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How New Agrifood Standards are Affecting Trade

Daniele Giovannucci¹

Abstract: This paper, for the 2008 World Export Development Forum, considers the emerging importance of standards and offers a brief overview of the main public-private standards that increasingly govern trade in agrifood products. Their dynamic and rapidly evolving nature, particularly for ecolabels, poses substantial challenges for producers and even for consumers. In developing countries their requirements and benefits can be anything but straightforward for many producers. Yet, the challenges in turn offer considerable opportunities for establishing a more workable system for achieving sustainability that features: increasing harmonization to facilitate transactions and to reduce compliance costs; better impact assessment and knowledge sharing to improve effectiveness and farmer adoption; and somewhat greater roles for the public sector to help ensure a certain level of transparency and equity in the system.

Keywords: export; standards; trade; sustainability; agriculture; food; ecolabel; harmonization; compliance costs; impact assessment; developing country

THE EMERGING POPULARITY OF STANDARDS

Despite technological advances, the food we eat today presents society with a number of problems. Environmental damage can result from its production. The wages and conditions of food labourers arouse ethical and social concerns. Finally, our food may be increasingly unsafe.

In the United States, reputedly one of the most safety-conscious nations, foodborne illness has been credibly estimated to cause 5000 deaths and 76 million illnesses per year (Smith DeWaal and Bhuiya 2007). The issue of food safety has become so contentious there that the *Wall Street Journal* recently reported (Oct 15, 2007 WSJ Politics & Economics Section) that various groups are lobbying to strengthen the government's preventative control authority. Europe has faced a number of food-health scares in recent years as has Japan. In China, food safety issues have been one of the causes for social unrest.

The social and environmental effects of our modern production systems have become more visible and more disturbing for a growing group of consumers. As a result, social

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and environmental demands increasingly determine how both products and services are marketed. Research indicates that 60% of US consumers say they have “a more favourable opinion of companies that support causes” and 76% of consumers polled said that they would switch over to a particular brand or retailer that supports a good cause, especially if price and quality are the same.² This consumer consciousness starts early. A *Marketing Daily* report notes that even 6- to 8-year old children encourage their parents to buy ‘green’ products.

Brand-sensitive retailers have taken on these cause-related issues, including giants such as Sainsbury’s, McDonalds, Ahold, and WalMart. These are increasingly affecting the way less visible multinationals operate. For example, a spokesperson for the agribusiness giant Cargill recently noted that: “... all companies want to deal with other reputable companies” (CSM 2006). Although Europe has been at the forefront of such issues, the US market is becoming prominent as part of an increasing move toward Corporate Social Responsibility (CSR) in response to consumer concerns. US surveys cited by *US News & World Report* indicate that 90% of American consumers are concerned about working conditions in developing countries.³

In many cases the slow process of developing government policy and accompanying regulations does not satisfy the market’s need for clarity and communication (Codron, Sirieix and Reardon 2006). To fill the gap, in some cases civil society bodies such as NGOs have stepped in. In other cases the private sector has stepped in. In both cases the result is new standards. These range from specific corporate guidelines, designed to prevent child labour abuse in their factories or supply chains, to broader and far-reaching public standards such as those of the Rainforest Alliance, Fair Trade, or Organics. Although some of these ecolabels have been in use for decades, it is only in the past 10 years that they have become a visible factor in mass markets (Giovannucci 2002).

Since 1995, more private international food-related standards have emerged than in the previous five decades combined. The International Organization for Standardization (ISO) alone publishes 1100 new standards annually, though only some relate to agrifood sectors. Clearly, standards have become an important competitive factor and are becoming an important determinant of access to markets.

Box 1. Global supermarket growth quickens

The supermarket – a self-serve, larger scale retailer often with more than one check-out counter - emerged in the US about 85 years ago. They became a major channel in the post-war era with half of US grocery sales by 1955 and dominant by the 1980s. Starting later, in the 1950s and 1960s, Germany, the UK, and France today have supermarket shares of food retail that reach 70-80%.

This business model, now refined, has emerged much more quickly, and perhaps surprisingly, in developing nations. The growth of this segment in Latin America, parts of Asia, and Eastern Europe has occurred at a much faster rate than either the EU or the US. The demand for high standards in this channel has strong implications for domestic and regional food suppliers.

² Berkowitz, Eric, Roger Caron, Steven Hartley, William Rudelius. 2000. *Marketing*. Boston: Irwin/McGraw-Hill: 110.

³ Santa’s Sweatshop. *U.S. News & World Report*. Dec. 16, 1996: 50-60

Retailers are at the forefront. For example, dozens of concerned multinational food retailers joined together to form the Global Food Safety Initiative Task Force and, similarly, what is now GLOBALGAP⁴. In 2007, all the leading grocery markets can be defined by the nature of their distribution channels⁵. Supermarket and large format stores have come to be the dominant players in many developed economies. What appeared to be limited to OECD nations has been shown to be occurring, at an even faster pace of adoption, in many developing nations (Reardon et al. 2001), with some exceptions such as India. Increasingly, producers have to meet a higher set of requirements or standards to export to these higher-value and volume firms even in regional markets, and food is a significant part of the business for eight of the top 10 global retailers.

These new requirements for standards are driven by changes in three major areas (Giovannucci and Purcell 2008):

1. *A new consumer environment*

Characterized by a predominant interest in personal health and increasing doubts in the ability of government to ensure food safety, this trend includes anxiety over unchecked chemical hormone and antibiotic use in livestock potentially affecting humans, and greater concern about the social and environmental conditions in the place of origin.

2. *A new business environment*

An increasing concentration of suppliers, intermediaries, and retailers is stimulating new methods of differentiation and has spurred a more intense drive for new supply sources and greater efficiencies in costs and logistics. Corporations are setting standards as a response to the risk of civil or criminal responsibility and to their reputations. These risks are related not only to food safety but also concerns over labour violations, environmental impacts and below-subsistence wages.

3. *A new regulatory environment*

As more and more food is traded globally, governments are struggling to monitor and manage the safety of their food supplies. Typically, they impose new barriers to entry in the form of public standards such as import bans. In some cases, governments resort to regulations such as the US bioterrorism laws and the EU's Maximum Residue Levels or GMO restrictions.

Along with new standards to address safety, environment, and ethics have come new verification or certification criteria. While some private standards are somewhat opaque and have few, if any, means for independent verification, most companies have recognized the merit of transparency and independent or third-party certification. A record number of leading companies now voluntarily report on their social and environmental issues with independent audits (*Global Corporate Responsibility Reporting Trends 2006*). Many firms are aware that misleading customers is dangerous in this age of the Internet, sophisticated tracking and micro video. Some firms are taking full advantage of these opportunities to measure and improve their internal performance and thus secure a competitive advantage. Standards are also strategic for firms: they can be a means to

4 Global Good Agricultural Practice.

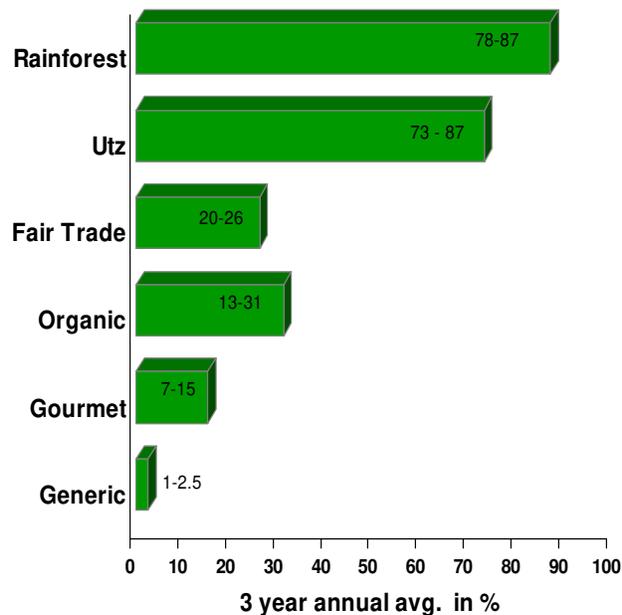
5 The US, Japan, China, India and the UK are the world's five leading grocery retail markets by value. By 2020 China is expected to move into second place.

improve and secure supply chains, especially in light of higher commodity prices when there are few expectations for large productivity improvements and limited opportunities for agricultural expansion.

As a result, third-party certification is emerging as a significant regulatory mechanism in the global agrifood system. Giovannucci and Ponte (2005), Hatanaka, Bain, and Busch (2005) and Reardon and Berdegue (2002) note that the globalization and consolidation of the agrifood industry have precipitated a shift in responsibility away from government and an increasing dependence on standards and certifiers to secure our social, political, and economic conditions that ensure socially and environmentally sustainable business practices.

Leading-edge sub-sectors such as coffee, cocoa and tea already have evolved socio-economic and environmental standards that are commonly called sustainability standards. More of these exist for coffee than any other crop. Figure 1 indicates their growth rate relative to generic coffee in major markets. It should be noted that this growth, though sustained over a number of years, is for sub-sectors that together represent only a small percentage of the total coffee trade wherein generic coffee is 85-90%.

Figure 1.
Growth of Sustainability Standards
in Coffee by Volume (2005-07)



The numbers inside each bar represent growth range in US and global markets

There are thousands of agrifood standards in use today. A number are public standards with common applications but most of today's agricultural trade standards are privately set by groups or firms and serve their particular needs. Given that many developing country exporters have difficulty complying with minimum food safety standards mandated by law, private standards -- dynamic and more demanding -- can be a significantly more difficult challenge.

The complex distinctions between process characteristics and product (or end-point) characteristics and the different types of indirect costs associated with standards can dramatically diminish their benefits and effectively make them barriers to entry (Giovannucci and Ponte, 2005). Standards affect not only producers but also value chains, agribusinesses, and consumers, so it is vital to understand what they are and who is forming them. The following is a very brief synopsis of the most important standards affecting trade.

Public standards focus on food safety, consumer protection, and trade facilitation. They are embodied primarily in government regulations and can emerge from some international codes and accords such as those in the WTO or Codex Alimentarius. The public standards of individual governments are most important since they are the mandatory primary portal that products must pass through. But getting past the border is often not enough, since other standards, dictated by the buyer, may also apply.

Another type is the usually public standard that is part of a Geographical Indication (GI). Meeting the requirements for a particular GI such as Bordeaux wine, Parmigiano cheese, or Darjeeling tea usually involves compliance with distinct, and usually higher, standards and, most importantly, having a distinct connection to a specific origin.

Private standards require higher levels of performance than the baseline public standards and are imposed by buyers. They focus on specific areas such as quality, process management, packaging requirements, or social and environmental concerns. While public standards are typically transparent and more well-established, private standards can be difficult because they can be fast-changing and compliance may be more complex. Though sometimes called voluntary, private standards are sometimes *de facto* entry requirement for trade with leading value chains and most of the large-scale firms. It is these private standards that can include particular labelling, especially for consumers.

In higher-value agrifood products especially, private standards compliance is essential for doing business. Among the best-known private standards are those of the International Organization for Standardization (ISO), HACCP (Hazard Analysis at Critical Control Points), Fair Trade, Organic, Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP). Sometimes private sector standards like Certified Organic or HACCP are adopted and codified by government as regulations. Dozens of countries now regulate "organic" or "bio" products and HACCP is part of the regulatory system for meat and fish industries in the US.

In addition, there are individual private corporate standards. Firms such as Carrefour, Tesco, Cadbury, and Starbucks have their own internal norms that differ from the current broader sectoral norms and are often more explicit or demanding.

Process standards are typically private in character and typically refer to the entire cultivation, packaging, or manufacturing process. **Product standards**, on the other hand, refer mainly to the characteristics of the final product and not necessarily to the means used to get there. Many product standards can apply to safety issues such as absence of biocide residues or bacteria levels and to specific **quality standards** for a particular characteristic such as size, colour, uniformity, sugar content, etc.

Process standards serve as criteria for sourcing decisions, and tend to focus on fair wages or labour practices and the responsible use of resources such as agrochemical inputs, energy, water, and wastes. In addition to well-known process standards such as GAP, GMP, HACCP, and ISO, the cause-related standards are becoming increasingly popular. Table 1 lists the better-known international examples.

Table 1. Cause-related standards

Organic	Rainforest Alliance
Fair Trade	Utz Certified
Forest Stewardship Council	Ethical Trading Initiative
Marine Stewardship Council	SA-8000

These are often collectively referred to as sustainability standards and are unique in that they can embody less tangible social and environmental characteristics; see Table 1. Most are managed by nonprofit NGOs and these standards have evolved to become very public in their objectives, transparency, and standard setting. It can be argued that they provide a public good while satisfying a growing consumer demand. Firms that align with them rather than create their own standards - even large companies such as Wal-Mart or Chiquita Brands International - have noted some reputational benefits from the association (Taylor and Scharlin 2004).

Table 2: Characterizing Different Types of Standards

Type of Codification	Legal Codification	Internationally Agreed	National or Regional	Firm Specific
Product standard	Food hygiene standards	<ul style="list-style-type: none"> ▪ Codex Alimentarius ▪ Grades of wheat ▪ Moisture level for beans and grains 	<ul style="list-style-type: none"> ▪ EU MRLs ▪ EU GMO limits ▪ China Green Food 	Chiquita residue and shape-size standards
Process standard	Workplace health and safety standards	<ul style="list-style-type: none"> ▪ ISO9000 (quality) ▪ Organic ▪ SA8000 (labor) 	<ul style="list-style-type: none"> ▪ BRC ▪ Label Rouge ▪ ASEAN-GAP 	Starbucks C.A.F.E. practices
Source: Adapted from Giovannucci & Purcell (2007) with partial credit to Kaplinsky and Morris (2001).				

ORGANIC

Organic is the fastest-growing sector of the food industry, with global sales exceeding US \$40 billion in 2007. The International Federation of Organic Agriculture Movements (IFOAM) is the global coordinating body for organics. For the purposes of most trade, organic products are third-party certified and include both internal controls and traceability. Organic agriculture relies on scientific and traditional knowledge to work with biological and mechanical methods to manage ecological systems. It works to optimize quality and sustainability while reducing external inputs and synthetic materials. General environmental and social principles are clearly embedded in organic principles, but

specific guidelines on aspects such as biodiversity are not necessarily part of the somewhat diverse certification processes accepted in different nations.

ECO-FRIENDLY PRODUCTS

A broad range of standards exists that are focused primarily on protection of ecological systems and the assurance of limited toxic chemicals. Rainforest Alliance standards are among the best known of this category and are sourced in dozens of countries for sale primarily to the US, Europe, and Japan. Some nations have also developed ecological standards for agriculture. Japan has a government production standard that references ecologically friendly measures as well as food safety and requires certification by an accredited body. China's Green Foods, with 2006 exports of more than US \$2 billion (Paull 2008), are government-certified products whose production and processing use environmentally friendly methods and are tested safe from contamination.

Addressing climate change by reducing the carbon use or footprint of products has quickly become important in several markets. Ecolabels such as Climatop and the Carbon Trust's Carbon Reduction Scheme measure the energetic life cycle to determine a product's climate impact and offer labels that put Europe in the forefront of attention to these issues even as the ideas of local products are becoming more popular in the US.

FAIR TRADE

Fair Trade addresses asymmetrical buyer/producer relations. It seeks to improve the livelihoods and well-being of small producers by assuring a fair price agreement, continuity in trading relationships, and the strengthening of small-producer organizations. Fair Trade products are typically sold in more developed markets via an NGO-operated certification system. Fairtrade Labelling Organizations International (FLO) is the global coordinating body for certified products. Nearly 60 countries now export a variety of certified Fair Trade products and they are sold in more than 50 countries. In 2006, the estimated retail value of Fair Trade was more than €1.6 billion.

ISO

The International Organization for Standardization (ISO) comprises the national standards institutes of 157 countries and is organized as an NGO. It sets a number of popular trade standards that are voluntary and typically codify sectoral best practices. ISO certification does not refer to the output of the process but rather that a valid process is in place to achieve that output.

An increasing number of ISO's 15,000 standards and guidelines are relevant to producers and agrifood enterprises. The 9000 series, the most popular, promotes good management practices to ensure the consistent quality and delivery of goods and services. The 14000 series promotes sound environmental management in order to minimize negative effect caused by various productive activities including agricultural processing. ISO 22000 is designed for generic food safety. The forthcoming ISO 26000 covers voluntary guidance on social responsibility and is slated for publication in 2010. ISO's importance extends to verification mechanisms □ many governments and private firms insist that certification bodies comply with an international standard (ISO65).

HACCP

Hazard Analysis at Critical Control Points (HACCP) is a systematic assessment of potential risks such as, for example, food contamination within a post-harvest or processing operation, enabling the operation to identify appropriate control and monitoring systems to minimize such risks. It is most often used with higher-risk foods,

such as poultry, livestock, and fish products. It provides an assurance that such a management approach has been established but not whether it is used or how effectively. By anticipating potential problems there is a greater likelihood of resolving them during the process before the product moves into the supply chain or market. Thus, HACCP can also yield cost savings in terms of reduced waste, less reprocessing, or fewer recalls.

GAP and GMP

GLOBALGAP is one of the best known specific GAP standards and is widely used by many companies, especially by firms that export to Europe. Good Agricultural Practice (GAP) promotes basic food safety principles to minimize biological, chemical, and physical hazards associated with crops from seed through harvest and storage. GAP processes also tend to improve basic working conditions for farmers and labourers.

Good Manufacturing Practice (GMP) begins from the harvest and storage stage and serves to guide the people working in contact with food, its packaging materials and work environs to conform to basic sanitation and hygiene practices to protect against food contamination from both direct and indirect sources. These standards also typically improve worker safety.

KEY CHALLENGES OF STANDARDS AND ECOLABELS FOR CONSUMERS & PRODUCERS

There are currently more than 400 private standards schemes and their number is growing, according to UNCTAD. This plethora makes it difficult for agricultural producers to keep up with and even to understand the standards. Blowfield (1999) finds that many standards and codes of practice have been driven by Northern consumer and NGO perceptions of business responsibility and have been more *ad hoc* rather than comprehensive and consultative. Since producers and therefore exporters face difficult compliance hurdles they can become a barrier to market entry for many exports, especially from developing countries.

There is a growing body of evidence that if producers and exporters cannot achieve necessary sectoral standards they risk being excluded from competitive markets with serious consequences for economic growth and poverty alleviation (Vander Stichele et al., 2006; Moustier et al., 2005; Reardon et al., 2003).

FIVE COMMON BARRIERS

Most producers face five common barriers when dealing with standards:

Selecting a standard - requires a good measure of market intelligence and contact with buyers as well as experience since there is little data to assess the relative demands, costs, and benefits of each standard

Facilitating adoption - few institutions exist to meet the ongoing learning process that takes both time and consistent training

Capital – needed to invest in new technology, processes, equipment, and infrastructure

Transaction costs - certifying and testing products can be expensive, as can marketing costs

Risk - learning errors in export or other high-value markets can be costly (i.e. rejected containers, reputational damage, or product bans)

ECOLABELS

An ecolabel is usually targeted toward consumers and indicates that a product, service or company has met a set of environmental and/or social standards. One source indicates 243 ecolabels currently offered, more than half of which apply to the agrifood sector. Ecolabels can provide a measure of product or firm differentiation and market access since buyers use them to facilitate the identification of products, firms, or services that offer social and/or environmental benefits including sustainability. Yet their proliferation in recent years is leading to difficulties as consumers and corporate buyers alike experience label fatigue. This was already becoming evident in 2001 when one extensive North American industry survey of 2098 firms notes clear support for a unifying “super seal” of social, economic, and environmental standards related to sustainability (Giovannucci 2001).

Effective ecolabels are transparent and based upon reputable standards that are publicly available. Conformance to the standard is performed by independent third party certifiers or auditors. Yet the conclusion of a recent conference on standards notes that “transparency can be lost amidst the plethora of standards currently being developed” (ISEAL 2007). Chamorro and Bañegil (2006), in their study of Spanish firms, found consumer skepticism towards green marketing or ecolabels that come from commercial firms. Even early research in this field shows that consumers are aware of ecological issues and are often responsive to them⁶ but unfortunately they do not trust the marketing message of firms⁷.

A UN seminar on the export competitiveness of eco-labelled products concluded that transparency principles, the selection of sound and credibly verified criteria, and widespread information dissemination were important elements of sound eco-labelling programmes and could even reduce some negative trade effects (UNESCAP 1997). These are still key issues today.

SOLUTIONS AND APPROACHES

With the reduction of traditional trade protection measures such as tariffs and quotas, the technical requirements of standards and labelling have become more important instruments of commercial policy and trade policy. As such, the additional costs and capacity required to meet many standards can effectively make them non-tariff barriers and of particular concern to developing countries.

⁶ Consumers Leaned toward Green. *Marketing News*. August 31, 1998: 2. American Marketing Association

⁷ Spear, Tibbett. Growing the Green Market. *American Demographics*. 8/1997: 45-49.

PUBLIC ROLES WITH PRIVATE STANDARDS

The way we shape policy and regulatory frameworks that govern our agrifood sectors determines not only how well our systems will operate but also the extent to which they are inclusive of smaller and less advantaged participants. Governments also use private standards in a variety of ways to meet their public policy objectives. In addition to legal referencing, reducing the regulatory burden, and funding conditionality they also set standards for purchasing specifications. Since governments are among the largest and most influential buyers in the world they can influence standards in the marketplace. For example, the Danish government requests FSC (Forest Stewardship Council) certification for timber procurement and the UK requires MSC (Marine Stewardship Council)-certified fish for school meals (ISEAL 2007).

Public and private roles are complementary and intertwined for the issue of standards. Since, the private sector has limitations in its ability to consistently and adequately address public concerns such as the environment or Maximum Residue Levels (food safety) there is a need for public-sector participation. Though many important private standards move too quickly for public oversight to always be effective, there is nonetheless an increasingly valuable role for an arbiter and even a facilitator.

Like producers, firms, and consumers, our governments also face the challenge of understanding the actual impacts of these standards so as to determine whether they will legitimately meet their public policy objectives. It is necessary to understand not only the costs and benefits but also how public authorities can most effectively interact with private and voluntary standards as these become increasingly important in the marketplace. Such efforts would help address issues of domestic impacts particularly in poorer countries, since many standards reflect the requirements of consumers and firms in the more industrialized economies.

It is easy to get tangled in the standards and ecolabels as a fixed end in themselves. It would be wiser to realize that they can better be understood as a starting point for improved efficiencies, better quality, and an increased awareness of social and environmental issues. They can best serve firms, producers, and consumers if they are less specifically prescriptive and more of a process-oriented and consultative approach (Bray et al. 2002; UNCTAD 1994).

In order to foster the effective and non-discriminatory use of standards and ecolabels, so that they serve producers, firms, and consumers alike, the following two areas of concern ought to be considered:

1. Knowledge management structure to both distil vital information such as the cost and benefit for practical application and provide access to such information
2. Harmonization of diverse standards

KNOWLEDGE MANAGEMENT

A number of case studies and quantitative evidence clearly indicate that addressing social and ecological challenges, in a well-managed manner, can help businesses improve their financial bottom lines (Weiser and Zadek 2000). Recent research also suggests the same is possible for producers and exporters as well (Kinyua 2008; Jaffee and Masakure 2007). However, standards are not only a means of improving the bottom line or differentiating a product, they are also a risk management tool for firms that want to ensure the quality and safety of their supply. As such, we need to know how standards actually impact supply chains, and particularly how they impact producers.

BOX 2. Standards: Potential Costs & Benefits

Key Benefits

- Improvement in operational and managerial efficiency
- Greater participation in global supply chain and high-value products
- Environmental benefits of erosion reduction and soil improvement
- Food security, including that of the rural poor
- Economic benefit: or price premiums.

Key Costs

- Transition difficulties potentially affecting yields
- Investments in time and learning
- Financial investment for infrastructure and technology
- Higher operating costs for more complex processes.

Adapted from Giovannucci and Purcell (2008)

When producers or processors can meet the required standards, they naturally improve their market access. In some cases producers may also experience other important benefits and some serious costs, the key ones are listed in Box 2. In order for standards to succeed and be effective, we need to better understand the nature of both these costs and benefits.

The body of research on the actual costs and benefits of adopting standards is limited. One 1997 OECD study notes that hard data relating to the benefit of ecolabelling is lacking and that effectiveness is therefore measured only on the basis of consumer demand and producer adoption; this still has substantial relevance today. Some studies exist but only a few use a credible and impartial methodology. New research on sustainability standards is currently being conducted by the Committee on Sustainability Assessment (COSA), part of a consortium of two dozen global organizations committed to sustainability⁸.

COSA's innovation is a methodology to capture both the direct and the indirect costs and benefits of sustainability initiatives at the field level and to measure them at not only the economic level, but also at the social and environmental levels as well.

HARMONIZING STANDARDS

As early as 1994, there were calls for the development of multilaterally agreed guidelines and of equivalent criteria for the mutual recognition of ecolabels (UNCTAD 1994). Then

⁸ www.iisd.org/standards/cosa.asp

have been a number of international efforts to develop more commonly coherent meta-standards. Even simple levels of harmonization can benefit everyone, especially their intended beneficiaries (Zarrilli, Jha, and Vossenaar 1997). They would, at least theoretically, facilitate transactions and reduce compliance costs for producers, processors, and exporters (Schoenmakers 2008). Yet, the diversity of objectives and the sometimes intransigent positions of standard-setters defending their turfs make progress difficult. Few are willing to acknowledge the potential benefits to producers and to consumers of more harmonized and less complex ecolabelling systems.

One international NGO representative suggests that a plethora of labels is not problematic and equates it to the copious availability of many similar food products such as chocolates, wines, and breakfast cereals. This misses the fact that such manufactured products do not share the same defining characteristics with standards or ecolabels. For example, there is little public benefit in having specific distinctions between the thousands of candies or wines available today. Consumers choose according to personal preferences and truth in labelling laws. In contrast, there is a public advantage in having clarity about claims that a product or service embodies social or environmental benefits. Similarly, there is a marked distinction between a firm's choice to manufacture and market a product and the demands on producers to learn about, invest in, and adapt to a plethora of standards.

For all stakeholders, especially consumers, having common transparent information, compliance and reporting frameworks would be useful. Knowing the costs, benefits, and effects or impacts can permit objective verification so as to enable quality controls and reasonable comparisons between standards. Some explanatory efforts exist, even at the consumer level⁹, but all are very limited in their ability to provide accurate and verifiable information about the impact or effect of standards.

Despite the rationale for harmonization, the evidence points to the opposite: there is an increasing proliferation of standards. Yet, some efforts are encouraging. The International Committee of Food Retail Chains (CIES) Global Food Safety Initiative is one endeavour to provide a single set of coherent general rules for standards and standard setting. The International Social and Environmental Accreditation and Labeling (ISEAL) Alliance also strives to achieve some levels of harmonization among the most important eco-social standards bodies including IFOAM, Rainforest Alliance, FLO, Utz Certified, and the Forest Stewardship Council. The various GAP standards in different regions and countries appear to be heading toward a single GlobalGAP. A group of third-party, environmental labelling organizations orchestrate the non-profit Global Ecolabelling Network to improve and develop the ecolabelling of products and services.

In summary, it is clear that standards are increasingly critical for global trade and for competitiveness. This is especially true for higher-value and perishable products including fruit, vegetables, seafood, dairy, and meat products. Since standards, like the markets they serve, are dynamic and rapidly evolving they also pose substantial challenges. Yet, the challenges in turn offer considerable opportunities.

⁹ Consumers Union (www.ecolabels.org) provides consumer-friendly access to a brief definition and assessment of several of the ecolabels now on the North American market.

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