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# A Strategic Perspective on the Impact of Food Safety Standards on Developing Countries

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# **A Strategic Perspective on the Impact of Food Safety Standards on Developing Countries**

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## **Abstract:**

This paper explores the competing concepts of ‘standards as barriers’ and standards as catalysts’ in the context of food safety standards in international trade in agricultural and food products. It is suggested that food safety standards can act as both a barrier to trade and the basis of competitive positioning for developing countries in international markets. This suggests that the application of a strategic framework to analyze and assess alternative responses to evolving food safety standards can throw some light on the circumstances under which standards act to prohibit trade or, alternatively, create competitive trade opportunities. The use of such a framework is illustrated through a brief case study of fish and fishery product exports from Kenya and India.

**JEL classifications:** Q18, K32, F13

**Keywords:** Agriculture; Food; Trade; Food Safety; Standards; Technical barriers to Trade

# **A Strategic Perspective on the Impact of Food Safety Standards on Developing Countries**

## **1. Introduction:**

In recent years, food safety standards have become a more prominent issue for global trade in agricultural and food products (Jaffee and Henson, 2004a; 2004b; Josling *et al.*, 2004). The expansion of international trade in high-value agricultural and food products in particular has served to highlight the extent to which national food safety standards diverge, as well as the differential capacities of both public authorities and private sector suppliers to comply. For many high-value agricultural and food products, international competitiveness is no longer driven by price and quality grades (Jaffee and Henson, 2004a; 2004b). Rather, quality and safety concerns have come to the fore and the dominant modes of competition in many agricultural and food markets are based around quality rather than price (Busch and Bain, 2004). There is greater scrutiny of the production or processing techniques employed along the associated supply chains (Buzby, 2003; Unnevehr, 2003) and a number of meta systems, for example hazard analysis and critical control point (HACCP) and good agricultural practice (GAP), have increasingly become global food safety norms. Increasingly, such meta systems have been codified in a growing array of public and private food safety standards, the latter of which have become increasingly *de facto* mandatory in markets for high-value agricultural and food products (Henson and Reardon, 2005; Henson, 2006).

Of particular concern is the potential impact of food safety standards, whether promulgated by governments and/or private sector buyers, on the ability of developing countries to gain and/or maintain access to markets for high-value agricultural and food products, especially in industrialized countries. Concerns are greatest in the case of low-income countries, given their typically weaker food safety and quality management capacities that can thwart efforts towards export-led agricultural diversification and rural development (World Bank, 2005). However, while recognizing that food

safety standards can act to impede exports, there is a need to ‘rebalance’ the current debate in this area. Indeed, there is growing evidence that the proliferation and increased stringency of food safety standards is creating a new landscape that might form the basis for competitive repositioning and enhanced export performance of developing countries. This paper explores the strategic role that food safety standards can play in export markets for high-value agricultural and food products, highlighting the basis for related competitive repositioning and relations to the manner in which developing country governments and/or private sector suppliers respond to evolving standards.

## **2. Alternative perspectives on the trade effects of food safety and quality standards:**

The proliferation and enhanced stringency of food safety standards has caused considerable concern among low and middle-income countries and development agencies aiming to promote trade as a means to agricultural and rural development (see for example Henson *et al.*, 2000; Unnevehr, 2000; Wilson and Abiola, 2003; Otsuki *et al.*, 2001a). While the WTO’s Agreement on Sanitary and Phytosanitary Measures sets out broad ground rules for the legitimate application of public food safety measures, many of which have the potential to affect international trade, it is recognized that there remains considerable scope for national food safety controls to impede trade (Henson and Wilson, 2005; Roberts, 2004). Indeed, there is an increasingly widespread presumption that public food safety standards are routinely used as a protectionist tool, providing ‘scientific’ justifications for prohibiting imports of agricultural and food products, or discriminating against imports by applying higher and/or more rigorous regulatory enforced standards than on domestic suppliers. At the same time, private food safety standards, that fall outside of the WTO, have come to play a more prominent role in governing agricultural and food markets (Henson and Reardon, 2005; Henson, 2006). Even where standards are not intentionally used to discriminate against imports, there is concern that their growing complexity and the lack of harmonization between countries impedes the

efforts of developing countries to gain access to potentially lucrative markets in industrialized countries.

In circumstances where regulators have wide discretion and various forms of differentiation are required for cost-effective management of food safety, there is undoubtedly scope for 'mischief'. However, in practice separating legitimate differentiation from non-legitimate discrimination is problematic and, we would argue, may be of limited utility. It is even more difficult to attribute particular food safety standards to protectionist designs, considering that in most circumstances where protectionism is alleged, there are at least partially legitimate food safety concerns at play. The case of the European Union's (EU) standards for aflatoxins in nuts and cereals provides a poignant and widely publicized example (see for example Otsuki *et al.*, 2001a; 2001b). In other cases, trading partners have differing perspectives on the current state of scientific knowledge and/or the need to make allowance for uncertainty. Perhaps the most prominent case is the dispute between the EU and United States (US) over restrictions on exports of beef produced with the use of hormones (Paulwelyn, 1999; Bureau *et al.*, 1998).

More broadly, there is concern that many developing countries lack the administrative, technical and scientific capacities to comply with dynamic and increasingly strict food safety standards, presenting potentially insurmountable barriers to the development of market opportunities, especially for high-value agricultural and food products (Henson *et al.*, 2000; Jaffee and Henson, 2004a; 2004b). Further, the associated non-recurring and/or recurring costs of compliance can undermine the longer-term competitive position of exporters, diminish the profitability of high-value agricultural and food exports and compete for scarce resources that might be used to address other more pressing social issues. It is argued that the combined effects of these institutional weaknesses and

costs of compliance contributes to the further marginalization of smaller and/or poorer countries (Wilson and Abiola, 2003), regardless of whether predominant food safety standards are driven by the public or private sectors.

An alternative and less pessimistic view, however, emphasizes the potential opportunities provided by evolving food safety standards and the likelihood that certain developing countries can utilize such opportunities to their competitive advantage (Jaffee and Henson, 2004a; 2004b; World Bank, 2005). From this perspective, public and private standards are viewed, at least in part, as a necessary bridge between increasingly demanding consumer requirements and the participation of international suppliers. Indeed, food safety standards may provide a 'common language' through increasingly global supply chains in a manner that diminishes reducing transaction costs, while promoting consumer confidence in food product safety, without which the market for these products cannot be maintained and/or enhanced. This perspective sees public and private standards as 'catalysts' for the development and exploitation of competitive gains within markets for agricultural and food products where modes of competition are fundamentally based on quality rather than price.

The costs of complying with food safety standards may also provide a powerful incentive for the modernization of export supply chains in low and middle-income countries. Compliance with stricter food safety standards can also stimulate capacity-building within the public sector and give greater clarity to the appropriate management functions of government. Further, through increased attention to the spread and adoption of 'good practices' in the supply of agricultural and food products there may be spillovers into domestic food safety systems, to the benefit of the local population and domestic producers. Thus, the associated costs of compliance can be offset, at least

in part, by an array of foreseen or unforeseen benefits from the induced enhancement of food safety management capacity. Rather than degrading the competitiveness of low and middle-income countries, therefore, the enhancement of capacity to meet stricter food safety standards can potentially create new forms of competitive advantage. While there will inevitably be losers as well as gainers, this view suggests that the process of standards compliance can conceivably provide the basis for more sustainable and profitable agricultural and food exports in the long-term. In turn, it redirects the debate to identifying the conditions under which developing countries might be able to derive gains from evolving food safety standards, or at least minimize any losses.

This rather crude dichotomy between ‘standards as barriers’ and ‘standards as catalysts’ suggests a complex reality in which close attention is needed to the specifics of particular markets, products and countries to understand how specific food safety standards are providing challenges and opportunities for developing countries. Further, there is a need to understand the strategic options and patterns of performance of developing countries in meeting these challenges and their ability to exploit emerging opportunities. Such options should be examined at both the country and broad policy level, which is perhaps the predominant focus of government, and at the level of industries and individual exporters. Thus, it needs to be acknowledged that both public and private sector entities have strategic options and choices, albeit constrained by prevailing resources and institutional and market structures, while the export performance of a particular country for high-value agricultural and food products will reflect the combined outcomes of these choices.

### **3. Food safety standards as a strategic issue:**

The complexity of the food safety standards environment highlighted above poses enormous challenges for developing countries in general, and stakeholders involved in export-oriented

agricultural and food supply chains in particular. Embedded within these challenges, however, are a plethora of strategic decisions that policy-makers and private sector exporters need to make in identifying the emerging set of requirements with which they must comply and the associated threats or opportunities. In so doing, they must trade-off the available options through which compliance can be achieved and manage the chosen processes of capacity-building and adjustment. The notion of 'strategic options' is novel in the context of food safety standards and trade, especially when considering developing countries. The more typical assumption is that middle and (in particular low-income countries are 'standards takers', facing essentially 'all-or-nothing' decisions regarding compliance with few, if any, alternative approaches to achieving their trade goals. The perspective presented here, however, focuses instead on the 'room for maneuver' available to developing countries in complying with food safety standards.

Figure 1 presents a simple conceptual framework that aims to characterize alternative strategic responses to food safety standards. This framework draws on the concepts of 'exit', 'loyalty' and 'voice' developed by Hirschman (1970). Hirschman's framework was originally used to examine economic and political behavior as responses to the decline of firms, organizations and states, but has since been extended to quite different contexts, for example microfinance for micro and small enterprises (Lepenies, 2004). Depending upon the context, 'exit' could involve leaving an organization, emigrating, or ceasing to buy a company's products. 'Voice' involves protest or otherwise lobbying for changes in rules and laws. For Hirschman, 'loyalty' relates to deepening one's participation in, and alignment with, an entity's goals and processes. A second 'proactivity'- 'reactivity' dimension relates to the time when efforts to comply commence, which is our own innovation.

The predominant dialogue on food safety standards, especially relating to developing countries, presents a single strategic option of complying with public and private food safety standards in focal markets; this is Hirschman's 'loyalty'. This can take a variety of forms, including the adoption of legal/regulatory reforms, changes in production technologies, shifts in the structure of supply chains, additional measures for conformity assessment, etc. This approach to compliance can be implemented at the time a standard comes into force, that is 'reactively', or ahead of time in view of expectations as to how standards are likely to evolve in the future, that is 'proactively'. Everything else being equal, a 'proactive' approach affords greater potential to manage compliance in a manner that brings about strategic gain and minimizes any detrimental economic and social spillovers. This relates to the existence of 'first mover' advantage, for example through earlier sunk costs or reputational effects, as well as to the greater flexibility afforded by longer time periods over which compliance can be pursued. In a 'pro-active' mode, there is greater scope to test and apply alternative technologies and employ varied administrative and institutional arrangements.

FIGURE 1 HERE

In practice, however, there are other strategic options beyond the strict compliance associated with 'loyalty'. On the one hand, countries or individual private sector exporters can 'exit', choosing not to comply with the food safety standards being imposed in a particular market. This implies switching customers, in the case of a private standard, or exiting particular export markets altogether, in the case of a public standard. The producer and/or exporter may choose to switch to different products for which food safety standards are less problematic or costly given prevailing capacity; for example, shifting from a highly processed product (for example cereal products) to a more basic commodity (for example basic grains). Such a strategy might be employed where

compliance will yield a fundamental loss of competitiveness and/or negative economic and social impacts, where resources might be better spent elsewhere, and/or where profitable alternative markets exist that have less demanding standards, for example the higher quality segments of domestic markets or in other developing countries. Thus, 'exit' should not be construed as a loser's strategy; it can take the form of a carefully considered re-direction of commercial strategy if pursued purposefully

In parallel with strategies of 'loyalty' or 'exit', developing country governments and/or exporters can adopt a strategy of 'voice', seeking to influence the prevailing rules or responding to new standards by negotiating, or simply complaining. For example, WTO members may raise their complaints through cross-notifications in the SPS Committee (Roberts, 2004) or engage in bilateral negotiations with their trading partners regarding the specific actions required to achieve compliance or the equivalence of differing national measures. Individual exporters may question the food safety standards being imposed by their customers and attempt to come to some compromise that reflects their prevailing local circumstances alongside customer's demands. Across both 'exit' and 'voice', being 'proactive' is considered more strategically advantageous than being 'reactive'. Typically in any one industry, a combination of all three types of strategies is likely to be observed, yet in differing proportions and perhaps involving different stakeholders, reflecting individual capacities, managerial objectives, risk perceptions and attitudes, etc.

Besides the two dimensions in Figure 1, there are further ways to characterize the responses of developing countries to new food safety standards in export markets. One distinction is between 'defensive' and 'offensive' approaches. 'Defensive' strategies are aimed at maintaining the status quo and minimizing related impacts. The aim is normally to limit the actions (and often also the

investments) needed to achieve compliance. This is often pursued under conditions of resource limitations and risk adversity. 'Offensive' strategies involve attempts to utilize standards as a means to gain competitive advantage, even where this may require additional investments beyond the minimum required to achieve compliance.

A final dimension relates to the locus of strategic response. Measures can be taken within the public or private sectors, involving either individual entities (for example single exporters or producers) or various forms of collective action within or across the public and private sectors (Figure 2). Where both the public and private sector are adopting measures, the leadership or driving force behind this process can come from either side. Traditionally, relatively clear distinctions have been made between aspects of food safety management that are the domain of the public and private sectors. Increasingly, however, these demarcation lines are being challenged as co-regulatory approaches are employed and, more generally, there is a reliance on 'soft law' (Henson, 2006). For example, the potential role of self-regulation through industry-level 'codes of practice' and commercial laboratories for product certification is being acknowledged. Further, there is recognition of the potential efficiencies associated with collective and collaborative actions. These can include inter-ministerial task forces seeking to avoid duplication of efforts where multiple tiers of government are involved and/or trade and industry associations that build on the compliance investments made by individual enterprises. Collective action can also take place across the public and private sectors, for example through joint task-forces. More broadly, it is recognized that both the public and private sectors have a role to play in responding to new food safety standards, and that national food safety management capacity should be viewed from this holistic perspective.

FIGURE 2 HERE

In the context of this framework, the most positive and potentially advantageous strategy for developing countries, both as a whole and for exporters therein, combines ‘voice’, ‘proactivity’ and ‘offensive’ orientations. Everything else being equal, this approach is most likely to turn the challenges associated with new food safety standards into competitive opportunities and to yield positive social and economic spillovers. Conversely, the most negative approach is a combination of ‘exit’, ‘reactivity’ and ‘defense’. Indeed, there may be considerable costs associated with such an approach, related to the level of sunk investments and the social and economic consequences for supply chains that are export-oriented. Thus, the aim of capacity-building should be seen as maximizing the strategic options for developing countries and, more particularly, enhancing the scope to implement strategies that are ‘offensive’, ‘proactive’ and involve negotiation.

#### **4. Strategic analysis of food safety standards and trade – an application:**

As described above, this strategic perspective can be applied to both public and private sector responses to evolving food safety standards for agricultural and food products in the context of international trade. To explore how this framework might enhance our understanding of the impacts of food safety standards on developing country exports of high-value agricultural and food products, a series of case studies has been undertaken by the authors as part of a broader program of research coordinated by the World Bank (see for example World Bank, 2005; Jaffee, 2003; 2005; Henson and Mitullah, 2004; Henson, Saqib and Rajasenan, 2005). To provide an illustration, drawing on e two of these case studies, Table 1 outlines the differing responses to evolving food safety standards (specifically related to hygiene and chemical residues) for fish and fishery products, predominantly in the EU, in Kenya and India (and specifically the state of Kerala). Both countries at some time in the 1990s had restrictions applied on exports to the EU and, more generally, have

faced demands for enhanced food safety controls through the supply chain. The supply chains under scrutiny in both cases were generally operating below capacity, while the standards used in their processing facilities differed markedly. All were facing growing competition and price pressure that challenged their established market position; Kenya for Nile perch, Kerala for shrimp.

#### TABLE 1 HERE

The dominant response to the imposition of stricter food safety standards for fish and fishery products in Kenya and India has been reactive, loyal and defensive, both by the government and in the private sector. Thus, hygiene and antibiotic controls have been upgraded largely in response to regulatory change in the EU and US, or on demand from major customers. In Kenya, little action was taken until the European Commission undertook inspections which led to an on-going series of restrictions on exports to the EU. In Kerala, the Indian government had implemented initial reforms of its regulatory framework in response to evolving EU legislation, yet these were insufficient to comply with the EU's requirements. In both cases the substantive drive to upgrade hygiene controls occurred suddenly when market access to the EU was threatened or curtailed.

In both Kenya and Kerala, however, there were examples of exporters who adopted proactive and offensive strategies; these firms had seen the overall direction of food safety standards in their dominant export market and made substantive efforts to upgrade their controls to meet those standards ahead of their competitors. While in most cases they represented a relatively small part of the total industry, they clearly stuck out as leaders. At the same time, however, some processor/exporters exited the industry altogether in response to stricter controls, while others refocused their business on other markets with lower standards. Standards-related pressures,

however, were not the only factors stimulating market exit, other factors included resource management constraints and broader competitive and capacity issues, compounding the problems of generating the investments required to comply with the new standards.

These two case studies also illustrate some attempts to exert voice, although in a reactive and defensive mode in response to restrictions already imposed or threatened by the EU. Both the government and industry were involved in such efforts, which clearly were designed to 'fight fires'. Indeed, in the case of Kenya the perceived need to fight the restrictions imposed by the European Commission brought about the first real cooperation between firms in the fish processing sector and between the industry and government. While ongoing negotiations may have taken place between individual exporters and their customers, these do not appear to have been a major element of the strategic response of most firms, reflecting perceptions of 'powerlessness' on the part of many.

While Kenya and India differ significantly in size and income, their response to evolving food safety standards was broadly similar - loyalty, reactive, and defensive. There was limited evidence of voice, and where used it was generally in crisis mode as a response to impending or prevailing threats to exports. However, some leading exporters had seen the drive toward higher standards and made advance efforts to comply as a means to gain competitive advantage. Many of these leading firms gained significant market share as a result of their proactivity, while most of the laggards have had to leave the industry or redirect their exports to countries with lower standards, which also tend to be less profitable.. These observed changes in the structure and *modus operandi* of export supply chains, *per se*, are not attributable to the imposition of stricter food safety standards alone. Rather, the challenges of compliance with these standards acted to exacerbate existing competitive pressures that, in turn, reflected prevailing market and economic conditions.

## **5. Factors influencing strategic options and choices:**

The wider body of case studies undertaken by the authors has served to identify a series of factors that affect the viability of alternative standards-related strategies for government and private firms, including the ability to pursue more pro-active and offensive 'voice' and 'compliance' approaches. These factors are summarized in Table 2.

TABLE 2 HERE

For individual exporters, enterprise size is a key variable in the ability to be proactive and offensive. There are typically significant economies of scale in compliance such that unit costs tend to be lower for larger enterprises (Jaffee and Henson, 2004a; 2004b). For example, the introduction of HACCP in a processing facility and/or GAP on a farm involves 'lumpy' investments (for example construction or upgrading of buildings and equipment) that are not critically dependent on enterprise size. Such economies of scale are likely to be less significant, however, for firms that are highly diversified by products and/or across markets with differing food safety standards. Large enterprises also may have greater scope to negotiate on standards-related requirements - that is to exhibit voice - especially with respect to major customers, and may have easier or cheaper access to capital. At the same time, however, the strategic options of all enterprises will be influenced by prevailing levels of managerial and technical capacity and overall organizational objectives. The reputation of the firm, the level of value-added of its products and the degree to which products are branded are also critical factors influencing the viability of particular strategic responses.

The size and structure of an industry and the competitive environment in which it operates will also influence the strategic options that exporters face, in particular their ability to be proactive. Salient factors include the overall output of the industry relative to installed capacity, levels of integration and coordination along supply chains, modes of competition and levels and forms of industry cooperation and integration. For example, even industries with a large supply base of small and medium-sized enterprises may be able to exert voice if there is a well-established and effective industry or trade organization. International market share and existence of alternative sources of supply are relevant as well; these, influence the ability of the standard-setter to go elsewhere should the industry choose to not comply. The existence and/or effectiveness of industry leadership, whether on an individual or collective basis, is also critical in the process of achieving compliance; leading firms or farms can set an example, may be able to test newer technologies or organizational approaches at lower risk and/or unit cost and, more broadly, can push others to follow in order to enhance or maintain the international reputation of the entire industry.

Strategic options in compliance will vary across countries reflecting economic, political and social systems and norms, institutional structures, geographical size, etc. The efficacy of general legal frameworks, food safety control systems, and general governance are also important, for the ability to comply, to project voice and for the international receptiveness of a country's compliance efforts. Indeed, there are predominant areas in which food safety control systems in developing countries tend to be deficient (World Bank, 2005). These include weaknesses in legislative frameworks and non-compliance with international norms, limitations of surveillance and inspection systems and procedures, lack of laboratory testing capacity and inadequate controls within private sector supply chains. Capacity and governance can also be a major constraint on pro-activity; it is difficult for a country and/or exporters to be first movers if they are struggling with basic capacity issues. A

country that is perceived to have weak capacity, perhaps because it lacks an appropriate legal and regulatory framework, clarity in institutional roles or lacks particular capabilities in the public or private sector, is unlikely to have much success in exercising voice, either on a multilateral or bilateral basis. Further, such countries may struggle to achieve compliance, even after allocating significant levels of financial or human resources. It might also be unrealistic to expect a country that is experiencing a disease outbreak, trade ban or other form of crisis to exercise effective voice, although as always there are exceptions.

The strategic approach that is actually adopted in a particular circumstance will clearly differ over time, between countries and across issues, reflecting attitudes toward standards, levels of risk adversity, and other factors. Indeed, in the short term many developing countries may lack the confidence to move away from their more traditional compliance-based strategies to being more proactive and/or offensive. However, even in countries where prevailing levels of capacity are generally weak it is often possible to see examples of proactive and/or offensive responses to evolving food safety standards. For example, well-managed companies and supply chains, together with reasonably effective industry organizations, can frequently compensate for weaknesses in public services. This may involve undertaking certain functions on behalf of government or helping public agencies to implement their functions. The horticultural product sector in a number of countries in Sub-Saharan Africa provides a notable example of where private sector leaders have been extremely proactive and offensive in response to emerging food safety requirements (see for example Jaffee, 2004).

## **6. Conclusions:**

This paper has put forward and examined the concept of ‘standards as catalysts’ in the context of food safety standards in international trade and the ‘room for maneuver’ that developing countries may possess in the face of an ever-changing and increasingly complex standards environment. This contrasts with the ‘standards as barriers’ perspective that has dominated the literature on food safety standards and agricultural and food trade. In so doing, however, the aim has not been to deny that food safety standards can be serious impediments to agricultural and food exports from low and middle-income countries. Rather, the dominant theme is the need for a strategic orientation when considering the trade effects of food safety standards in order to ascertain how and when these trade effects reflect the manner in which developing country governments and/or exporters respond to emerging standards and the scope for competitive gain out of changes in the standards landscape.

This paper has presented evidence that is both limited in its scale and scope simply as a means of illustration. However, it lays out the range of strategic approaches that might be employed by developing countries, both at the level of government and individual exporters. These illustrate the ways in which strategic responses vary across countries and between exporters therein, reflecting prevailing capacities and perspectives on emerging standards. Overall, these responses are typified by strategies that are ‘reactive’ and ‘defensive’. At the same time, however, there are exporters that are ‘proactive’, complying ahead of their competitors and often deriving competitive advantage as a result. Across these various scenarios there is evidence of ‘voice’, although it is not evident that this is a major strategic response, while efforts in this regard are severely curtailed by capacity constraints.

An important implication of the strategic perspective presented above is the need for capacity-building efforts related to food safety controls to be recast away from the conventional focus on problem-solving and coping strategies, often centered on the development of technical infrastructure. Instead, capacity-building should be geared towards maximizing the strategic options available to both government and the private sector in developing countries when faced with new or more stringent food safety standards and enhancing their ability to recognize and manage these options in a seemingly ever more dynamic standards environment. It also emphasizes the dual roles of the public and private across multiple jurisdictions, and the interplay between these, in determining the impacts of evolving food safety standards on developing countries. Capacity-building efforts also need to reflect this, highlighting the need to move away from a typical preoccupation with public sector capacity.

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**Figure 1. Strategic response to food safety standards:**

	<b>Reactive</b>	<b>Proactive</b>
<b>Exit</b>	Wait for standards and give up	Anticipate standards, leave particular markets or market segments, and make other commercial shifts
<b>Loyalty</b>	Wait for standards and then adopt measures to comply	Anticipate standards and comply ahead of time
<b>Voice</b>	Complain when existing standards are applied or new measures are adopted	Participate in standard creation and/or negotiate before standards are applied

**Figure 2. Actors in strategic response to standards:**

	<b>Individual</b>	<b>Collective</b>
<b>Public</b>	Specific Ministry or agency	Inter-ministerial taskforces Government to government memoranda of understanding Multi-country SPS counter-notification
<b>Public-private</b>	Subsidies/Co-financing Joint-ventures	Joint public-private sector task-forces
<b>Private</b>	Firm/farm investments Company 'codes of practice'	Trade/industry associations Grower associations Partnerships in coordinated supply chains

**Table 1. Analysis of Strategic Response to Evolving Food Safety Standards for Fish and Fishery Products in Kenya and India:**

	Reactive	Proactive
<b>India (State of Kerala)</b>		
<b>Exit</b>	Some processors have ceased production since imposition of higher hygiene standards	Little or no evidence of strategies in this field
<b>Loyalty</b>	Substantive efforts to comply with hygiene requirements occurred after inspection mission by European Commission	Some initial attempts to reform regulatory controls prior to European Commission inspections Some processors had seen drive toward higher hygiene standards and built/upgraded their plants (offensive).
<b>Voice</b>	Complaints to European Commission and member states over border detentions caused by antibiotic residues/bacterial inhibitors	Little or no evidence of strategies in this field
<b>Kenya</b>		
<b>Exit</b>	Some processors have ceased production since imposition of higher hygiene standards	Little or no evidence of strategies in this field
<b>Loyalty</b>	Virtually all efforts to comply with hygiene requirements occurred after inspection mission by European Commission	One or two exporters had made some attempts to upgrade their hygiene standards ahead of the industry as a whole
<b>Voice</b>	Joint government-industry mission to European Commission once restrictions imposed Collective action on the part of the industry to lobby government and the EU	Little or no evidence of strategies in this field

**Table 2. Factors influencing availability and choice of strategic options:**

<b>Factor</b>	<b>Exit</b>	<b>Voice</b>	<b>Loyalty</b>
Size of firm or industry	–	++	+
Share of target market (segment)	–	++	+
Reputation for quality/safety	+	++	+
Suitability of legal/regulatory framework		++	+
Leadership/coordination within private sector		+	++
Private sector management/technical capacity	+	+	++
Clarity of institutional responsibilities/procedures		+	+
Geographic/agro-climatic factors	–/+		–/+
Circumstances (for example, a “crisis”)	++	–	–/+