Any resolution by an accreditation or certifying body or arrangement concerning the rights and obligations of a person or body.*

Ecolabelling scheme

21. *Ecolabelling schemes entitle a fishery product to bear a distinctive logo or statement which certifies that the fish has been harvested in compliance with conservation and sustainability standards. The logo or statement is intended to make provision for informed decisions of purchasers whose choice can be relied upon to promote and stimulate the sustainable use of fishery resources.*

Standard for certification

22. *Document approved by a recognized organization or arrangement, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory under international trade rules. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.  
(Based on TBT agreement, Annex 1, para.2)*

*In these guidelines, unless otherwise qualified, the word standard refers to a standard for certification. The standard for certification will include requirements, criteria and performance elements in a hierarchical arrangement. For each requirement, one or more substantive criteria should be defined. For each criterion, one or more performance elements should be provided for use in assessment.*

Standard-setting organization or arrangement

23. *Organization or arrangement that has recognized activities in standard setting.  
(Based on ISO Guide 2, paragraph 4.3)*

Third party

24. *Person or body that is recognized as being independent of the parties involved, as concerns the issue in question.  
(ISO/IEC Guide 2:1996)*

Unit of certification

25. *The 'unit of certification' is the fishery for which ecolabelling certification is sought, as specified by the stakeholders who are seeking certification. The certification could encompass: the whole fishery, where a fishery refers to the activity of one particular gear-type or method leading to the harvest of one or more species; a sub-component of a fishery, for example a national fleet fishing a shared stock; or several fisheries operating on the same resources. The 'stock under consideration' exploited by this fishery (unit of certification) may be one or more biological stocks as specified by the stakeholders for certification. The certification applies only to products derived from the 'stock under consideration' (see Para. 30). In assessing compliance with certification standards, the impacts on the 'stock under consideration' of all the fisheries utilizing that 'stock under consideration' over its entire area of distribution are to be considered.*

**7.4.5 Minimum substantive requirements and criteria for ecolabels**

This section of the guidelines sets out the minimum substantive requirements and criteria for assessing whether a fishery can be certified and awarded an ecolabel. It keeps open the option for ecolabelling schemes to apply additional or more stringent requirements and criteria.

The drafting of this section was informed by the Code of Conduct for Responsible Fisheries, the UN Fish Stocks Agreement, the principles and criteria of the MSC as well as those elaborated by the Nordic Technical Working Group on Ecolabelling Criteria (2000), a group set up by the Nordic Council of Ministers in 2000. There were also several expert consultations (see References) that contributed to the finely elaborated text of this core section of the guidelines on the definition and assessment of a sustainable fishery. Minimum requirements are specified for each of three areas: the management systems, the fishery and associated 'stock under consideration', and ecosystem considerations. This is in keeping with the idea that both the process and the outcome of management need to be considered. The requirements and criteria exclude economic, social or safety-at-sea considerations.

This section acknowledges that conventional stock assessment methods may not be possible nor necessarily appropriate in all cases and that 'less elaborate' methods may be used (paragraph 32a). However, attention is also drawn to the need to consider the amount of uncertainty in the final outcome of the assessment and to apply the precautionary approach accordingly. The section explicitly recognises the value of traditional knowledge provided its validity can be objectively verified.

There was considerable concern amongst some countries, especially some developing countries, about the inclusion of 'Ecosystem considerations' in the minimum requirements. This arose from the knowledge that, in many countries,

current knowledge on ecosystems and ecosystem impacts is weak because of the lack of data and research due to financial and human resources constraints. The inclusion of ecosystem considerations could therefore become an effective barrier to obtaining an ecolabel and consequently a barrier to trade. This section, within the core of the guidelines, therefore represents a reasonable compromise between the position of some countries seeking more stringent requirements and criteria and others that wished to see ecosystem considerations entirely omitted from the guidelines.

In reference to the modifications to this section, the inland fisheries expert group noted that enhanced fisheries may involve a number of techniques, some of which are permanent or nearly so, e.g. species introductions and habitat modification, and some of which could be temporary. The sustainability of the target species, therefore, could depend on the maintenance of the enhancements. In the special case of culture-based fisheries, where the fishery is solely maintained by stocking from aquaculture facilities, the experts concluded that sustainability of the target species would not be the focus of an ecolabelling programme. Instead, sustainability would relate primarily to assuring optimal production in the natural ecosystem and management in a manner to conserve biodiversity and ecosystem functions (FAO, 2006).

### **Introduction**

26. *The following sets forth the minimum substantive requirements and criteria for assessing whether a fishery can be certified and an ecolabel awarded to a fishery. Ecolabelling schemes may apply additional or more stringent requirements and criteria related to sustainable use of the resources. The requirements and criteria presented below are to be based on and interpreted in accordance with the current suite of agreed international instruments in particular the 1982 UN Convention on the Law of the Sea, the 1995 UN Fish Stocks Agreement and the 1995 Code of Conduct for Responsible Fisheries, as well as related documentation including the 2001 Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem.*
27. *Requirements are specified for each of three areas: the management systems, the fishery and associated 'stock under consideration' for which certification is being sought, and consideration of serious impacts of the fishery on the ecosystem. Criteria and related measurable performance indicators and a corresponding monitoring system should be established in order to assess the conformity of the fishery concerned with the requirements and the criteria of the ecolabelling scheme. In developing and applying the criteria and assessing the conformity of the fishery with the standard of certification, the views and opinions of States, RFMOs and FAO should be fully considered.*

## **Management systems**

28. *Requirement: The fishery is conducted under a management system which is based upon good practice and that ensures the satisfaction of the requirements and criteria described in Paragraph 29. The management system and the fishery operate in compliance with the requirements of local, national and international laws and regulations, including the requirements of any regional fisheries management organization that manages the fisheries on the 'stock under consideration'.*
- 28.1 *For the 'stock under consideration' there are documented management approaches with a well based expectation that management will be successful taking into account uncertainty and imprecision.*
- 28.2 *There are objectives, and as necessary, management measures to address pertinent aspects of the ecosystem effects of fishing as per paragraph 31.*
29. *The following criteria will apply to management systems for any fisheries, but it must be recognized that special consideration needs to be given to small-scale fisheries with respect to the availability of data and with respect to the fact that management systems can differ substantially for different types and scales of fisheries (e.g. small scale through to large scale commercial fisheries).*
- 29.1 *Adequate and reliable data and/or information are collected, maintained and assessed in accordance with applicable international standards and practices for evaluation of the current state and trends of the stocks (see below: Methodological aspects). This can include relevant traditional, fisher or community knowledge, provided its validity can be objectively verified.*
- 29.2 *In determining suitable conservation and management measures, the best scientific evidence available is taken into account by the designated authority, as well as consideration of relevant traditional fisher or community knowledge, provided its validity can be objectively verified, in order to evaluate the current state of the 'stock under consideration' in relation to, where appropriate, stock specific target and limit reference points.*
- 29.2bis: *Taking due account of paragraph 32, for the 'stock under consideration' the determination of suitable conservation and management measures should include or take account of:*
- *Total fishing mortality from all sources is considered in assessing the state of the 'stock under consideration', including discards, unobserved mortality, incidental mortality, unreported catches and catches in other fisheries.*
  - *Management targets are consistent with achieving MSY (or*

*a suitable proxy) on average, or a lesser fishing mortality if that is optimal in the circumstances of the fishery (e.g. multi-species fisheries) or to avoid severe adverse impacts on dependent predators.*

- *The management system should specify limits or directions in key performance indicators (see 30.2), consistent with avoiding recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible, and specify the actions to be taken if the limits are approached or the desired directions are not achieved.*

29.3 *Similarly, data and information, including relevant traditional fisher or community knowledge, provided its validity can be objectively verified, are used to identify adverse impacts of the fishery on the ecosystem, and timely scientific advice is provided on the likelihood and magnitude of identified impacts (see Paragraph 31).*

29.4 *The designated authorities adopt and effectively implement appropriate measures for the conservation and sustainable use of the 'stock under consideration' based on the data, information, and scientific advice referred to in the preceding bullets. Short-term considerations should not compromise the long-term conservation and sustainable use of fisheries resources.*

29.5 *An effective legal and administrative framework at the local, national or regional level, as appropriate, is established for the fishery<sup>8</sup> and compliance is ensured through suitable mechanisms for monitoring, surveillance, control and enforcement (see also Paragraph 6).*

29.6 *In accordance with the Code of Conduct Article 7.5, the precautionary approach is being implemented to protect the 'stock under consideration' and the aquatic environment. Inter alia this will require that the absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures. Further, relevant uncertainties are being taken into account through a suitable method of risk assessment. Appropriate reference points are determined and remedial actions to be taken if reference points are approached or exceeded are specified.*

**'Stocks under consideration'**

30. *Requirement: The 'stock under consideration' is not overfished, and is maintained at a level which promotes the objective of optimal utilization and maintains its availability for present and future generations, taking into account that longer term changes in productivity can occur due to natural variability and/or impacts other than fishing. In the event that biomass drops well below such*

*target levels, management measures (Code of Conduct Article 7.6) should allow for restoration within reasonable time frames of the stocks to such levels (see also paragraph 29.2 bis).*

*The following criteria are applicable:*

- 30.1 The 'stock under consideration' is not overfished if it is above the associated limit reference point (or its proxy).*
- 30.2 If fishing mortality (or its proxy) is above the associated limit reference point, actions should be taken to decrease the fishing mortality (or its proxy) below that limit reference point.*
- 30.3 The structure and composition of the 'stock under consideration' which contribute to its resilience are taken into account.*
- 30.4 In the absence of specific information on the 'stock under consideration', generic evidence based on similar stocks can be used for fisheries with low risk to that 'stock under consideration'. However, the greater the risk the more specific evidence is necessary to ascertain the sustainability of intensive fisheries.*

### **Ecosystem considerations**

- 31. Requirement: Adverse impacts of the fishery on the ecosystem should be appropriately assessed and effectively addressed. Much greater scientific uncertainty is to be expected in assessing possible adverse ecosystem impacts of fisheries. This issue can be addressed by taking a 'risk assessment/risk management approach'. For the purpose of development of ecolabelling schemes, the most probable adverse impacts should be considered, taking into account available scientific information, and traditional, fisher or community knowledge provided that its validity can be objectively verified. Those impacts that are likely to have serious consequences should be addressed. This may take the form of an immediate management response or further analysis of the identified risk. In this context, full recognition should be given to the special circumstances and requirements in developing countries and countries in transition, including financial and technical assistance, technology transfer, and training and scientific cooperation.*

*The following criteria are to be interpreted in the context of avoiding high risk of severe adverse impacts.*

- 31.1 Non target catches, including discards, of stocks other than the 'stock under consideration' are monitored and should not threaten these non-target stocks with serious risk of extinction; if serious risks of extinction arise, effective remedial action should be taken.*
- 31.2 The role of the 'stock under consideration' in the food-web is considered, and if it is a key prey species in the ecosystem, management measures are in place to avoid severe adverse impacts on dependent predators.*

- 31.3 *There is knowledge of the essential habitats for the 'stock under consideration' and potential fishery impacts on them. Impacts on essential habitats and on habitats that are highly vulnerable to damage by the fishing gear involved are avoided, minimised or mitigated (Code of Conduct 7.2.2). In assessing fishery impacts, the full spatial range of the relevant habitat should be considered, not just that part of the spatial range that is potentially affected by fishing.*
- 31.4 *In the absence of specific information on the ecosystem impacts of fishing for the unit of certification, generic evidence based on similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk the more specific evidence is necessary to ascertain the adequacy of mitigation measures.*

### **Methodological aspects**

#### *Assessing current state and trends in target stocks*

32. *There are many ways in which state and trends in stocks may be evaluated, that fall short of the highly quantitative and data-demanding approaches to fish stock assessment that are often used in developed countries. However it should be noted that, to the extent that the application of such methods may result in greater uncertainty about the state of the 'stock under consideration', more precautionary approaches to managing fisheries on such resources could be required which may necessitate lower levels of utilization of the resource. There is a variety of management measures commonly used in small scale or low value fisheries that nonetheless can achieve quite adequate levels of protection for stocks in the face of uncertainty about the state of the resource. A past record of good management performance could be considered as supporting evidence of the adequacy of the management measures and the management system.*

### **7.4.6 Procedural and institutional aspects**

This part of the guidelines addresses the three principal procedural and institutional matters that any ecolabelling scheme should encompass: (1) the setting of certification standards, (2) the accreditation of independent certifying bodies, and (3) the certification that a fishery and the product chain of custody are in conformity with the required standard and procedures.

Except for the issue of an independent panel as ultimate appellate body, consensus on this part of the guidelines was reached early in the negotiation process. From the beginning of the ecolabelling discussion in FAO fora, countries supported the principle of independent and transparent third party certification through competent, reliable and accountable bodies. Many of the

provisions in this section are geared towards assuring the application of this principle.

In this context, it is notable that some countries felt strongly the need for MSC to adjust its governance structure in order to assure complete independence between its functions as the owner and promoter of an ecolabelling scheme and the functions of accreditation and certification, including the sensitive aspect of dealing with complaints. In order to achieve consistency with the FAO guidelines, MSC has subsequently appointed an independent objections panel chair to ensure the impartiality of any panels formed to hear appeals against proposed certification decisions. This appointment served to separate the objections process and related decisions from the MSC's Board of Trustees (MSC, 2006).

Further, there was broad consensus on the need to engage all interested parties in the standard-setting process in a consultative and participatory manner. A number of governments and industry groups felt that the MSC process did not accomplish this requirement in its initial phase.

#### *Options for governance structures*

The guidelines are not overly prescriptive on other aspects of the governance structure beyond the above-noted separation between ownership and accreditation functions. This allows for ecolabelling schemes to be established by a government, an intergovernmental organisation, a non-governmental organisation, or a private industry association. There are also various options for the geographical range of a scheme – national, regional or international in scope (paragraph 37).

#### *Guidelines for the setting of standards for sustainable fisheries*

The setting of standards is among the most critical tasks of any ecolabelling scheme. The standards reflect the objectives for sustainable fisheries that are being pursued through the scheme. Standards comprise quantitative and qualitative indicators of the governance system or management regime of a fishery as well as of its outcome in terms of sustainable fisheries and conservation of marine fishery resources and related ecosystems (paragraph 40).

The principal normative basis for the procedural requirements in standard setting is given by the WTO TBT, ANNEX 3 *Code of Good Practice for the Preparation, Adoption and Application of Standards* and the ISO/IEC Guide 59 Code of good practice for standardisation of 1994. More recent work in this area has been done by the ISEAL Alliance which published in early 2006 the final version of a Code of Good Practice for Setting Social and Environmental Standards (isealliance.org). At the core of standard-setting norms are the ideas of consultation and participation of interested parties in a transparent and well-informed process of standard setting that provides for appropriate notification and minimum time periods for commenting.

The functions of a standard-setting organisation or arrangement include the setting, reviewing, revising, assessing, verifying and approving of standards. Where there is no specialised body, the organisational structure of a standard-setting arrangement should include, *inter alia*, a technical committee of independent

experts and a consultation forum whose mandates are well established (paragraphs 44 and 45).

The guidelines explicitly identify the various interested parties that ideally should participate in the development of standards of sustainable fisheries. These include representatives of fisheries management authorities, the fishing industry, fishers organisations, the scientific community, environmental interest groups, fish processors, traders and retailers as well as consumer associations (paragraph 54). The inland fisheries expert group added fishing communities and hatchery managers to this list of interested parties.

An innovative feature is the requirement that, in developing or revising a standard, an appropriate procedure should be put in place to validate the standard with respect to the minimum requirements for sustainable fisheries as laid out in the guidelines. There is also a call for standards to not encompass criteria or requirements that are of no relevance for sustainable fisheries or could cause unnecessary barriers to trade or mislead the consumer (paragraph 63).

#### *Guidelines for accreditation*

The purpose of accreditation is to provide assurance that certification bodies responsible for conducting conformity assessments with sustainability standards and chain of custody requirements are competent to carry out such tasks. The guidelines lay down the requirements for accreditation organisations to perform this task professionally in a transparent, impartial, independent, and accountable fashion. The primary normative basis is the ISO Guide 61, *General Requirements for assessment and accreditation of certification/registration bodies*, 1996.

The conditions for maintaining, extending, suspending and withdrawal of accreditation are also spelled out in the guidelines as is the responsibility of the accreditation body in relation to the use of accreditation marks, symbols and logos and how to prevent their misleading use in advertisements, etc.

Past experience with ecolabelling schemes points to the importance of having solid procedures to address and resolve complaints in an impartial and independent manner. In this regard, the guidelines spell out the need for the establishment of an impartial and independent committee which, in the first instance, should attempt to resolve any complaints through discussion or conciliation and, if this fails, in the second instance provide a written ruling to the accreditation body and the parties concerned (paragraph 83). The guidelines, however, explicitly state that this provision would not exclude recourse to other forms of legal and administrative processes as provided for in national legislation or international law (paragraph 86).

#### *Guidelines for certification*

Certification is an integral and indispensable part of any ecolabelling scheme. In respect to fisheries ecolabelling schemes, it provides assurance to buyers and consumers that a certain fish or fishery product comes from a fishery that conforms to the established standard for a sustainable fishery. In keeping with the Principles, impartial certification based on an objective assessment of all relevant factors

ensures that ecolabels convey truthful information. This is a necessary condition for the ecolabelling scheme to attain its objectives.

The guidelines provide for two types of certification, certification of the fishery itself, including the production of stocking material in the case of inland fisheries, and certification of the chain of custody between the time the fish is harvested and the time the fish or fishery product is sold to the final consumer. The chain of custody assessment examines whether adequate measures are in place to identify fish from a certified fishery at subsequent stages of fish processing, distribution and marketing. While separate certificates may be issued for the fishery and for the chain of custody, fish and fishery products that are labelled to indicate to the consumer their origin from a sustainable fishery require both types of assessments.

As is the case for accreditation organisations, the guidelines lay down the requirements for certification bodies to perform their tasks professionally in a transparent, impartial, independent, and accountable fashion. The primary normative basis includes ISO Guide 62, *General Requirements for bodies operating assessment and certification/registration of quality systems*, 1996, ISO/IEC Guide 65, *General requirements for bodies operating product certification systems*, 1996, and Article 5 of the WTO Agreement on Technical Barriers to Trade.

Beyond the general ISO requirements appropriately adapted to the case of sustainable fisheries, the guidelines contain specific provisions that acknowledge the great diversity of situations and conditions under which fisheries are conducted and managed. To ensure non-discrimination, the access to the services of a certification body should be open to all types of fisheries, whether managed by a regional, governmental, parastatal or non-governmental fisheries management organisation or arrangement. Further, access to certification should not be conditional upon the size or scale of the fishery, nor should certification be conditional upon the number of fisheries already certified (paragraph 112).

Non-discrimination in access to certification services is also the intent of the provision on the certification fee structure (paragraph 125).

In establishing the fee structure and in determining the specific fee of a certification assessment, the certification body should take into account, inter alia, the requirements for accurate and truthful assessments, the scale, size and complexity of the fishery or chain of custody, the requirement of non-discrimination of any client, and the special circumstances and requirements of developing countries and countries in transition.

Given the highly dynamic nature of fisheries, the guidelines contain detailed provisions on the maintenance, renewal and possible suspension and withdrawal of certification. They call for periodic surveillance and monitoring of the fishery and chain of custody at appropriate time intervals (paragraph 128), prompt notification by the client of intended changes to the management of the fishery or chain of custody (paragraph 129), and reassessments in the event of changes significantly affecting the status and management of the fishery or chain of custody, or if analysis of complaints and other information indicates that the

certified fishery and/or chain of custody no longer comply with the required standard (paragraph 130).

The period of validity of a certificate should not exceed five years in the case of a fishery and three years in the case of the chain of custody (paragraph 131). Given regular monitoring and auditing exercises and a full reassessment, the validity of certification can be renewed for the same time periods (paragraph 132).

The guidelines place the responsibility on the certifying body to specify the conditions under which certification may be suspended or withdrawn (paragraph 133). If a certification is withdrawn or suspended, the certifying body should require that a certified fishery and/or chain of custody discontinues use of all advertising matter that contains any reference thereto and returns any certification documents. The certification body also has the responsibility of informing the public about the withdrawal or suspension after the appeals process is exhausted (paragraph 134).

Assurance of the chain of custody is complex in fisheries because of the often large number of fishing vessels, landing places and localities of processing, marketing and distribution. In recognition of rapid technological progress in traceability, the physical segregation of certified from non-certified fish and fishery products was not considered to be an indispensable requirement in all instances, as had initially been proposed by the expert consultation. However, the guidelines provide for detailed chain of custody requirements and monitoring and auditing procedures by the certification body (paragraphs 135–140).

In recognition of the proliferation of unsubstantiated product claims and logos in respect to fish and fishery products, the guidelines are very specific about the responsibilities of the certification body, accreditation body or owner of the ecolabelling scheme over the use and control of certification claim, symbol and logo. They are required to ensure that symbols or logos should not relate to claims that are of no relevance for sustainable fisheries or could cause barriers of trade or mislead the consumer (paragraph 141). Only products from certified sources can carry a mark/claim/logo (paragraph 142), no fraudulent or misleading use can be made with their use and display (paragraph 143), and suitable action must be taken to deal with incorrect references to the certification system or misleading use of symbols and logos found in advertisements, catalogues, etc. (paragraph 145).

#### *Resolution of complaints and appeals*

Within the procedural part of the guidelines, this section on the resolution of complaints and appeals relating to certification has been intensely discussed in the negotiation process. The Expert Consultation proposed to include in this section an independent panel external to the ecolabelling scheme as an ultimate appellate body. This panel which would consider in last instance appeals of a finding or decision concerning the conformity assessment only, thus excluding the chain of custody assessment, would have been convened and serviced by FAO. All costs relating to it would have had to be borne by the appellant.

The idea of the independent panel was derived as an added precaution to ensure independence in addressing complaints, particularly given the high proportion of

fish and fishery products internationally traded, the likelihood of cross-border complaints, and the often paramount role of governments in fisheries management. Governments, as a general rule, do not like to be assessed by, and subject to, decision-making through non-governmental entities, especially on a matter as complex and controversial as fisheries management.

There was not unanimous support for the inclusion of an independent panel in the FAO guidelines. Several countries felt that possible recourse to other forms of legal and administrative processes as provided for in national legislation or international law would provide adequate safeguards to seek redress in the case of flawed rulings within the ecolabelling scheme's internal complaint and appeal procedures. Other countries expressed a strong desire for an independent panel, probably because of concerns about access to other systems of ruling, e.g. the courts, and timely rulings.

However, after careful examination and review of past practices, it became evident that FAO's envisaged role in servicing such an independent panel would be in conflict with the Organization's basic text. While FAO's basic text foresees the convening of expert panels, their constitutional purpose, as evidenced also by past practice, is to provide advice to the Director General on specific subjects. The independent panel, on the other hand, is an appellate body whose purpose is of a judicial nature and not to give advice to the Director General.

## 7.5 Conclusions

In the area of ecolabelling, the FAO guidelines for marine capture fisheries are a unique voluntary international instrument that establishes minimum standards in procedural and substantive terms. The guidelines can help to prevent the proliferation of non-credible ecolabels, contribute to the creation of an equal playing field by recognising the special conditions and requirements of fisheries in developing countries and countries in transition, provide clarity on equivalence of ecolabelling schemes and non-discrimination, avoid unnecessary barriers to trade, and establish the legitimacy of ecolabelling applied to fisheries.

Time will show whether the guidelines will succeed in all these aspects. One area of special attention for FAO will be the promotion of participation of developing country small-scale fisheries in ecolabelling schemes. These fisheries support millions of fishers and contribute directly and significantly to poverty alleviation and food security. The sustainability of these fisheries is critical for maintaining and enhancing the contribution of fisheries to national well-being.

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# 8

## Voluntary environmental and social labels in the food sector

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**Abstract:** Since the late 1990s environmental and social labels have become widespread in developed countries. The most common environmental and social certification labels in the food sector are organic agriculture, fair-trade and the Rainforest Alliance. Sales of labelled products have risen rapidly over the past ten years and the outlook is for continued market growth, albeit at a lower rate. Producers may benefit from better market access and, in many cases, a price premium. Additional benefits can include higher profitability as well as non-economic benefits such as enhanced self-esteem, social image and relationships with business partners. However, a substantial investment in time and money is often needed for certification and compliance with standards. The cases of organic bananas and fair-trade coffee illustrate the potential benefits and costs of these labelling systems for farmers in developing countries.

**Key words:** certification, labels, markets, fair trade, organic.

### 8.1 Introduction

Since the early 1990s, a variety of voluntary certification labels have become available to the agricultural industry. These include the labels associated with voluntary environmental and social standards. Such standards have been developed by a wide array of organizations, from both the public and private sectors, at local, national or international level (FAO 2007). Private sector labels include labels developed by businesses (e.g. food manufacturers and retailers) and those created by not for profit NGOs. The latter type of labels covers a wide range of

issues such as environmental protection, labour rights, safety and health at work, social equity and the welfare of local communities. A growing number of agricultural producers and traders have sought to obtain certification against one or more of these standards for a variety of reasons. Some of the labelling schemes may generate a price premium. Other possible benefits lie in improved market access and stability. Some schemes help rationalize production, reduce costs, improve labour management and enhance the morale and participation of workers. Others help preserve productive natural resources. Sometimes the main reason for adoption is the need to improve the company's image and show its commitment to social responsibility. Among the environmental and social labels, the most common in the agriculture sector are the Rainforest Alliance, organic agriculture and fair trade labels.

This chapter only deals with labels that are associated with voluntary environmental and social certification programmes,<sup>1</sup> which producers are free to adopt or not. Labels related to mandatory governmental standards (officially named 'technical regulations') are outside its scope.

## **8.2 Background: environmental and social issues in agriculture**

The rise of certification and labelling schemes aiming at sustainable agriculture results to a large extent from growing consumer awareness of the adverse environmental and social effects of large-scale commercial farming. In particular, the expansion and intensification of production in large plantations in the 1980s and early 1990s gave rise to a series of environmental problems. The expansion was sometimes done at the expense of forest or other natural vegetation. More importantly, agricultural production for export is generally intensive, with high levels of external inputs, and often takes place in monoculture plantations organized along agro industrial lines. Most plantations rely on the frequent use of agrochemicals to maintain fertility and limit losses caused by pests. Inappropriate production practices have often led to pollution of land, watercourses and aquifers, and a reduction in biological diversity.

As consumers have become increasingly sensitive to environmental issues, intensive agricultural production has attracted growing attention. Some industries (e.g. bananas, palm oil) have come under close scrutiny. Strong pressure from non-governmental organizations (NGO), negative media coverage and a shift in consumer preference towards 'ecofriendly' products have led some companies to take measures to reduce the adverse impacts on the environment. Solutions have been sought to the most pressing problems. The management of input and output flows has been rationalized in many farms. Waste disposal has improved considerably since the late 1990s. Collection of plastics, composting of organic rejects and filtering of wastewater have become common practices on many plantations.

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<sup>1</sup>In certification, compliance with the standard is verified by an independent third party.

However, the pollution caused by the intensive use of agrochemicals in monoculture production remains a challenge, as changes in input use may directly affect productivity. Monoculture attracts a wide range of pests and diseases, notably fungal diseases, which are difficult to combat in tropical climates.

Beside its negative environmental impact, the use of pesticides may also have adverse effects on the health of plantation workers and neighbouring communities. Further, the long-term toxicity of an authorized pesticide may be discovered only many years after its approval was granted. Various cases of soil contamination by the indiscriminate use of pesticides that were legal for long periods have been reported in a number of countries.

The agriculture sector has faced social problems related to the non-respect of labour rights. In several instances, the conventions of the International Labour Organization (ILO) and even national labour laws were not enforced, leading to abuses such as child work, excessive working hours, discrimination, sexual harassment, non-respect of health and safety regulations and absence of provision of medical assurance. Another frequently debated social issue in agriculture is the right to freedom of association and collective bargaining, as formulated in ILO conventions No. 87 (1948) and No. 98 (1949). These problems have coincided with growing consumer awareness of the 'ethics' of food production and trade due in part to the sensitization campaigns launched by various NGOs working in areas such as human rights, social development and 'fair trade'. Issues such as conditions of work, wages of farm labour or the price paid to small producers in developing countries attracted public attention in developed countries. Consumer associations and other groups now want guarantees that workers' health is not put at risk by the lack of adequate safety measures on the farm or the use of pesticides known to be hazardous. They are increasingly interested in labour rights issues such as freedom of association or the right to join an independent trade union, as well as in 'fair' remuneration of farm workers and small producers.

Under pressure from NGO campaigns, retailer demands and increased consumer awareness of ethical trade in the importing countries, companies have taken steps to improve the situation of their work force. This tendency was first apparent in the marketing of imported handicraft products, as exemplified by shops guaranteeing their customers that their rugs were not produced using child or forced labour. In the 1990s, the movement reached larger manufacturers of consumer goods (e.g. garments and sport shoes), demanding that they exert a closer monitoring of the working conditions in their subsidiaries worldwide. Social concerns have also reached the agricultural sector and some progress has been observed in recent years.

## **8.3 Main environmental and social labelling schemes in agriculture**

### **8.3.1 Basic principles of certification and labelling schemes**

Certification is a written guarantee by an independent certification body that a

production process or a product meets the criteria or requirements contained in a certain standard. The certification body is a third party that has no interest in the economic relationship between the supplier and buyer. The basic elements of a certification system (also called certification 'programme' or 'scheme') are the standard and the system to control the compliance of the certified entity with the standard. The object of certification can be a product or a process. Environmental and social labels are generally aimed at the production process (and sometimes also the trading process, as in fair trade standards). These standards may focus on environmental issues such as soil conservation, water protection, pesticide use or waste management; on social issues such as worker rights, occupational health and safety; or on other issues such as food safety. The improvements can result in the protection of local resources, healthier workers and other benefits for producers, consumers and local communities. The certification is voluntary when producers freely decide whether or not they want to certify their production process and facility.

Certification is used to demonstrate that the product has been produced in accordance with a certain process or has certain characteristics. It can differentiate the product from other products, which can be helpful to promote the product in different markets, improve its market access and, in some cases, fetch a better price. Certification is mainly used when the producer and the consumer are not in direct contact, as in the international market. In those cases where there are doubts on the effectiveness of the regulatory system of the exporting country, certification may help exporters create trust (Cuffaro and Liu, 2007).

Producers can choose among many different types of certification. The decisions on whether or not to seek certification and what type of certification to choose are important choices that influence farm management, investments and marketing strategies. Each certification programme has different objectives and thus different requirements that the producer must comply with in order to be certified. The cost of complying with the standard and of certification depends on the types of changes the producer will have to make and on the type of certification programme chosen. In general, the cost of certification is based on the time spent by the inspector(s) doing the farm inspection (farm audit) and on their travel expenses.

### **8.3.2 Certification labels frequently used in the agricultural export industry**

There are a number of certification and labelling programmes that apply to agricultural exports. This chapter covers those environmental and/or social labels which are the most significant to agricultural trade in terms of certified quantities, namely organic agriculture, fair-trade and Rainforest Alliance. The selected labelling schemes are all voluntary, i.e. producers and traders are free to choose whether to seek certification or not. However, these schemes differ widely in terms of ownership, objectives, scope, requirements, criteria, indicators and monitoring procedures. All are privately owned standards, except for organic agriculture. The Rainforest Alliance standard is a single standard, owned by a non-governmental

**Table 8.1** Main characteristics of selected labelling schemes

	Organic	Fair trade	Rainforest Alliance
Number of standards:	> 10	> 4	1
Ownership:	Governments, NGOs	NGOs, Certification bodies	RA-SAN (NGO)*
Focus of standard:	Environmental	Social equity	Environmental
Countries where it applies:	All	Developing countries	Developing countries
Certification by:	Accredited certification bodies (CB)	FLO-Cert for FLO** standard. CB for their own standards	Sustainable Farm Certification, Intl
Main beneficiaries:	All types of farms	Small farmers	Large farms

\*Rainforest Alliance-Sustainable Agriculture Network

\*\*Fairtrade Labelling Organizations International

organization, while there are several fair trade standards. Similarly, there is a wide array of organic agriculture standards, some privately owned, some governmental, some intergovernmental (Table 8.1).

*Organic agriculture* is a production method which manages the farm and its environment as a single system. It utilizes both traditional and scientific knowledge to enhance the health of the agro-ecosystem in which the farm operates. Organic farms rely on the use of local natural resources and the management of the ecosystem rather than external agricultural inputs such as mineral fertilizers and agrochemicals. Organic agriculture therefore rejects synthetic chemicals and genetically modified inputs. It promotes sustainable traditional farming practices that maintain soil fertility such as fallow and nutrient recycling (e.g. compost and crop litter).

There is a variety of organic agriculture standards (see Chapter 6). Historically, the first standards were developed by non-governmental organizations (e.g. organic farmer associations, trade associations, certification bodies). Then, as the market for organics grew, governments started to regulate organic labelling and develop national standards. France was among the first governments to adopt a regulation on organic farming. Now, most developed countries have a public standard and regulations governing the production, marketing and labelling of organic products. Finally, some intergovernmental entities have adopted laws and standards. The European Union adopted it in 1991 (Regulation EEC 2092/91). In 1999, the Committee on Food Labelling of the Codex Alimentarius Commission adopted Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods. According to the Codex definition:

*organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking*

*into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system. (CAC, 1999)*

Organic agriculture is one of several approaches to sustainable agriculture, and many of the techniques used (e.g. inter-cropping, rotation of crops, double-digging, mulching, integration of crops and livestock) are practised under various agricultural systems. What makes organic agriculture unique, as regulated under various laws and certification programmes, is that: (i) almost all synthetic inputs are prohibited, and (ii) ‘soil building’ crop rotations are mandated.

The basic rules of organic production are that natural inputs are approved and synthetic inputs are prohibited, but there are exceptions in both cases. Certain natural inputs determined by the various certification programmes to be harmful to human health or the environment are prohibited (e.g. arsenic). As well, certain synthetic inputs determined to be essential and consistent with organic farming philosophy are allowed (e.g. insect pheromones). Lists of specific approved synthetic inputs and prohibited natural inputs are maintained by all certification programmes. Many certification programmes require additional environmental protection measures in addition to these two requirements. While many farmers in the developing world do not use synthetic inputs, this alone is not sufficient to classify their operations as organic.

## 8.4 Fair trade

According to the major four international NGOs involved in fair-trade,<sup>2</sup> fair trade is a trading partnership, based on dialogue, transparency and respect, which seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers – especially in the South. Fair trade organizations are engaged actively in supporting producers, awareness raising and in campaigning for changes in the rules and practice of conventional international trade.

There is a variety of fair trade standards developed by a number of NGOs. In the agricultural sector, the most widespread system is that of the Fairtrade Labelling Organizations International (FLO), an international NGO based in Germany. FLO comprises 20 national fair trade labelling NGOs, mostly from developed countries in Europe, North America, Asia and Oceania. FLO’s member organizations work with small producers and farm workers to increase their security and economic self-sufficiency, and empower them in their own organizations. The FLO system relies on certification, i.e. compliance with the FLO standard is verified by a third party that does not have an interest in the business transaction. FLO is responsible

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<sup>2</sup>The International Fair Trade Association (IFAT), FLO (Fair trade Labelling Organizations International), NEWS! (Network of European Worldshops) and EFTA (European Free Trade Association).

developing the standard and supporting producers, but the fair trade certification is carried out by a separate organization, FLO Cert, a not for profit NGO. The FLO fair trade system guarantees agricultural producers a minimum price and a price premium on product sales.

FLO has developed and regularly updates detailed standards for crops. To obtain certification, producer associations must function in a democratic manner. There are also rules on how the fair trade premium has to be spent and requirements for the protection of the environment. For plantations, there are a number of requirements related to labour rights: treatment of workers, freedom of association and collective bargaining, workers' housing and sanitation; workers' health and safety; and no child or forced labour. In addition, the producer must comply with the environmental and social laws in the producing country and demonstrate continual improvement in annual inspections (audits).

Other fair trade certification systems have emerged recently. They have been developed by private certification bodies, notably Ecocert (France) and IMO (Switzerland). The International Organization for Standardization has debated the relevance of developing a standard for fair-trade, but no decision has been taken so far. To date, no government (except France) has undertaken to regulate fair-trade. This means that the term 'fair trade' is not legally protected and can be used by anyone under any trading conditions. However, the labels used by fair trade NGOs such as those listed above are private trade marks protected by law.

It should be noted that a number of *alternative trading organizations* (ATOs) import foods under fair trade principles although they do not belong to the FLO system. They usually do not use certification, but instead themselves monitor the compliance of their suppliers with their standard (second party verification). Some of these organizations have existed for several decades, well before the creation of FLO, and import significant quantities of foods. Examples include GEPA (in Germany), Oxfam VW (in Belgium) and the Alter Trade Group (in Japan). This chapter uses the term 'Fairtrade' created by FLO to designate those fair trade products which are certified under the FLO system.

#### **8.4.1 Rainforest Alliance**

The Rainforest Alliance is a not-for-profit NGO based in the United States and Costa Rica dedicated to environmental conservation. It is a founding member of the Sustainable Agriculture Network (SAN), a group of non-governmental organizations working for environmental conservation and development. The Rainforest Alliance certification aims to promote good farm management practices for natural resource conservation and to improve worker conditions and community relations and environmental management. In collaboration with the producers, SAN has developed standards for fruits, coffee, tea, cocoa, fern and cut flower production.

The environmental requirements of the standard include: conservation of forests, streams and wildlife; soil and water management; storage, transport and application of agrochemicals; integrated pest management; criteria for waste management; and a farm management plan that integrates the environmental and

social standards. Some of the criteria, particularly on the social aspects, require compliance with national legislation and internationally recognized conventions.

The Rainforest Alliance certification for farms is carried out by an international certification company, Sustainable Farm Certification International. After the initial audit, there is an inspection every year. All farms must achieve a minimal level of compliance with SAN standards and demonstrate continual performance improvements to maintain certification. The producer pays the cost of farm inspections and an additional annual fee to SAN that depends on the area of land to be certified. The certification mark is mostly used in promotional activities, but is increasingly being used directly on products as well.

The Rainforest Alliance certification generally requires higher environmental and social standards in relation to conventional production methods. An important characteristic is the use of a point system that allows for certain flexibility. Also the certification allows for the use of agrochemicals under certain guidelines. These characteristics may be important for producers in particular farming situations. The Rainforest Alliance does not guarantee a price premium but claims that most certified producers can negotiate a price premium ranging between 0 and 30 per cent because of increased quality and widespread recognition for its label (Liu, 2009). Information on premiums is difficult to obtain. Whether certification will give a financial benefit to the producer may depend on market recognition, and the negotiations between buyers and sellers.

In February 2009, the Rainforest Alliance's website reported that it had certified 31 158 farms in 19 countries for a total area of 527 090 hectares. The Alliance estimates that 1 250 000 farmers, farmer workers and their family members directly benefit from the programme (see [www.rainforest-alliance.org](http://www.rainforest-alliance.org)).

## 8.5 Main markets for labelled foods

There is ample evidence that sales of foods with environmental and social labels have expanded rapidly since the late 1990s. However, there is a lack of official data on the volumes and values of sales, as national agricultural census data and official trade statistics usually do not distinguish between certified and non-certified products. In the case of organic products, a few market research firms and NGOs have started publishing data. In the case of the Fairtrade standard, FLO and its member organizations monitor the marketed volumes and (sometimes) values. Data on total Rainforest Alliance product sales are not available, but this organization provides some estimates for the volumes of particular commodities (e.g. coffee, bananas). In order to guide decision-making and policy formulation, it will be necessary to establish systems for collecting data on the markets for certified products in a more systematic manner.

Developed countries are the main markets for certified products with more than 95 per cent of sales, but there is a rapid increase in some other countries such as Brazil, Argentina and China (Liu *et al.*, 2004). In Europe, Western European

countries account for the bulk of the market (more than 90 per cent), but increases have occurred in Central Europe (Czech Republic, Slovenia, Slovakia and Hungary). Switzerland has a very high per capita consumption (*idem*). There is a large variation in consumption per capita across the different EU countries, with Germany, United Kingdom and France leading by volume as the most important markets (*idem*).

There is a wide range of environmental and social labels available in the stores of developed countries. This is a positive development, as it gives consumers information and the possibility to choose the products that address their concerns about sustainability. However, the proliferation of labels may also create confusion among consumers, who do not always know what a label guarantees, and there is the risk of deception.

The remainder of this section describes the markets for organic and Fairtrade certified products, which are those for which more complete sales data are available.

### 8.5.1 Organic-labelled foods

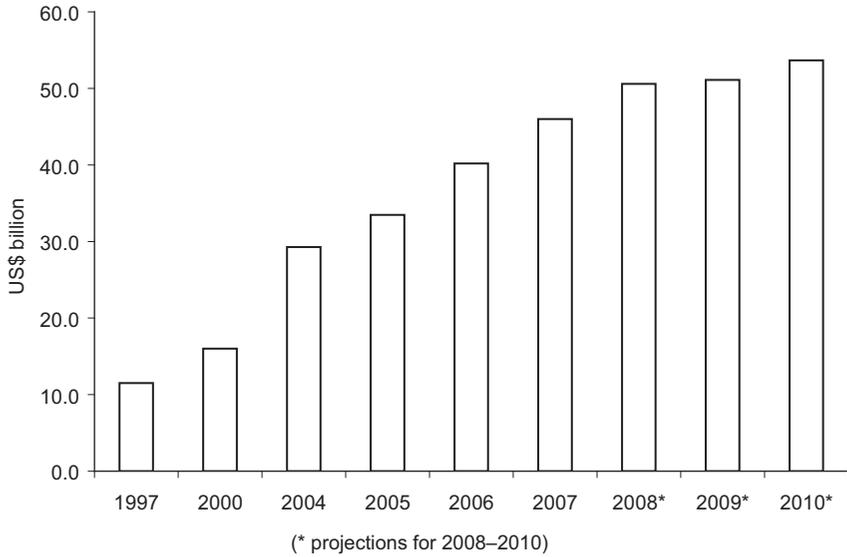
Based on estimates collected from various studies and industry sources,<sup>3</sup> global retail sales of organic-labelled foods were estimated at some US\$40 billion in 2006. Few final figures are available for 2007 yet, but Organic Monitor (2009) estimates that sales reached US\$46 billion. They have increased four-fold over a decade, growing from approximately US\$11 billion in 1997 (Fig. 8.1). Double-digit growth was common for many years, but it has slowed since the second half of 2008 due to the economic crisis.

It is estimated that 98 per cent of the sales of certified organic products take place in developed countries. North America and Europe account for the bulk of retail sales as illustrated in Fig. 8.2. Other sizeable markets are Japan, Australia and New Zealand. Although developing countries presently account for only a fraction of sales, consumption is rising steadily in some of them, in particular in the emerging economies of East Asia (Singapore, Malaysia, China, Republic of Korea) and Latin America (Argentina, Brazil, Chile). In these countries, organic sales are overwhelmingly concentrated in the large cities and purchasers originate from the upper classes.

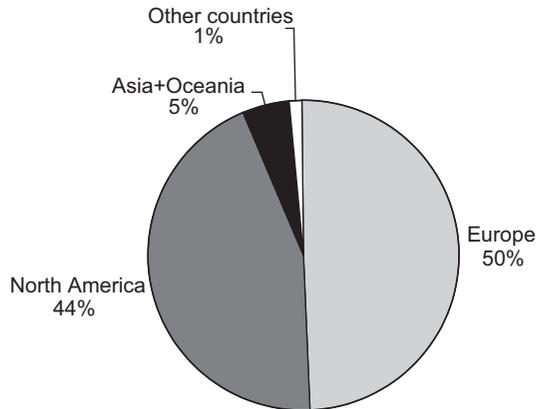
In terms of market share, private organic labels have become somehow marginalized by the development of governmental standards. In most developed countries, governments have regulated the production, marketing and labelling of organic foods since the 1990s (EU) or early 2000s (USA, Japan). However, private organic standards continue to exist alongside public standards due to consumer preferences. In these cases, the food product is certified to two standards (the public and private ones). The percentage of products bearing a private organic label is unknown.

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<sup>3</sup>ITC, Eurofood, SÖL, Organic Monitor and other sources.



**Fig. 8.1** World retail sales of certified organic products (past and projected). Source: Liu (2009).



**Fig. 8.2** Main markets for organic foods (in percentage of world retail sales in 2006). Source: Liu (2009).

### 8.5.2 Fairtrade-labelled foods

Global sales of Fairtrade certified foods reached nearly €2.4 billion (US\$3.5 billion) in 2007 according to the Fairtrade Labelling Organizations International (FLO, 2008).<sup>4</sup> Sales increased by 47 per cent (in euro terms) over their level of

<sup>4</sup>Since this figure only reflects sales of FLO certified foods and does not include sales by alternative trading organizations, the total market value of fair trade food is slightly higher.

2006, and further growth was recorded in 2008. Tropical products such as tea, cocoa, coffee and bananas enjoyed the fastest growth rates. On average, sales expanded by 40 per cent annually over the period 1997–2007. FLO certified products are available in more than 60 countries. The main markets for fair trade products are the United States, the United Kingdom, France, Switzerland and Germany, accounting for nearly US\$2 billion in 2007 (82 per cent of global sales of FLO labelled foods).

By the end of 2007, 632 producer organizations in 58 developing countries in Africa, Asia, the Caribbean and Latin America were certified by FLO (FLO, 2008). FLO estimates that these organizations represent 1.5 million farmers and farm workers and, when counting their families and dependants, overall 7.5 million people benefit directly from fair trade (*idem*). The number of certified producer organizations has trebled since FLO was created in 1997. Some NGOs that do not belong to the FLO system also sell fair trade labelled foods, but the quantities are very small compared to those of FLO labelled foods.

## 8.6 Benefits and costs for producers

The main incentive that spurs producers to seek certification is the expectation of a price premium. Indeed, some environmental and social labels may have a direct value adding impact by enabling producers to obtain higher sale prices. In developed countries, a substantial share of consumers is willing to pay a price premium for products that can offer guarantees that their environmental, health and social concerns with regard to food production are addressed. Under the pressure of declining commodity prices at the end of the 1990s, many agricultural producers have sought to differentiate their products from those of their competitors by targeting premium market segments. Traditionally, product differentiation has been pursued through improving the physical attributes of the goods, be they visible (e.g. grade, shape, colour, physical integrity, variety, packaging) or not (e.g. taste, acidity, sugar content). More recently, however, farmers and processors have started to differentiate their products on the basis of the production process. Environmental and social standards offer an avenue for such differentiation.

These labels are of particular interest to developing economies where they may help to generate employment, raise export earnings, support small producers, improve food security and resilience to climate change, preserve environmental quality and diversify the local economy. Certification is a strategy for producers and exporters to add value to their products and increase the economic viability of small-scale agriculture. Rising demand for certified products creates new market segments where producers may be able to demand price premiums and secure buyers for their products.

Beside the direct price effect, engaging in the certification process may yield other advantages for food producers. The required traceability and record keeping systems may improve the management of the farm or company. They may help

them rationalize production and cut input costs (for example through a more efficient use of agrochemicals). Complying with standards may improve market access through enhanced product quality and improvement in the image of the farm or company. Labour standards may reduce worker turnover, absenteeism and accident and sickness rates, thereby reducing costs and raising productivity. They may lead to better health conditions for farmers and farm workers. Compliance with environmental standards may improve the management of natural resources on which farmer livelihoods depend. They may enhance the farmer's relations with the local community, including its suppliers and lenders. Although they are difficult to quantify in financial terms, these benefits may be significant.<sup>5</sup>

On the other hand, complying with new standards usually entails additional costs for suppliers. Investments are often necessary to upgrade production. Obtaining and maintaining certification is costly, as suppliers have to pay registration and inspection fees. This problem is compounded when farmers produce for different clients requiring different standards. They have to go through several certification processes, which is costly and time consuming. This is one of the negative consequences of the proliferation of certification schemes.

## 8.7 Case study: organic bananas

### 8.7.1 Labelling in the banana industry

Environmental and social labels are becoming more widespread in the banana industry (Liu, 2009). Table 8.2 displays estimates of the export quantities of bananas bearing the fair trade, Rainforest Alliance or organic agriculture label. Exports of bananas bearing those labels were estimated at over 2 million metric tonnes in 2007, accounting for close to 15 per cent of global banana exports. The exact value of retail sales is unknown due to the lack of price data, but the global value was likely to approach US\$3 billion in 2007.

**Table 8.2** Estimated exports and sales of bananas bearing selected sustainable agriculture labels

Standard	Estimated global exports (MT in 2007)	Estimated share of world banana exports (% in 2007)	Estimated sales in 2007 (US\$ million)
Organic agriculture	310 000–330 000	2.2	800
Fair-trade	250 000–260 000	1.7	450
Rainforest Alliance	1 500 000–1 700 000	11	1 800
Total(*)	2 000 000–2 200 000	14.5	2 900–3 000

(\*) the total is less than the sum of the rows due to multiple certification  
Source: Liu (2009).

<sup>5</sup>For a literature review of the impacts of certification in agriculture see Dankers (2003) and Cuffaro and Liu (2007).

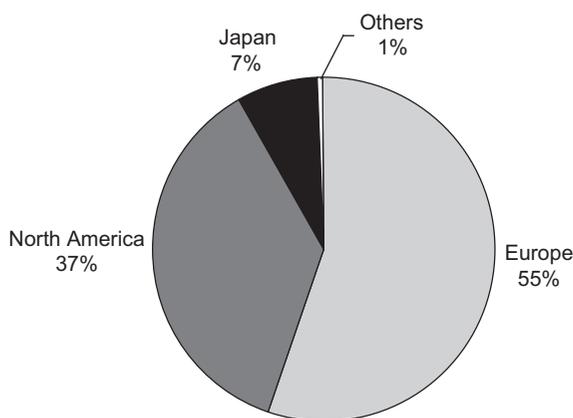
The bulk of certified bananas are exported from developing countries (in particular Latin America and the Caribbean) to developed countries. Among the latter, Europe and North America predominate, accounting for some 90 per cent of imports. Japan follows at a distance, with the Philippines and South America as its primary suppliers. Europe imports organic and fair trade bananas from Latin America, the Caribbean and West Africa. North America imports organic bananas from Latin America.

### 8.7.2 Trade and markets

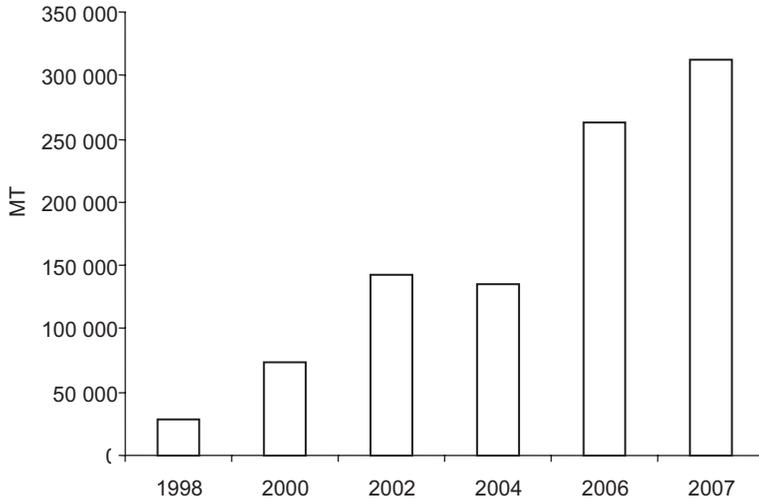
Developed countries account for the bulk of imports of certified organic bananas. Europe, North America and Japan together represent 99 per cent of imports (Liu, 2009). Europe alone accounted for over half of world imports in 2006 (Fig. 8.3). The retail value of organic banana sales worldwide was estimated at US\$800 million in 2007 (Liu, 2009).

World exports of certified fresh organic bananas were estimated to exceed 300 000 metric tonnes in 2007, accounting for over 2 per cent of global sweet banana exports. As can be observed in Fig. 8.4, exports have risen nine-fold since 1998. The rise was particularly strong between 2004 and 2007 for two reasons. First, in 2005 and 2006 production in the Dominican Republic recovered from the damage caused by bad weather in 2004. Second, Ecuador and Peru raised their shipments markedly over these years.

The production of organic bananas shows a strong concentration in the Latin American and Caribbean region. Although no recent figures for production are available, it can be estimated based on the export quantities and certified areas that close to half a million tonnes were produced in 2007. The world's largest exporters of organic bananas are Ecuador, the Dominican Republic, Peru and Colombia.



**Fig. 8.3** Geographical breakdown of global organic banana imports in 2006. Source: Liu (2009).



**Fig. 8.4** World exports of fresh certified organic bananas 1998–2007 (metric tonnes). Source: Liu (2009).

Ecuador's share has soared in the past three years, and in 2007 it accounted for over 40 per cent of global supply.

### 8.7.3 Benefits and costs for producing countries

Recent analyses (Liu, 2009; Roquigny *et al.*, 2008) suggest that there is a price premium at exporter level for developing countries shipping certified bananas. The price premium results from consumer preference for organic foods. The size of the premium varies substantially across producing countries, over time and depending on the chosen standard.

However, the higher FOB prices for organic bananas do not necessarily translate into net gains for exporting countries, as they also reflect higher costs. The strict technical requirements of organic agriculture standards may decrease yields and raise production costs, especially during the transition period. The effects on yields and costs depend on how intensive production was before conversion. Traditional low input farmers may expect yield gains from conversion to organic agriculture methods (Dankers, 2003). However, higher yields are usually accompanied by higher production costs, mainly in the form of increased labour demand. In the cases of conversion from high-input production systems, initial yield declines are often observed, usually recovering to levels slightly below the original conventional yields. Effects on production costs per hectare depend on the agro-ecological context, farm structure and size and farmer skills. Organic cultivation of bananas requires technical skills and investment in time. Some tropical diseases, in particular Black Sigatoka, are difficult to combat with organic methods. They require constant monitoring and labour.

Compliance with the strict environmental requirements of organic standards may improve the management of natural resources on which farmer livelihoods depend. They may enhance the farmer's relations with the local community, including its suppliers and lenders. Although they are difficult to quantify in financial terms, these benefits may be significant. More broadly, organic farming generates a wide range of public goods including the preservation of natural resources (water, air, soil, biodiversity), maintaining amenities and reducing health problems caused by agrochemicals.

It has often been observed that the quality requirements of the new organic market are higher than for the former conventional market. In a case study of the Dominican Republic (Damiani, 2002), price premiums were apparently not sufficient to justify the necessary investments to significantly improve the quality of organic bananas grown by small scale producers, and it was difficult for them to compete in the increasingly demanding international organic market.

Certification costs are a key determinant of the profitability of organic banana cultivation. For small growers, the use of group certification involving an internal control system is important to reduce these costs. Developing internal control systems requires institutional changes in farmer organizations. Group certification can be achieved in two distinct ways. First, through associations, with farmers participating actively in decision making and monitoring, in which cases the certificate is owned by the association. In the second system, the exporter organizes and pays for the certification.

Case studies suggest that a relatively small share of the price premium paid by consumers accrues to the exporting country (Roquigny *et al.*, 2008; Liu, 2009). Most of it is captured by downstream operators in the import market. While the premiums found generally exceeded one dollar per kg at retail level, they only ranged between 5 and 20 US cents per kg at exporter level (accounting for between 5 and 18 per cent of the premium at retail level) depending on the exporting and importing countries examined (Liu, 2009). In percentage terms, the premium varied along the supply chain and was at its maximum at the wholesaler/distributor level. Analysing the evolution of prices along the supply chain, it was found that retailers capture the largest share of the retail price. In the above-mentioned cases, this share ranged between 40 and 48 per cent. This situation highlights the strong bargaining power of large-scale retailers.

In sum, organic labelling enables banana exporters to obtain a higher price, but market distortions prevent them from reaping the full benefits. This reduces the returns to investment in organic production and the incentives for growers to adopt this standard. Also, by generating high retail prices the distortions impede the expansion of the markets for certified bananas. In order to limit market distortions and reap the full benefits of organic labelling, grower organizations should strive to establish short marketing chains on which they can have a sufficient degree of oversight and control. Banana growers should organize in sufficiently large enterprises so that they can reach a critical mass of supply and invest in the necessary facilities to perform the functions of collecting, transporting, packaging and exporting. They must increase the efficiency of management, rationalize

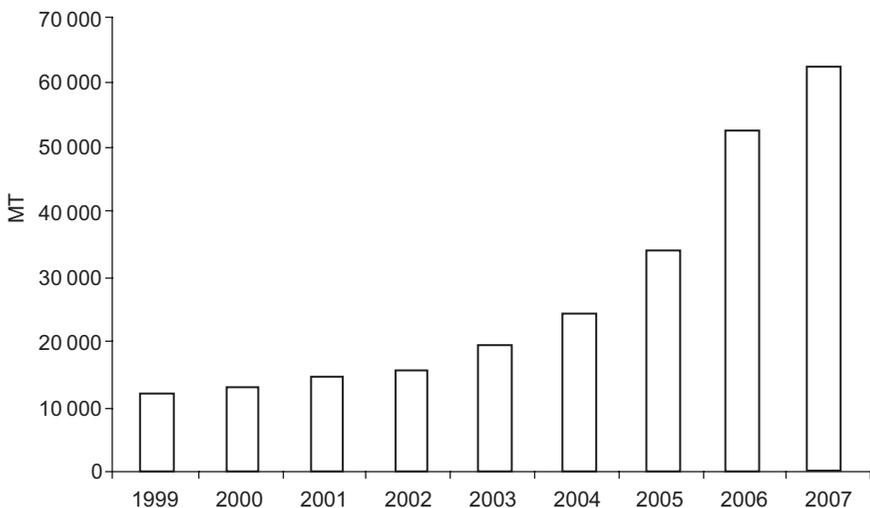
production and achieve scale economies. Where possible, they should try to obtain a stake in import companies in order to have a greater say on the distribution of profit although, in practice, the lack of capital makes it difficult. A more realistic solution in the short run is to market through the fair trade distribution channels. Empirical evidence suggests that the double labelling organic and fair trade ensures better prices for growers.

## 8.8 Case study: fairtrade-labelled coffee

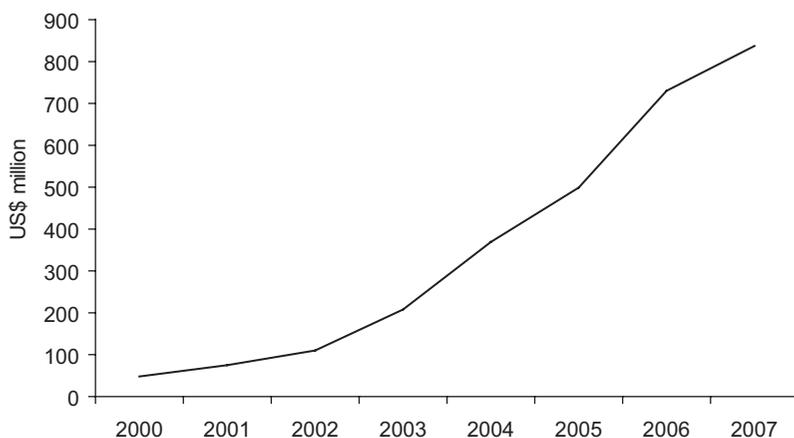
### 8.8.1 Trade and markets

Coffee is by far the most important fairtrade-labelled product and sales of fair trade certified coffee have grown considerably in the last decade (on average +20 per cent per year since 2002). FLO, (2008) indicates that sales of Fairtrade coffee worldwide reached 62 200 metric tonnes in 2007, up 19 per cent from 52 000 metric tonnes in 2006 (Fig. 8.5). North America has become a leading market, accounting for nearly half of this volume. The fair trade coffee market in the United States has grown considerably in recent years, although growth has slowed since 2007.

Fairtrade coffee accounts for some 2 per cent of the total US green coffee imports. TransFair USA estimates that the retail sales of Fairtrade coffee in the United States reached US\$837 million in 2007 (Fig. 8.6), up from US\$730 million in the previous year (+15 per cent). It calculates that Fairtrade coffee represents nearly 4 per cent of the US retail market value. The number of firms (roasters and



**Fig. 8.5** Quantities of FLO-certified coffee sold worldwide 1999–2007 (in metric tonnes). Source: FLO (2008).



**Fig. 8.6** Estimated retail sales value of Fairtrade coffee in the United States. Source: TransFair USA (2008).

importers) licensed by TransFair in the United States has risen steadily since 1999 to 487 firms in 2007.

There is considerable overlap of the organic and fair trade coffee markets. In 2006, approximately 78 per cent of the fair trade coffee sold in the United States was also certified organic while in Canada and the world this reached near 50 per cent on average. This reflects a tendency toward double and even triple certifications; a trend with challenging implications for producers.

Fair trade coffee was exported by 28 countries in 2007 (TransFair USA, 2008). The largest fair trade suppliers were Peru, Mexico, Nicaragua, Indonesia, Ethiopia, Guatemala, Colombia, Uganda and Brazil.

## 8.8.2 Benefits and costs for producers

### *Benefits*

According to FLO (2008), an estimated 700 000 small coffee farmers directly benefit from fair-trade coffee sales. Most belong to one of the 270 organizations of coffee producers that were certified by FLO in 2007.

The FLO system guarantees a Fairtrade Minimum or floor price that is based on the estimated cost of sustainable production. The minimum price ranges from US\$1.01 to US\$1.21 per pound depending on the type of coffee and the country of origin (Table 8.3). When market prices rise above the minimum, i.e. US\$1.21 for many washed arabicas, a small additional premium is paid.<sup>6</sup> For many years that additional premium was US\$0.05 per pound, but in June 2007 it was raised to US\$0.10 per pound. The premium is intended for use by cooperatives for social and economic investments at the community and cooperative level.

<sup>6</sup>For arabica coffees (representing the majority of fair trade certification) the market price is determined by the price of the second position 'C' futures contract at the InterContinental Exchange (ICE).

**Table 8.3** FLO minimum prices for coffee in 2007 (US cents per pound FOB)

Type of coffee	Central America, Africa, Asia	South America and Caribbean
Washed Arabica	121	119
Non-washed Arabica	115	115
Washed Robusta	105	105
Non-washed Robusta	101	101

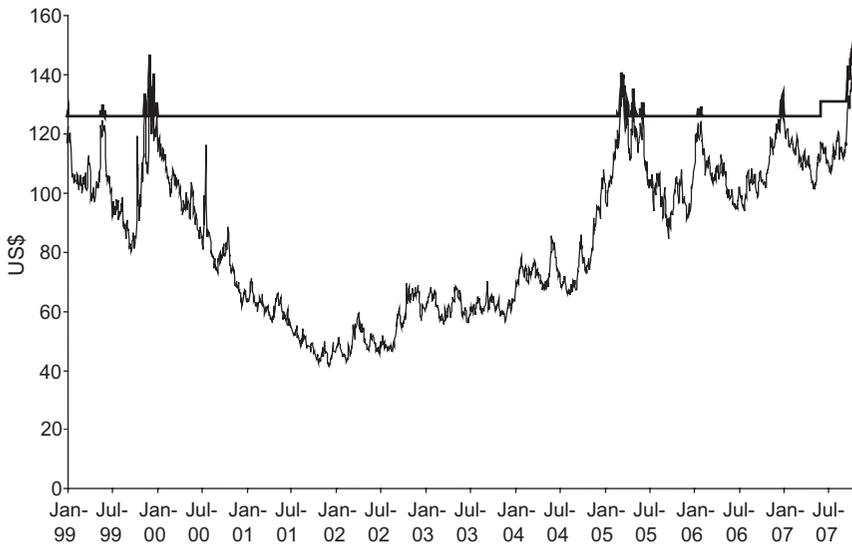
Source: FLO, 2008.

When the coffee is also certified organic, an extra premium applies. FLO raised this extra premium by US\$0.05 per pound to US\$0.20 in 2007. The increase reflects the higher costs of organic production and compliance and also serves as an incentive for greater environmental sustainability.

FLO estimates that the fair-trade system earned farmers an extra income of some €41 million (US\$57.4 million) in 2006. This sum represents an average of more than US\$200 per farmer above what they would have earned selling on the conventional market. TransFair USA (2008) estimates that the quantities sold in the United States alone generated an additional income of nearly US\$19 million for 122 farmer cooperatives in 23 countries.

The first Fairtrade minimum prices for coffee were established by Max Havelaar, a not-for-profit NGO based in the Netherlands, in 1988. Max Havelaar is a founding member of FLO. This system proved very beneficial during the price crisis of the early 2000s. Although the fall in conventional coffee prices caused considerable hardship for small coffee growers across the developing world, the price obtained by Fairtrade growers was often above the international market price (Fig. 8.7). In October 2001, when the market price fell to a record low of US\$0.45 per pound, the price of Fairtrade coffee was 180 per cent higher. Recently, as market prices have stayed above the US\$1.00 range, the relative premiums for Fairtrade coffee have been more modest (Giovannucci *et al.*, 2008). As such, there are questions about the extent to which producers want to continue with the certification when the price differential is small. For many that do continue there are likely to be two reasons: (i) having a longer-term vision of the cyclical nature of commodity pricing, and (ii) recognizing the other benefits of fair trade.

Indeed, although farmer cooperatives often decide to seek fair trade certification because of the guaranteed price premium, case studies (Dankers, 2003) show that other benefits derived from the fair trade system may be more significant in the long run. The success in self-organization seems to be far more important, resulting in better bargaining positions, better credit worthiness and economies of scale. The fair trade system contributes to these organizational successes through capacity building, an initial guaranteed market, linkages with the international market and learning by doing in exporting. In addition, fair trade contributes to quality improvements. The labour criteria of fair trade standards may reduce worker turnover, absenteeism and accident and sickness rates, thereby reducing costs and raising productivity. They may lead to better health conditions for farmers and farm workers.



**Fig. 8.7** Fairtrade price compared to NYBOT/ICE 'C' coffee price. Source: Giovannucci *et al.* (2008) quoting M. Quinlan Transfair USA based on NYBOT/ICE 'C' market prices.

### Costs

The main costs entailed by fair trade derive from the need for farmer groups to modify their internal organization and workings. Similarly as in organic agriculture, Fairtrade certification requires institutional changes in farmer organizations to develop internal control systems. Some organizational changes such as the need for holding general assemblies more frequently, record keeping and hiring independent accountants are likely to raise overhead costs. Yet, there are reasons to believe that growers selling their coffee under the FLO system obtain benefits that more than offset these costs. First, FOB prices tend to be higher and there is a relatively good price transmission from the exporter to the grower, as many Fairtrade groups export directly. When this is not the case, the FLO system aims to ensure that the exporter's margin is not excessive. Second, FLO has a special fund that may partly subsidize the cost of certification at least in the first years.

## 8.9 Conclusions

The number of environmental and social labels used in the food markets of developed countries has increased markedly over the past 15 years. There is a wide range of labelling schemes, each with its own objectives, scope and approach. Although this development gives producers and exporters more choice, it may also create some confusion among consumers, who do not always know what a label guarantees and to what extent its claim to sustainability can be trusted. From the producing country's perspective, the most interesting labels are those that generate

a price premium at producer level and public goods. There is evidence that organic agriculture and fair-trade lead to higher prices for producers and exporters, although a large share of the extra price paid by consumers remains with downstream market operators, in particular retailers.

The market for products labelled as fair-trade and organic has expanded considerably since the mid-1990s and these products are now commonly found in the supermarket chains of developed countries. Growth has slowed since 2008 due to the economic crisis, but sales are expected to continue rising as an increasing number of consumers adopts sustainable modes of consumption. In order to guide decision-making and policy formulation, it will be necessary to establish systems for collecting data on the markets for certified products in a more systematic manner.

Consumers increasingly expect that the foods they purchase address all the dimension of sustainability. Consequently, products bearing multiple certification labels (e.g. organic and fair-trade) have the best market prospects. However, small-scale farmers will need more public support to adapt to the technical challenges and meet the extra costs of some of the standards. In particular, governments and development agencies should support farmer organizations so that they can establish effective systems for quality control and marketing, and provide technical support to their members. Also, more collaboration and coordination among labelling organizations is desirable to limit the burden that multiple certification puts onto suppliers.

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# 9

## Geographic origin and identification labels: associating food quality with location

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**Abstract:** Agricultural and food products differ from others by some characteristics, qualities or reputation resulting essentially from their geographical origin. This specific quality can be promoted with a designation or 'label' referring to the origin location – the geographical indication (GI). There are different motivations for implementing and protecting GIs as recognized intellectual property rights. Indeed, GIs' implementation can add value to origin-linked quality products and so improve livelihoods of rural households. When correctly implemented and managed, they can be a tool for rural development by contributing to local resources preservation and strengthening the organization of local stakeholders. GIs' implementation is a twofold approach: based on voluntary action by producers to define the product's characteristics collectively and to produce the product in accordance with these specifications or code of practice (CoP), GIs can be recognized and registered by public authorities.

**Key words:** geographic origin and identification labels, associating quality with location.

### 9.1 Introduction

Some food products are labelled with famous geographical names or indications linked to their place of production (Fig. 9.1). This type of information is therefore not just an indication of source,<sup>1</sup> but refers to a specific quality and reputation due

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<sup>1</sup>'Indication of source' refers to a sign that simply indicates that a product originates in a specific geographical region, in particular some countries, such as 'Made in Germany', 'Product of the USA' or 'Swiss Made'.



**Fig. 9.1** Product GI logos: (a) Chivito Criollo del Norte Neuquino Consejo Regulador de la Denominación de Origen (Chivito (baby goat) from the Neuquen region – Argentina). Reproduced with permission of the Counsel of Denomination of Origin (b) Darjeeling Tea, India: Darjeeling logo – Registered intellectual property of the Tea Board of India. Reproduced with permission from the Tea Board of India (c) Le Gruyère – Switzerland: Le Gruyère AOC Switzerland, the true Swiss raw milk tradition. Reproduced with permission of Interprofession du Gruyère (d) Idaho Potatoes: a collective trademark registered by the Idaho State. Reproduced with permission of the Idaho Potato Commission (USA).

to the local natural and human resources of a delimited area. Some of these are internationally well known such as Champagne wine from France or Parmigiano-Reggiano cheese from Italy, while others have only a national or local reputation.

In fact, concerning the wine sector in particular, geographical indications have long been in existence. The first references can be found in the Bible, where wine of Samaria, wine of Carmel, wine of Jezreel or wine of Helbon are mentioned, and references continued throughout Antiquity and the Middle Ages. Then official rules were implemented. Regarding cheese products, Roquefort cheese was first mentioned in historical records in 1070. Then in the 15th Century, King Charles VI of France granted the villagers of Roquefort the exclusive rights to produce Roquefort cheese that should be matured in nearby communal caves, and thus producers of counterfeit Roquefort risked punishment. With regard to wine, the oldest regulation referring to classified vineyards and controlled appellation took place in the 18th Century. Chianti in Italy, Port wine produced in the region of the Douro Valley (Portugal), and the Tokaj-Hegyalja Habsburg Empire (in modern day Hungary).

## **9.2 Labels on quality linked to geographical origin: rules and diversity in the international context**

### **9.2.1 Quality linked to geographical origin and geographical indications**

Some food products can be promoted with a designation or label referring to the origin which is very often used by local actors and consumers to identify some particular and well-known food (FAO, 2004). This designation referring to the origin then differentiates such products from others in the same category based on some specialized characteristics, quality or reputation essentially due to their geographical origin.

This specific quality can be attributed to the history of the product and to a distinctive character linked to natural and human factors such as soil and climate, local know-how, or traditions. In this sense, the ‘terroir’ demonstrates the interaction between the physical (natural) and human factors built up over time and leads to uniqueness, identity and value of the products.

Geographical indication (GI) is a place or country name that identifies the origin, quality, reputation or other characteristics of products. A GI signals to consumers that the goods have special characteristics due to their geographical place of origin. ‘Appellation of origin’ represents a more restrictive category of GIs as: geographical designations of products whose quality and characteristics are due exclusively or essentially to the geographical environment, including both natural and human.

GIs are different from an ‘Indication of source’ reference which simply indicates that a product originates from a geographical region or particular country, such as ‘Made in Germany’, ‘Product of the USA’ or ‘Swiss Made’, without referring to the product quality.

The use of geographical indications calls therefore for a definition of the specific quality and a demonstration of its link to the geographical origin. The definition of the product and the local rules that are followed by the value chain actors in the production of a GI product are described in a document called code of practice (see Section 9.4.1). This code of practice should give both clear guidance to local producers and quality assurance to consumers.

A geographical indication associates a specific product with a territory and therefore its related code of practice and encompasses three main elements:

- a defined geographical area of production;
- specific quality of the product due to specific characteristics of production and processing;
- a name and reputation that differentiate the product from others.

Different types of geographical indication exist: it can be a geographical name that becomes the name of the good such as Champagne or the wines of Bordeaux. Alternatively, the geographical word can be linked to the common name of the good, as for example: Coffee of Colombia or Chivito (baby goat) of Neuquén in Argentina, or Limon of Pica in Chile. The name or symbol – with or without the common name of the good – can refer to a place and its local people without bearing a geographic word such as, for example, Tequila in Mexico, Feta cheese in Greece or Basmati rice in India. Additional associated characteristics can also be considered as geographical identifiers, such as: images of famous places like mountains or monuments, flags, images of specific objects, folkloric symbols, etc., as well as a specific traditional shape or appearance of the product, such as a specific packaging or a common element of the label.

Because of the reputation and value attached to the local name, origin products can be subject to imitations and counterfeiting, thus misleading consumers, by the use of the GI for products that do not conform to the code of practice. These unfair practices may endanger the reputation of the product and the functioning of the value creation process or hinder beneficial outcomes to the local community. It is therefore necessary to protect geographical indications and to ensure conformity with the code of practice in order to avoid unfair production and commercial practices, guarantee the quality of the product and of the geographical origin, and foster consumers' confidence. This regulatory process is also useful to enhance coordination and cohesion among GI producers.

### **9.2.2 Legal and institutional framework for geographical indications**

Historically, some official recognition has existed since the Middle Ages in Europe. Today, various legal instruments are available to protect GIs depending on the country. These include:

- national laws on business practices relating to the repression of unfair competition or the protection of consumers either in general terms or more specifically in regard to such matters as the labelling, certification and agricultural control measures, etc;
- regulation of GI registration under intellectual property rights: specific geographical indication laws and trademark laws, with different categories depending on the countries.

International instruments are quite recent and consider GI as intellectual property rights. They include: the Paris Convention for Protection of Industrial Property, the

Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods, the Lisbon Agreement on the Protection of Appellations of Origin and their Registration, and TRIPs (Trade-Related Intellectual Property Rights) (see Chapter 3).

For example, Champagne enjoyed an appellation control by virtue of legal protection as part of the Treaty of Madrid (1891) that aims at ‘the repression of false or deceptive indications of sources on goods’ (WIPO, 1891). The 1958 Lisbon Agreement on the Protection of Appellations of Origin and Their Registration offers the strongest protection for GIs (WIPO, 1958). It defined the Appellation of Origin as the name of products whose ‘quality and characteristics are due exclusively or essentially to the geographical environment, including natural and human factors’ (WIPO, 1958).

More recently, geographical indications were defined as such in 1994 within the Trade-Related Intellectual Property rights (TRIPs) Agreement of the World Trade Organisation (WTO) as: ‘indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin’.<sup>2</sup> So, a GI also indicates that a product originates in a specific region, but implies a specific quality due to the geographical origin (WTO, 1994).

The TRIPs agreement requires that the WTO Members provide the legal means to prevent the misleading use of GIs, including when the origin indicated on a product is other than its true place of origin, or when the use of a GI in some way constitutes an act of unfair competition. Countries can meet these obligations through a variety of legal tools, either through existing intellectual property laws (collective or certification trademarks if appropriate), consumer protection or competition laws or by enacting a specific legislation dedicated to the protection of GIs and appellations of origin (AO) (*sui generis system*).

In practice, at the national level, there are two main categories of protection under intellectual property rights:

- Public approach through an official recognition and regulation of the name associated to a specific quality product: this type of scheme aims at protecting the real identification of the origin and its link with quality and reputation. It is based on a strong involvement of public authorities with the definition, implementation and enforcement of the scheme. The code of practice is elaborated by private stakeholders, and then recognized by the public authorities. Any producer who can meet the requirements of the code of practice can benefit from the GI. This is the case for Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) in the European Union, the Geographical Indication and Appellation of Origin in Morocco, the Appellation of Origin (Denominación de Origen) in the Latin American countries who are part of the

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<sup>2</sup>Article 22.1 of the trade-related aspects of intellectual property rights (TRIPs) agreement of World Trade Organization (WTO).

- Andean countries Community (Bolivia, Colombia, Ecuador, Peru and Venezuela) as well as Brazil and Mexico, the AO and GI in Chile and Costa Rica.
- Private approach through trademark law: Some trademarks can be used by a group of producers (collective or certification trademarks, depending on the national framework). They aim at certifying quality, characteristics, geographical origin and/or a method of production according to the requirements of a self-established regulation. The protection is therefore based on private actions and the membership of the association may be restricted according to the decisions of its members.

### **Case study 1: *La marca colectiva del queso ‘Cotija región de origen’ – Mexico***

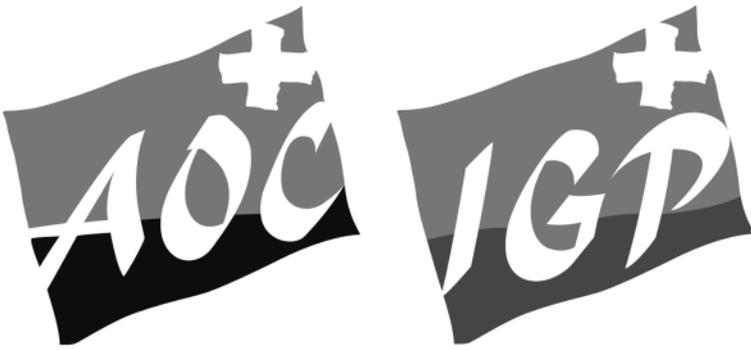
The Cotija cheese from the Jalmich mountain range in Mexico takes its name from the nearby city of Cotija and is very well known for its high quality throughout the whole country. However, the genuine ‘queso Cotija’ is threatened by usurpation of the name by cheeses called ‘type Cotija’ which are produced outside the original production area and have caused the name to become generic. These cheeses are usually industrial (intensive production, no maturation, with filling, etc.) and the taste is very distinctive from the authentic types, but they tend to be cheaper. In order to fully protect the name and reputation of their product, the producers of the typical Cotija cheese applied to the authorities in charge of intellectual property rights to register the product, based on elaborating the code of practice involved in its manufacture. However, because the name ‘Cotija’ had come to be so widely used, they were unable at that point to obtain the denomination of origin (DO) status which they considered to be the most effective legal protection for Cotija and its reputation. However, they were able to retain the collective trademark ‘Cotija Region of origin’.

(adapted from Poméon, 2008).

### **9.2.3 Importance of labelling and the guarantee system for conformity assessment**

Geographical indications help consumers to recognize, through the label, the specific quality linked to geographical origin, but this reference has to be guaranteed. In some cases, particularly in local markets, consumer confidence may be based on the short distance between consumers and producers. But, as the distance between the places of production and consumption widens, a certified and monitored information system must be established both to inform the consumers and to guarantee the conformity of the product with the requirements on the code of practice.

Regarding labelling, in the case of the public scheme, a national or official and common logo often allows consumers to recognize the GIs more easily and to



**Fig. 9.2** National GI logo: The Common Swiss logos. The *Association suisse pour la promotion des AOC et des IGP* was set up in Bern in 1999 to associate all the supply chains willing to protect their products with a PDO or a PGI. The aim of the Association is to promote the AOC (PDO) and the IGP (PGI) label in Switzerland to consumers and retailers. The Association encourages the use of its common AOC or the IGP logo by its members so that all the Swiss registered products have the same visual identity to inform the consumers they are AOC or IGP products. <http://www.aoc-igp.ch/>. Appellation d'Origine Contrôlée, Indication Géographique Protégée.

know that the GI is guaranteed (Fig. 9.2). Those logos became so meaningful in the consumers' minds that it took on the significance of a quality sign thus contributing to creating a ranking system for consumers and so helping them to choose knowingly.

In some cases, national authorities can monitor the integrity of the verification applications for geographical indication. It was the case in France with the French National Institute for Appellation of Origin (INAO); now controls are done by third party organizations under agreement with public authorities.

Verification systems serve to ensure the product is conforming to the CoP (Code of Practice), on a voluntary basis. They may differ among countries or regions, depending on the objectives, type of markets, and the economic, social and cultural contexts (Liu and Vandecandeleare, 2008). In any case, internal control should be ensured by the producers themselves. The different verification systems that can be implemented and combined are:

- *Internal control system (first party verification)*: in which a stakeholder (being part of the GI system) gives a self-declaration of conformity to the code of practice. This can be managed by a local association of stakeholders (producers, local authorities, buyers, etc.) that do their own GI supply chain control. It is, for example, the case for Chivito of Neuquén, which is sold essentially on local and regional markets. The local organization verifies the meat conformity, carried out in practice through the local slaughterhouse.
- *Second party verification system*: involves a trading agent who verifies that suppliers comply with the CoP criteria.
- *Third-party certification system*: involves an independent and external body, without direct interest in the economic relationship between the supplier and

buyer, which provides assurance that the relevant requirements have been followed. Specific certification bodies can be organized with public authorities (fully public certification or joint public and private initiatives). For example, the National Federation of Coffee Growers of Colombia is an independent not-for-profit organization for the collective of over 560 000 coffee growers of Colombia that demanded the recognition of the Appellation of Origin Café de Colombia in Colombia and in the European Union. It has since been accepted and protected in the European Union as a PGI according to EU Regulation 510/2006, the control being made by ALMACAFE, is satisfying the international norms for certification (ISO 65).

- *Participatory guarantee system*: a locally focused quality assurance system based on active participation of stakeholders, internal and external to the GI value chain (even consumers), and built on a foundation of trust, social networks and knowledge exchange. Such an alternative system is entirely realistic in the context of small farms and local, direct markets. It is, for example, the case for the special Gari missè (staple food made from toasted cassava semolina), produced in the village of Savalou (Benin) where the quality control is carried out by the group of women processors. They ensure that the processing rules and marketing practices are carried out; a lack of respect for the rules entails the risk of being expelled from the group.

### 9.3 The reasons for the development of geographical indications

#### 9.3.1 The consumer demand and social expectations

Consumers are becoming increasingly concerned about how the food they consume is produced. These concerns often relate to the sustainability of the food and how it is produced, as well as its environmental and ethical attributes. Therefore, the origin (country, district, and producer) of foods is very important, especially for consumers who are looking for roots, familiarity and continuity in places, identity and tradition (Wilson and Fearn, 2000). Some consumers may want to support the local or national economy; or they are proud of their cultural identity; or they are sensitive to the specific organoleptic characteristics of these products. These consumers are generally willing to pay more to find such characteristics in the product (Giovannucci *et al.*, 2009).

Moreover, consumers are demanding more guarantee and clarity on labelling, for example in Europe, as shown by various studies (Consumers International, 2004). Problems arise concerning ‘implied green claims’ that give the impression of more traditional production practices without specific substantiation to verify the claim. The survey shows that some consumers were becoming confused by the proliferation of unfamiliar logos and labels which had no direct meaning for them, or that were too difficult for them to interpret with confidence (official guarantee or not).

As the market becomes more global, it appears that there is more importance given to the differentiation of products linked to their origin, not only for export products, but also for locally marketed products in relation to their competition with imported products. This is increasingly the case in developing countries.

In general, the demand for these products increases with economic improvements in societies, urbanization and the degree of integration in the global market. Indeed, regional traditional agricultural and food products are often seen as a response to environmental concerns generated by globalization (transport of products over long distances) and to retailers' driving the supply of food. In the case of transition economies, it can be a response to the rapid modernization process, and the increase of imported processed foods marketed by multinational firms (FAO, 2008).

In developing countries, local products are often very prevalent. With increasing urbanization, origin can be a proxy of quality conveying trust to consumers. These urban populations are keen to eat traditional foods from their place of origin or items that have acquired a certain reputation. There is an increasing demand for such products by immigrants who miss them, leading to some specific channel markets, also known as a 'nostalgic market'.

These consumers' perceptions and expectations explained the development of specific labels related to geographical origin and of specific production practices linked to local know-how, and the importance of credible and officially guaranteed labels for these products. In this sense, consumers are expecting guarantees with regard to:

- origin, method of elaboration, and specificity of the products;
- identification presented on clear and informative labelling;
- traceability.

### **9.3.2 The producer's view: protecting the local name reputation**

Development of such labelling is also driven by producers' motivations, particularly for small and medium size enterprises, which consider GI as a marketing tool in relation to differentiation strategies on market segmentation (niche high quality or popular commodities).

GIs are not only a defensive strategy to protect from usurpation but also correspond to a pro-active strategy to reinforce differentiation of a product, build niche markets, increase added value, or to be a driving force to structure a value chain and meet basic safety, quality and traceability requirements of regulated markets.

Origin-linked quality strategy is also extremely relevant for producers, generally small scale and low capacity, in fragile or marginal agricultural zones to turn constraints into assets so as to access niche markets and increase income levels. Indeed, here the particular production constraints (isolated location with distance and weak transport structures, low level of modernization) can be considered as comparative advantages because they become factors that maintain the traditional and unique characteristics of the product.

Another major key aspect of a GI is the fact that the specification of the product, the code of practice, is locally defined by stakeholders, especially producers, allowing for the placement of producers at the centre of the value chain strategy. This has the added benefit of restoring a decision-making role to local communities, guaranteeing their right to manage their own resources and engage their active participation in value-added food chains.

### 9.3.3 Rural development: supportive projects and policies

The last and most important driving forces for the development of GI labelling are the supportive project strategies or public policies that can promote the potential of GI as a tool for a sustainable rural development.

These origin quality products can serve as a noteworthy focus for action and local organization. In the framework of agricultural and rural development policies for rural territories, GI products can play an important role in promoting collective action for local management of human and physical resources – becoming a motivation for the organization of actors at the local level. These products can be viewed as a tool for preserving traditions and preventing emigration or firm relocation.

Their contribution to sustainable development can be highlighted according to the three pillars of sustainable development: economic impact, social impact and environmental impact.

- *Economic impact: accessing markets, adding value and benefiting from collective organization.* The setting up of a GI label provides access to new niche markets and/or maintains access to existing ones. The differentiation of the product often leads to premium price and added value and therefore improves the income of local producers. The fact that the code of practice should be set up by the local producers represents an opportunity for a fair redistribution of the added value among the value chain actors. Moreover, the organization of stakeholders around origin quality products strengthens the value chain through a collective approach and a common goal: the territory reputation. Rural activities can therefore be maintained, preventing rural exodus and creating possible diversification activities, especially tourism and gastronomy.
- *Social impact: maintaining activities in remote areas, improving the self-esteem of the producers and preserving the know-how and traditional food.* Collective organization around a GI product strengthens relations between the stakeholders involved in the production process, but also creates a wider social network in the area with other stakeholders, public actors, schools, tourism's actors, etc. The societal recognition of the specific value of the product in relation to local know-how and traditions increases producers' and local inhabitants' self-esteem. This is important, especially for small producers in remote areas where traditional farming system is a way of life and for women who are often involved in the production or processing of these products. Promoting the marketing of origin products can prevent their disappearance and

contribute to food diversity. The link between product, people and place often goes beyond the mere economic aspect making the GI product a cultural or symbolic marker and an element of identity for the local population.

- *Environmental impact: sustainable use of natural resources and biodiversity.* GI production is often based on traditional farming systems that have a lower environmental impact on natural resources than modern techniques and inputs. Consequently, the GI process contributes to preserving natural resources (landscapes, soils, biodiversity) and provides a framework, thanks to the code of practice, for a long-term sustainable use of natural resources. Furthermore, origin products often use traditional and specifically local-adapted species, varieties, breeds and ferments that represent genetic resources. Maintaining these products and production systems could also contribute to maintaining the biodiversity (Larson, 2007).

Therefore GI process and labelling can be a tool for sustainable rural development; it explains the increasing number of GIs in developing countries. Nevertheless, the effects are neither automatic nor systematically positive, depending on how the local process is developed and with whom (participative approach) and on the definition of the product characteristics (what local resources are taken into consideration and how). Indeed, if substantial benefits can be developed, there are also some implementation costs and constraints (Anders and Caswell, 2009): in each case, an assessment should be carried out to see whether the favourable conditions are met, at the two levels involved: the local with the value chain and market requirements and the national with the institutional and legal framework.

## 9.4 Setting up a GI label, a two-level approach

Unlike other specific quality standards, each GI has its own specific code of practice corresponding to the definition of the characteristics of the product linked to geographical origin. The setting up of a GI assumes a twofold approach involving:

- *Local level:* the value chain stakeholders (farmers, producers, processors) and other local actors, public and private, supporting the local process.
- *National institutional level:* the regulatory framework to recognize, support and protect the GIs.

### 9.4.1 The local level

There are two main phases to be considered by local stakeholders when implementing a quality scheme linked to geographical origin (FAO-Sinergi, 2009).

*Setting up the local rules for using the GI, i.e. the qualification of the product*  
Setting up the rules of the GI requires a precise definition of the product's specific characteristics and the demonstration of the link with the geographical origin that differentiates it from other products of the same category. Even if the process can

### **Case study 2: *Turrialba market research and consumer surveys – Costa Rica***

In 2006, a researcher from the University of Santiago di Compostela (Lugo) studied the origins and special characteristics of a cheese produced in Costa Rica. Moreover, he carried out market research and consumer surveys for the registration of 'Queso Turrialba' as a DO (Denominación de Origen). The study allowed for the collection of data and information to support the request and involved surveys of 25 farms and five industrial cheese making units as well as chemical, micro-biological and sensorial analysis. To learn about consumers' opinions and whether they appreciated different aspects of the product, the market research included tasting sessions and testing of images. The market analysis also allowed for identifying the place of purchase preferred by the consumers, their awareness and proof of the product's long-standing reputation. For example, one result that came out from the consumer survey, was that 81.6% of polled consumers agreed with the fact that, among different types of white cheeses, 'Queso Turrialba' was a very distinct and recognizable one.

(Blanco, 2008)

be initiated and supported by external actors, for example NGOs or development public actors, this step requires the active involvement of the legitimate local value chain stakeholders who have to define these aspects, since they are the most knowledgeable about their product and the natural resources involved and the related know-how inherited over generations.

These rules are defined in the document named 'code of practice' (CoP) (or 'product specifications', 'book of requirements' or 'disciplinary document' depending on the context). The code of practice includes the definition of the product (name, characteristics, production and process methods), the delimited area concerned and the guarantee system (control plan with the criteria to be assessed and how). As a consequence, the CoP is a tool for internal coordination (collective rules for a fair competition between producers) and external trust (information on quality guarantee for retailers and consumers).

The definition of product and delimitation of the production area require studies and analyses for which supportive actors are helpful for research, development expertise and networking. Consumer studies can be considered to define the marketing strategy: for which consumers, on which market and for which product presentation.

When the code of practice is elaborated, it can be therefore presented and possibly assessed for the GI registration by public authorities in the case of a public approach.

#### *Management of the quality label*

Once the GI label is officially recognized, it still needs to be managed locally. More specifically, this management includes the collective marketing of the produce, the

### **Case study 3: *Chivito Criollo (baby goat) from the North Neuquino region in Argentina, Patagonia***

Chivito (baby goat) meat comes from a specific local breed that has a particular taste due to specific pastures in the mountainous regions, to its breeding based on transhumance, and on a specific related know-how. The identification of the potential of the product started with the programme for the conservation and improvement of the Neuquén Criollo goat established in 2001 under the auspices of the Instituto Nacional de Tecnología Agropecuaria (INTA) that developed a system for providing improved strains of local ecotypes based on selection criteria proposed by the breeders themselves.

The INTA determined the criteria for quality meat on the basis of what they implemented and the classification of the products. Various workshops were organized with producers and retailers in order to analyse the best tools, not only for protection and promotion on the market, but also with regard to the culture and know-how. A writing committee elaborated the specific rules of production of the Chivito Criollo del Norte Neuquino (code of practice). A total of 150 producers participated in developing the request for 990 of them in total.

In 2006, an association named ‘Consejo Regulador Denominación de Origen,’ was created for the Appellation of Origin; composed of producers, some intermediaries, and local public authorities in charge of research and development (INTA, municipality, the regional offices in charge of production and social affairs). The dealers were few, but all of them were strongly convinced that they needed to differentiate the product on the market and that they needed to work jointly with breeders.

(Pérez Centeno, 2008)

conformity assessment and the possible evolution of the rules (changes in the code of practice as necessary over time). Collective action should also help to look for continual improvements in sustainability within an extended territorial strategy, by linking with other local economic activities, for example, tourism. Therefore, a GI organization involving all the stakeholders of the value chain is highly recommended, in fact, for all stages of the process, from the setting up and the request for GI's registration to the definition of collective marketing strategy. This collective approach allows lowering the cost of marketing plans and conformity assessments (control) but does not replace individual decision and strategy at the firm level.

#### **9.4.2 The national institutional level**

At the national level, public actors play an important role in providing an adequate institutional and legal framework for the recognition and protection of GIs, but also in supporting their implementation in such a way that they contribute to rural development and food diversity preservation. The recognition of the specific quality linked to geographical origin as intellectual property rights is now international, even if there are still a great variety of legal tools in different countries.

#### **Case study 4: *Limón de Pica – Chile***

In the driest desert of the world, Oasis of Pica in Atacama, grows a kind of lemon that is special for its unique scent and high juice content. Such attributes have made this a sought-after product on the market, especially for making spirits. Due to this reputation and the risk of usurpation, a group of producers, supported by several institutions, have proposed to achieve a Origen Denomination for the Limón de Pica (lemon from Pica) in order to protect the good will, prestige of the product, to have better prices and to explore new markets.

In 1999, the cooperative of producers was nominated for a national Contest of the Foundation for Agrarian Innovation of the Ministry of Agriculture, for an initiative with the objective of establishing a differentiation strategy and system for Limón de Pica. Three projects followed, from 1999 to 2007, to provide investments, studies, capacity building and organizational support. The project received support from the Government for building the packing house. Other ad hoc types of support were provided, allowing for an increase of capacity building (from the National Institute of Agricultural Development) and organization of producers to visit and see examples of marketing channels for fruit export (PROCHILE).

With regard to the legal framework, the recognition and protection of geographical indications, appellations of origin for food and agricultural products two laws have been enacted:

- the law 18.455 for wine and spirits (alcohols/vinegars),
- the law 19.039 on Intellectual property and the related Decree No. 236 of 25.08.05 of Ministry of Economy Promotion and Reconstruction, for forestry and agrifood products other than wines and spirits.

The law allows any person to request a GI or AO registration as soon as they represent a group of producers, processors or handicraft producers. This request can be done by a national, departmental or local authority on the GI territory. The Ministry of Agriculture, in charge of assessing the request with the code of practice for all forestry and agrifood products, prepares a report and recommendations for the Ministry of Economy, which is in charge of the registration of the GI/AO. It may reject the registration it does not conform.

(adapted from Vandecandelaere, 2008)

Institutional actors are responsible for the evaluation of the producers' requests for recognition, registration and protection of the GIs. On top of the role of assessing and registering GIs under the intellectual property rights at the institutional level, public policies on agricultural and rural development also play an important role in supporting the local process and optimizing the GI system as a tool for sustainable development. Public policies at various levels (local, national and international) can create good conditions and clear rules of the game, for the exploitation of all the potential benefits of the GI product with regard to rural development, by implementing a comprehensive and proactive quality labels policy.

Within this approach, provision of information to the public about the meaning

of such labels is important in order to raise consumer awareness and so create favorable market conditions.

## 9.5 Conclusions

Geographical indication labelling is a way to inform consumers about the specific qualities of a product differentiated by its geographical origin, but it is also a way to address an increasing desire for more information on the production place and to meet social expectations for more sustainable means of production.

Setting up a GI for a food and agricultural product can be a tool for sustainable rural development. For fragile or remote areas, highlighting the specific characteristics due to the origin can be a means to turn production constraints into advantages, because they are the source of the uniqueness and quality of the product.

GI labels benefit both producers and consumers but also, in a much larger sense, the whole community of the territory where the GI is located. Indeed, it is a tool for empowering farmers and producers thanks to collective organization, for improving their livelihoods by allowing them to maintain or access niche markets with added value, for protecting natural resources and promoting local know-how and traditions, and for offering more choices to the consumers, who will also be better informed on the guarantees of the GI products.

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# 10

## **New technologies and food labelling: the controversy over labelling of foods derived from genetically modified crops**

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**Abstract:** Consumers' views of genetically modified foods (GM foods) can influence food producers' decisions as to whether to market GM foods or whether to use conventional varieties. Through labelling, supported by certification, consumers could differentiate a GM food from a conventional food. A working group of the Codex Committee on Food Labelling identified seven approaches to labelling of GM foods. GM labelling is mandatory when there are differences in the final product that could have a material effect on the consumer. Several countries require labelling when the final product is different than the conventional product, regardless of whether the difference has no consequences for health. There is little consensus on labelling products which do not contain any GM material but were derived from a GM crop or labelling because of the process of production.

**Key words:** Codex Committee on Food Labelling, genetically modified foods, mandatory labelling, consumer acceptance of GM foods.

### **10.1 Agricultural biotechnology and consumers**

Since genetically modified (GM) seeds were introduced commercially in 1996, their use has spread to 25 countries in North America, South America, Europe, Asia and Africa (James, 2008). The most common GM food crops are soybean and maize, which are grown primarily in the United States of America (USA), Argentina and Brazil (James, 2008). Conventional soybean and maize, as well as their

GM counterparts, are commonly processed into a range of food ingredients, which are widely used by food manufacturers to produce numerous packaged food products.

With strong competition in the global food market, consumers' views of genetically modified foods (GM foods) can strongly influence the decisions by farmers, commodity dealers, food manufacturers and food retailers regarding whether to produce and market GM foods or whether to use conventional varieties. Yet, a shopper cannot distinguish between foods that are conventional or GM without explicit information since the GM status of a product cannot be determined by sensory perceptions or experience. With the current generation of GM foods, the quality of being derived from GM crops is not revealed even after the product has been consumed. This is known as a 'credence' quality (Jahn *et al.*, 2005). Thus, it is only through labelling, supported by certification, that consumers would be able to differentiate a GM food from a conventional food. Through their purchases of labelled foods in the market, they could indicate whether the quality of being GM is important to them. This could have an impact on the use of GM technology in food production.

## 10.2 Policy options

With the potentially powerful impact that food labels could have on the future of a new technology, the decisions regarding the labelling of GM food products have been the subject of extensive debate within countries and internationally. As a result of various types of consultations with the biotechnology industry, food producers, scientific societies, consumer associations and environmental organizations, as well as the general public, and consideration of national legislation and existing Codex standards, a number of policy approaches have emerged in different countries. Since these food products are traded worldwide, harmonization of these various labelling options has been a concern of many countries. Internationally, the Codex Committee on Food Labelling (CCFL) began discussions on labelling of GM foods in 1991 and the deliberations are continuing.

### 10.2.1 Seven approaches to labelling of GM foods

At the 34th Session of CCFL, held in May 2006, a working group was charged with several tasks aimed at resolving the impasse in the deliberations. One task was to consider 'the rationale for Members' approach to the labelling of food and food ingredients obtained through certain techniques of genetic modification/genetic engineering' and to 'identify the current standards, regulations, acts/decrees, etc. among current Members with respect to the mandatory and voluntary labelling of foods and food ingredients obtained through certain techniques of genetic modification/genetic engineering' (CAC, 2007). Another was to identify Members' practical experiences in applying/implementing mandatory and voluntary labelling of food and food ingredients obtained through certain techniques of genetic

**Table 10.1** Main approaches to labelling of GM foods

- 
1. Mandatory GM labelling as such of all foods derived from or containing ingredients derived from organisms produced using gene technology (food consisting of, containing or produced from GMOs).
  2. Mandatory GM labelling as such of GM foods and food ingredients where novel DNA and/or protein are present in the final food.
  3. Mandatory GM labelling as such of GM food where it is significantly different from its conventional counterpart and where GM labelling is required in addition to the significant change.
  4. Mandatory labelling of GM foods where it is significantly different from its conventional counterpart and where only the significant difference is labelled, but not the method of production.
  5. Voluntary labelling (voluntary labelling guidelines for foods that are or are not products of genetic engineering).
  6. No special labelling requirement for bioengineered foods as a class of foods.
  7. Labelling requirements under development.
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Source: CAC, 2007, p. 2.

modification/genetic engineering (*ibid*). The CCFL working group, comprising of 25 members and the European Union, met in Oslo, Norway in 2007 and in Accra, Ghana in 2008. They reported back to the full CCFL, which reports to the Codex Alimentarius Commission. Based on the comments of governments, the working group identified seven main approaches to labelling of GM foods (Table 10.1).

The approaches in the table are not exclusive; a country's labelling requirements might include several of the listed categories and some products may be exempt or excluded from these regulations. To illustrate the complexity, Table 10.2 provides more detailed descriptions of the policies as explained by Codex delegates.

Within the seven approaches, there are agreements on some key points. All of the approaches require positive labelling when there are differences in the characteristics of the final product that could have a material effect on the consumer, for example, changes in the composition of the food or introduction of allergens. Several countries require labelling when the final product is different than the conventional food product, regardless of whether the difference has no consequences for health or the quality of the product. There is less agreement on whether final products which do not contain any GM material should be labelled if they were derived from a GM crop and whether a food should be labelled because of the process of production. A few countries explicitly address the use of negative food labels, that is, labels that claim that a food does not contain GM ingredients.

Of particular significance is the fact that a number of countries have set thresholds for the unintentional presence of GM material. Unintentional or adventitious presence can occur when pollen flows from GM crops to conventional or organic crops and when GM DNA comes into contact with other foods in farm equipment, storage silos, transport containers and food processing plants. Very minute quantities of GM DNA can lead to a positive test result for GM contents even though the food was produced through conventional or organic methods.

**Table 10.2** Labelling requirements for genetically modified foods from different countries

Country	Main legislation	Main features of the policy		
		Positive label	Unintentional GM presence	Negative label
Argentina	Argentina Food Code Law 24.240 on Consumer's Defence Commercial Loyalty Law	'...specific regulations at a national level are based on the characteristics and properties of the product when these are technically verifiable...' (p. 2) No law at national level for labelling food produced from raw material or ingredients derived from genetically modified organism.		
Australia	Australia New Zealand Food Standards Code Standard 1.5.2–Food Produced Using Gene Technology Trade Practices Act, 1974	'GM foods and food ingredients [including food additives and processing aids] must be labelled if there is novel DNA and/or novel protein in the final food, or if the food has "altered characteristics"... [that is] significantly different from its non-GM counterpart with respect to allergenicity, toxicity, nutritional impact or end use.' (p. 7) '...does not require mandatory labelling on the basis of method of production where there is no novel DNA or novel protein.' (p. 7)	'... no more than 10 g/kg per ingredient ... [is permitted to] remain unlabelled'.	'... might be called on to substantiate the claim...'
Brazil	Decree 4.680 of April 24, 2003 Portaria (Regulation) 2.658 December 22, 2003 Law 8.078 of September 11, 1990 Code of Defense of the Consumer Law 11.105 of March 24, 2005	'...labelling of foods and food ingredients containing or consisting of organisms obtained by certain techniques of genetic modification/genetic engineering is mandatory...' '...the main reason for the labelling ... is to guarantee the legitimate consumer right to information, in order to favour his/her conscious choice of foods.' (p. 10)	Must inform about presence of GMO when above the limit of 1%.	

Canada	<p>Food and Drug Regulations          Food and Drugs Act          Consumer Packaging and Labelling Act          Competition Act          National Standard for Voluntary Labelling and Advertising (Draft)</p>	<p>‘... mandatory labelling requirements when there is a health and safety change or a significant change in nutrition or composition in the novel food (including products of genetic engineering), and voluntary labelling requirements for method of production labelling.’ (p. 12)</p> <p>‘... permit voluntary ... positive labelling on the condition that the claim is not misleading or deceptive and the claim itself is factual’ (p.12)</p>	<p>‘...Permit voluntary ... negative labelling on the condition that claim is not misleading or deceptive and the claim is factual’</p>
European Community	<p>Article 2 of Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000          Regulation (EC) No. 1830/2003 and Regulation (EC) No. 1829/2003 of the European Parliament and of the Council of 22 September 2003</p>	<p>‘...labelling ... should include objective information ... that a food consists of, contains or is produced from GMOs. Clear labelling, irrespective of the detectability of DNA or protein resulting from the genetic modification to the final product ... facilitates informed choice and precludes potential misleading of consumers as regards methods of manufacture or production.’ (p. 23)</p> <p>‘labelling should give information about any characteristic or property which renders a food different from its conventional counterpart with respect to composition, nutritional value or nutritional effects, intended use of the food and health implications for certain sections of the population, as well as ... ethical or religious concerns’ (p. 23)</p>	<p>‘...a proportion no higher than 0.9% of the food ingredients considered individually or food consisting of a single ingredient...’</p>

Table 10.2 *continued*

Country	Main legislation	Main features of the policy		
		Positive label	Unintentional GM presence	Negative label
Ghana	National Biosafety Bill (draft)	No Ghana Standards or regulations (as of February 2007) (p. 33)		
India	Prevention of Food Adulteration Rules, 1955 37 E Labelling of Genetically Modified Food (draft)	<p>‘a GM Food, derived there from, whether it is primary or processed or any ingredient of food, food additives or any food product that may contain GM material shall be compulsorily labelled, without any exception.’ (pp. 36–37)</p> <p>‘...provisions will be applicable to all such products both imported or domestically produced’ (pp. 36–37)</p> <p>‘the label of imported GM Food or derived there from ... shall also indicate that the product has been cleared for marketing and use in the country of origin so that the verification, if needed can be taken up with that country without having to resort to testing.’ (pp. 36–37)</p>		
Japan	Article 21 of the Enforcement Regulation of the the Food Sanitation Law The Labeling Standard for Genetically Modified Foods (Notification No. 517 of the Ministry of Agriculture,	<p>‘...labelling is required for the products in which genetically modified DNA or protein is present and detectable.’ (p. 39)</p> <p>‘Processed foods in which DNA or protein is undetectable are not subject to mandatory labelling...’</p> <p>Labelling is mandatory for ‘GM foods whose composition or nutritional values are significantly different from their conventional counterparts.’</p>		
			Adventitious presence accepted up to 5%.	‘Non-GM products may be voluntarily labelled as “non-GM” if certification is provided to show that the non-GM ingredients were under the identity preserved handling...’

	Forestry and Fisheries of March 31, 2000 Law Concerning Standardization and Proper Labeling of Agriculture and Forestry Products	
Malaysia	Drafting regulations for mandatory labelling (p. 43)	
Mexico	Genetically Modified Organisms Biosafety Law Article 101 General Health Law Article 282 Bis 2 Statute for the Sanitary(safety) Control of Products and Services Article 166 Mexican Official Standards (Technical Regulations)	Labelling of GMOs and of products containing them is required: 'in the events where their traits are significantly different than those of conventional products ... explicit reference must be made to "genetically modified organisms" and the label must state their food composition or such nutritional properties that are different from their conventional counterparts.' (p. 44) There is no obligation to label where the GMO is not different from its conventional counterpart. Labelling is not required solely because of the process or method of production.

Table 10.2 *continued*

Country	Main legislation	Main features of the policy		
		Positive label	Unintentional GM presence	Negative label
New Zealand	Australia New Zealand Food Standards Code 1.5.2 'Food Produced using Gene Technology' Standard 1.2.9 'Legibility Requirements' Fair Trading Act of 1986	'...the Code requires all foods, food ingredients or additives sold ... to be labelled at point of sale, where novel DNA or protein is present in the final food, or the food has altered characteristics as a result of genetic modification processes.' (p. 47) Flavourings making up less than 1% are exempt from labelling. 'The GM labelling requirements apply to all packaged and bulk foods, but do not apply to food prepared in restaurants, cafes and takeaways.' '...does not require mandatory labelling for method of production, where a food has been derived from gene technology, but does not contain novel DNA and/or novel protein.'	...trace amounts of GM material (less than 1%)...	
Norway	Regulations relating to the labelling, transport, import and export of genetically modified organisms (GMOs) General Regulation of 8th July 1983 no 1252 Section 16a Regulation of 21st December	'the regulations contain rules for the authorisation, labelling and traceability of both GM food and feed. The regulations are based upon EU Regulations (EC) Nos 1829/2003 ... and 1830/2003...' (p. 52) 'The labelling regulations apply to all GM foods including GMOs and food derived from GMOs, whether their properties or characteristics be different from those of comparable conventional food or not.'	Label required if GM component constitutes more than 0.9% of the ingredient.	

	1993 no. 1385 Section 4a no. 4 Section 7 and Section 10	
United States of America	Federal Food, Drug and Cosmetic Act (FFDCA) Section 403(a)(1) of the FFDCA (21 U.S.C. 343(a)(1) and Section 201(n) of FFDCA (21 U.S.C. 321(n) Food and Drug Administration Guidance for Industry: Voluntary Labeling Indicating Whether Foods Have or Have Not Been Developed Using Bioengineering: Draft Guidance 2001	'No special labelling requirement for bioengineered foods as a class of foods.' 'If a bioengineered food is significantly different from its traditional counterpart ... the name must be changed to describe the difference.' 'If an issue exists ... regarding how the food is used or consequences of its use, a statement must be made in the labelling to describe the issue.' 'If a bioengineered food has a significantly different nutritional property, its labelling must reflect the difference.' 'If a new food includes an allergen that consumers would not expect to be present ... that allergen must be disclosed...' 'All statements ... must be truthful and not misleading.' (p. 57)

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Source: extracted from the Report of the CCFL Working Group on Labelling of Foods and Food Ingredients Obtained Through Certain Techniques of Genetic Modification/Genetic Engineering held in Oslo, 6–7 February 2007 (CAC, 2007).

Unintentional presence can undermine consumer confidence in the integrity of the food label.

### **10.2.2 Case study: voluntary labelling in the United States of America**

In the USA, the Food and Drug Administration (FDA) has responsibility for regulating all processed and packaged foods, animal feed, food additives, veterinary drugs and human drugs that are derived from agricultural biotechnology (Executive Office of the President, Office Science and Technology Policy, 1986). The authority to regulate labels for GM foods labels is derived from the Food, Drug and Cosmetic Act of 1938 which states that the labelling of a product must 'reveal facts material in the light of such representations or material with respect to consequences which may result from the use of the article' (United States Congress, 1938). In addition, it is illegal to misbrand a food through labelling which is 'false or misleading in any particular ...' (*ibid*).

The agency's approach to regulation of GM foods was explained in 1992, when the FDA issued the 'Statement of Policy: Foods Derived from New Plant Varieties; Notice'. The 1992 policy stated:

The regulatory status of a food, irrespective of the method by which it is developed, is dependent upon objective characteristics of the food and the intended use of the food (or its components). Consumers must be informed, by appropriate labeling, if a food derived from a new plant variety differs from its traditional counterpart such that the common or usual name no longer applies to the new food, or if a safety or usage issue exists to which consumers must be alerted. (Food and Drug Administration, 1992, 22991)

In 2001, after reviewing its approach in light of public, industry and trade concerns, the FDA announced a draft policy: 'Guidance for Industry, Voluntary Labeling Indicating Whether Foods Have or Have Not Been Developed Using Bioengineering' (FDA guidance) (Food and Drug Administration, 2001). The main features of the guidance are shown in Table 10.3.

It is notable that the FDA approach provides guidance for producers who wish to inform consumers that their product does not contain GM ingredients, i.e. negative labelling. In addition, it specifically draws attention to the United States Department of Agriculture rules for organic foods (National Organic Program final rule; 65 FR 80548) involving requirements for certification that a product is organic. 'The national organic standards would provide for adequate segregation of the food throughout distribution to assure that non-organic foods do not become mixed with organic foods. The agency believes that the practices and record keeping that substantiate the "certified organic" statement would be sufficient to substantiate a claim that a food was not produced using bioengineering.' (Food and Drug Administration, 2001).

**Table 10.3** Key features of the FDA, 2001 guidance for voluntary labelling of bioengineered foods*Bioengineered*

Optional to say ‘contains (product) developed/produced through biotechnology’  
 Allowed to claim ‘developed through biotechnology because (positive reason)’ but **must substantiate claim**. (emphasis added)  
 Cannot claim benefits for whole product if amount of positive ingredient insignificant  
 Must disclose allergens not found in conventional counterpart  
 Must change name if significantly different  
 Optional to say ‘contains (product) developed/produced through biotechnology’  
 Allowed to claim ‘developed through biotechnology because (positive reason)’ but **must substantiate claim**. (emphasis added)  
 Cannot claim benefits for whole product if amount of positive ingredient insignificant  
 Must disclose allergens not found in conventional counterpart  
 Must change name if significantly different  
 Label may apply to human foods and animal feeds

*Non-bioengineered*

All ingredients must be non-bioengineered  
 Cannot imply that specific product is non-bioengineered if no products of this type are bioengineered.  
 Can say all foods of a type are non-bioengineered  
 Must be able to substantiate ‘non-bioengineered’ through testing, documentation, segregation  
 USDA certified organic foods are non-bioengineered by definition  
 Permitted to say biotechnology not used if there is **no suggestion that product is superior**. (emphasis added)  
 Label may apply to human food and animal feeds

Source: Adapted from FDA, 2001.

**10.2.3 Case study: mandatory labelling in the European Union**

In the European Union, the European Commission, the European Parliament and the European Food Safety Authority (EFSA) have responsibilities for developing laws to regulate GM products. Regulations in each EU country must be harmonized with the regulations of the other members of the EU so that foods can flow freely throughout the European market.

Since the late 1980s, the governments that now comprise the EU have considered genetically modified organisms as a distinct class of biological entities requiring special regulatory attention (Lezaun, 2006). This process-oriented approach has been influenced by the ‘Precautionary Principle’ which states ‘where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation’ (Rafferty, 2004, 282). The precautionary principle stems from Principle 15 of the Rio Declaration on Environment and Development that has the following aims: ... ‘[T]o contribute to ensuring an adequate level of protection in the field of safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on

**Table 10.4** Key features of the European Union's mandatory labelling law for genetically modified foods

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Where the food consists of more than one ingredient, the words 'genetically modified' or 'produced from genetically modified (name of the ingredient)' shall appear in parentheses immediately following the ingredient or a footnote.

Where the ingredient is designated by the name of a category, the words 'contains genetically modified (name of organism)' or 'contains (name of ingredient) produced from genetically modified (name of organism)' shall appear in the list of ingredients or a footnote.

Where there is no list of ingredients, the words 'genetically modified' or 'produced from genetically modified (name of organism)' shall appear clearly on the labelling.

Where there is no list of ingredients, they shall appear clearly on the labelling.

Where the food is offered for sale to the final consumer as non-pre-packaged food, or as pre-packaged food in small containers, the information must be permanently and visibly displayed either on the food display or immediately next to it, or on the packaging material, in a font sufficiently large for it to be easily identified and read.

The law does not apply to foods containing GM material of less than 0.9 percent if the presence of the GM ingredient is adventitious or technically unavoidable. Lower thresholds may be established for particular foods or to take into account scientific and technical advances.

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Source: Adapted from European Parliament, 2003a.

the conservation and sustainable use of biological diversity, taking also into account risks to human health ...' (Convention on Biological Diversity, 2000).

In 2003, the European Parliament enacted two complementary laws regarding GM food: Regulation (EC) 1829/2003 requires labelling for human food and animal feed containing genetically modified organisms, 'to enable consumers to make an informed choice,' while Regulation (EC) 1830/2003 'guarantees the traceability and labeling of genetically modified organisms and products produced from GMOs throughout the food chain ... to facilitate monitoring' (European Parliament, 2003a,b). The law requires that operators throughout the food chain keep records of their use of GM products and that this be declared on a food package if the content of GM material exceeds 0.9 percent. The main features of the regulations are shown in Table 10.4.

A consumer in Europe would assume that an unlabelled product does not contain GM ingredients because there is a mandatory positive label, i.e. those products that do contain such ingredients must be labelled.

The EU decided not to include provisions for negative labelling in their legislation because 'experiences in some Member States revealed that voluntary "GMO-free" (or similarly phrased) schemes were beset by a number of technical, commercial and other difficulties.' (CAC, 2008, 46).

### 10.3 Commercial experiences with labelling

Although some early GM products were labelled (Martineau, 2001), there has been very little published evidence regarding companies' implementation of labelling

policies in recent years. Indeed, when CCFL members were asked about experiences, a number of countries reported that products had been tested yet almost none had been found to have GM material in sufficient quantity as to require labelling. Therefore, there was no recent practical experience with positive labels that is known to governments.

There may be several explanations for this lack of information, such as a lapse between the times that a policy is enacted and when the labelled products reach market shelves and the time and resources that are required for monitoring and documenting industry and consumer reactions to labelled products. However, given the keen interest in this topic, it seems that there would have been efforts made to monitor labelling experiences. A more likely reason for the lack of experience in implementing the labelling policies is the lack of interest among food producers and retailers in selling foods that are labelled as containing GM ingredients. In the case of labelling foods as 'non-GM' there is also reluctance since the regulations are perceived to be burdensome.

If a farmer or manufacturer wished to sell GM foods, food retailers in some markets such as Europe act as 'gatekeepers' and prevent these foods from being available because of their scepticism about consumer acceptance of GM foods (Knight *et al.*, 2005). This experience was expressed by the European Community delegation to CCFL; they reported that

few food products labelled as genetically modified are at the present time on the Community market. The situation is however not uniform throughout the EU since in some Member States the number of GM products is negligible while in others their number is more significant ... The sale of this type of products is mainly governed by factors that are not related to the legislative framework, such as consumer demand and the policies of food producers and retailers. (CAC, 2007, 28).

### **10.3.1 Disincentives to label food products**

It is generally acknowledged that the generation of GM crops that are currently cultivated have agronomic traits that appeal to many farmers; they do not have qualities that might attract consumers. On the contrary, in research in the large and affluent markets of North America and Europe study participants express their preferences for foods that are not produced with GM ingredients (Evenson and Santaniello, 2004; The Mellman Group, Inc., 2006). Given the present milieu, there is little incentive for the food industry to use positive labels, i.e. statements that claim that a food does contain GM ingredients, while there may be some incentive to use negative labelling, i.e. the claim that a food does not contain GM ingredients.

## **10.4 Conclusions**

If food producers, manufacturers and retailers are wary of consumer reactions to

foods that are labelled as GM, they will not implement a labelling policy, whether it is mandatory or voluntary. Food sellers volunteer to label a product when they believe it will encourage sales. When it is mandatory to disclose information about a food that may deter consumers from buying the product, food sellers avoid the risk of labelling. In the case of GM foods, they may reformulate their products and sell conventional and organic products. In the case of negative labels, producers may be deterred from labelling because the costs of substantiating this claim may not be justified by the premiums consumers are willing to pay and the risks that a label may be considered to be misleading and in violation of regulations.

Regardless of how well-intentioned and well-designed a policy may be, it appears that there is little implementation of labelling policies when it comes to GM foods. Without substantial experience and evidence to demonstrate the feasibility and usefulness (or lack thereof) of a specific approach, it will be difficult for governments to move forward to reach consensus on a harmonized standard or guideline for labelling of GM foods. The CCFL delegates will continue to discuss recommendations for the labelling of foods and food ingredients obtained through genetic modification (CAC, 2009). For the foreseeable future, each country will develop its own policies, in keeping with its own priorities, as well as interpretation of the existing Codex standards and international agreements.

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