



**Pro-Poor  
Livestock  
Policy  
Initiative**

**International Rules, Food Safety  
and the Poor Developing Country  
Livestock Producer  
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## PREFACE

This is the 25th of a series of Working Papers prepared for the Pro-Poor Livestock Policy Initiative (PPLPI). The purpose of these papers is to explore issues related to livestock development in the context of poverty alleviation.

Livestock is vital to the economies of many developing countries. Animals are a source of food, more specifically protein for human diets, income, employment and possibly foreign exchange. For low-income producers, livestock can serve as a store of wealth, provide draught power and organic fertilizer for crop production and a means of transport. Consumption of livestock and livestock products in developing countries, though starting from a low base, is growing rapidly.

The present study is a part of the PPLPI effort to identify significant political and institutional factors and processes that currently hinder or prevent the poor in developing countries from taking greater advantage of opportunities to benefit from livestock. Michael Halderman and Michael Nelson's PPLPI Working Paper No. 18 identified the development of international sanitary and phytosanitary standards as an important factor and suggested further research was needed in this area. This study focuses on what can be done to make international rule-making friendlier to poor livestock producer interests *if* international rules regarding the safety of livestock food products are considered a factor. Another study, carried out by Brian Perry and colleagues (*PPLPI Working Paper No. 23*) seeks to identify the impacts of sanitary and phytosanitary (SPS) rules on access to livestock markets by developing countries.

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Organization (WHO), and World Trade Organization (WTO). None of the individuals mentioned above are responsible for the views expressed in this report, or for any inaccuracies, as that responsibility rests with the author alone.

### **Keywords**

Livestock products, meat, milk, WTO, WHO, FAO, OIE.

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## LIST OF ACRONYMS

ARSO	African Regional Standardization Organization
bil	billion
BSE	Bovine spongiform encephelopathy
CAC/Codex	Codex Alimentarius Commission (Codex)
CGIAR	Consultative Group on International Agriculture Research
CCGP	Codex Committee on General Principles
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organization (United Nations)
FDA	Food and Drug Administration (United States)
FMD	Foot and Mouth Disease
GATT	General Agreement on Tariffs and Trade
GM	genetically modified
HACCP	Hazard Analysis and Critical Control Point system
ICD	Industry Council for Development
IFAP	International Federation of Agricultural Producers
IFPRI	International Food Policy Research Institute
ILRI	International Livestock Research Institute
ILSI	International Life Sciences Institute
IPPC	International Plant Protection Convention
ISO	International Organization for Standardization
ISSO	International Standard-Setting Organizations
JECFA	Joint Expert Committee on Food Additives (FAO/WHO)
LDC	Least Developed Country
mil	million
MRL	maximum residue limit
MT	metric ton
NGO	Non-Governmental Organization
OIE	<i>Office International des Epizooties</i> (World Organization for Animal Health)
ppb	parts per billion
RVF	Rift Valley Fever
SPS	Sanitary and Phytosanitary
TBT	Technical Barriers to Trade
TSE	transmissible spongiform encephalitis
WHO	World Health Organization
WTO	World Trade Organization

### Overview

Three trends converged in the 1990s. Consumers, especially in the developed world, became strikingly aware of the vulnerability of their food supplies and the international dimensions of food safety hazards, the development of international economic law (especially concerning trade) accelerated, and researchers became aware of a livestock 'revolution' that might help reduce poverty in the developing world. This study considers these trends from the perspective of the poor livestock producers in the developing world. Noting increasing international food safety regulation it examines the nature of international food safety rule-making and how such international rule-making activity can be made friendlier to their interests.

In the past, the Codex Alimentarius Commission (Codex) was the agency primarily responsible for the development of public international food safety rules, although the World Organization for Animal Health (OIE) created some rules relevant to livestock food product safety. These rules took the form of voluntary standards—guidelines for state practice and recommendations for protecting human health.

Since 1995 the World Trade Organization (WTO) has linked the international rules created through these organizations to its own rules regarding trade as defined by the Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures. Especially important are provisions for a SPS Committee and links to the WTO's enforcement mechanism (the Dispute Settlement Mechanism). This enforcement mechanism makes OIE and Codex rules suddenly appear less voluntary and more important.

At the same time international rule-making is changing, there is increasing awareness of the importance of livestock food products in human consumption and the potential associated risks. One notable trend is that growth in consumption and production of these products in developing countries is outpacing that in developed countries. Furthermore, what is being called a "livestock revolution" is heralded by some as an important route out of poverty.

All of this raises two questions: What is the relevance of food safety law to poor producers seeking to use livestock as a way out of poverty? **And if any of these rules are relevant what can be done to ensure that rule-making processes consider poor producer interests?** The primary focus of this study is on this last question.

To identify strategic entry points for those wishing to make international rule-making friendlier to poor livestock producers this study: (a) describes and analyzes the international environment that states and other actors face when seeking to influence international food safety rules; (b) discusses the roles played by states and other actors in creating and enforcing those rules; and (c) analyzes a series of cases involving international rule-making for livestock food products.

### Conclusions and Recommendations

International food safety rules are only one factor among many affecting the competitiveness of poor livestock producers. The basic fact that most of these producers do not export means that many of these rules are of little or no direct import. However, as Section Two of this paper explains, international food safety standards can have both positive and negative effects. They should not be ignored. While they present the potential to restrict market access for livestock food products from developing countries, standards can also benefit both poor producers and poor consumers in developing countries if producers are given appropriate technical

assistance. The standards adopted might well be different if better technical information about the different circumstances of developing countries and the poor within them were presented effectively.

The WTO, Codex, and OIE are the three most important international organizations for livestock food safety rules. Also important are the relationships in rule-making activities among these organizations. The WTO's SPS Agreement significantly altered the international rule-making environment for food safety. State strategies to influence international rule-making frequently require combined approaches to multiple international organizations.

The interests of poor developing country producers of livestock food products are *not* directly represented in international food safety rule-making. Indirectly, their interests may be represented by their own governments but developing country participation in relevant rule-making activity is limited. Additionally, it is clear that developing country government interests will not necessarily be the same as those of their own poor producers.

Influencing the development of rules requires an understanding of the international organizational environment and the capacities and interests of relevant actors. Specifically, it is important to consider (a) the unique rule-making dynamics of each organization; (b) the degree to which these organizations are embedded in other international organizations (Codex is embedded in the UN system, for instance); (c) the dynamics that formal and informal linkages between these organizations create; (d) the relevant differences in capacities of states for participation in these organizations; (e) the different situations of repeat players and one-shotters; (f) how coordination among one-shotters can provide some of the advantages of repeat players (for instance, through regional organizations); and (g) the relatively high level of engagement by industries and consumer groups compared to those with pro-poor concerns in lobbying for rules and shaping scientific discourse. These factors are important determinants of the constraints and opportunities the current international rule-making system has for poor livestock producers and their advocates.

Recommendations for making international rule-making friendlier to poor producers consider two perspectives. From the perspective of poor producers and their advocates the primary routes to influencing international rule-making include: influencing their own country's position in international organizations; lobbying those training country delegates to international organizations to include a focus on the relationship between food safety rules, poverty reduction, and the needs of poor livestock producers; establishing transnational alliances with other poor producers and/or NGOs; and contributing to the scientific understanding of food safety concerns in their unique contexts.

Developing country governments, on the other hand, have more options for representing their own interests in international rule-making. While their participation in international organizations is historically less than that of developed countries there are signs of improvement in recent years. Important activities they can engage in include: greater coordination at the national level among ministries and individuals responsible for developing policy positions in all international food safety organizations; improving the quality and quantity of delegations to international organizations; forming alliances with other similarly-situated countries on issues of particular concern; and lobbying for technical assistance to comply with international standards and with a goal of complying with private international standards as well. In general, developing countries can do much more to address the interests of their poor producers.

## 1. INTRODUCTION

Three important trends converged in the 1990s. One was the ongoing “livestock revolution” that might do for livestock what the green revolution was supposed to accomplish for crops. The second was the increasing international attention to food safety. The last was the accelerating development of international economic law, including rules that govern food trade and the application of food safety measures. This paper considers the opportunities and constraints poor livestock producers face when confronting the latter two trends. Specifically, how can international food safety rule-making be friendlier to the interests of poor livestock producers?

Some herald a “livestock revolution” as an important route out of poverty. One key trait of this revolution is the increasing global demand for livestock food products. Another is that growth in consumption and production of livestock food products in developing countries is outpacing that in developed countries (IFPRI 1999; FAOSTAT 2002).<sup>1</sup> The hope is that poor producers will benefit from the increasing demand (Delgado, Rosegrant et al. 1999; ILRI 2000; CGIAR 2002; Upton 2004).<sup>2</sup>

At the same time, there is increasing awareness of the potential risks associated with livestock products. The Mad Cow scare in Europe and avian influenza in East Asia are only two of many health concerns attracting public attention. These problems are international because trade and travel enable contaminated food products to cross borders.<sup>3</sup> Indeed, trade in these products is increasing, with much of the increase coming from developing countries, although developed countries still dominate world markets (FAOSTAT 2002; FAO 2003b).<sup>4</sup> Importing countries have good reason to concern themselves with the food safety practices of exporting countries. Long-term trends point to increasing imports for both developed and developing countries. Exporting countries also have corresponding reasons for concern. A recent World Bank (2005) report suggests that there is a trend towards greater export blockages at borders. The report cites several reasons for this including the “increased availability of agency resources and heightened concern for bio-security and for protection against prominent food safety threats.”

Finally, international governance of food safety developed rapidly in the 1990s, accompanying trends in the general development of international economic law. In the past, the Codex Alimentarius Commission (Codex) was the agency primarily responsible for the development of public international food safety rules, although the World Organization for Animal Health (OIE) created some rules relevant to livestock food product safety. These rules took the form of voluntary standards—guidelines for state practice and recommendations for protecting human health.

Since 1995 the World Trade Organization (WTO) has linked the international rules created through these organizations to its own rules regarding trade as defined by the *Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures*.

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<sup>1</sup> The expected annual increase (1993 - 2003) in meat consumption is 0.6% for developed countries and 2.8% for developing countries. The expected annual increase (1993 - 2003) in dairy consumption is 0.2% for developed countries and 3.3% for developing countries (IFPRI 1999).

<sup>2</sup> While there are many reasons to believe there will be continued growth in the livestock sector, some recent studies suggest that growth will slow (FAO 2003a).

<sup>3</sup> A recent report (Rocourt et al. 2003) suggests several reasons for the increase in reported food-borne disease incidence: new feeding practices (such as those that may have contributed to BSE), modern intensive animal husbandry practices, changes in agronomic practices (affecting fruits and vegetables), increase in international trade (rapid transfer of micro-organisms from one country to another, increasing time between processing and consumption, and a population that is exposed to higher numbers of a greater variety of pathogens), changes in food technology, increase in susceptible populations (more old people), increase in travel, and changes in lifestyle and consumer demands.

<sup>4</sup> For instance, the annual export growth rate (%) for meat between 1980 and 1990 was 3.3% for developed countries but 5.4% for developing countries; between 1990 and 2001 it was 5.5% for developed countries and 8.5% for developing countries (FAO 2003b).



Especially important are provisions for a SPS Committee and links to the WTO's enforcement mechanism (the Dispute Settlement Mechanism). This enforcement mechanism makes OIE and Codex rules suddenly appear less voluntary and more important.

All of this raises two questions: What is the relevance of international food safety law to poor producers seeking to use livestock as a way out of poverty? And if any of these rules are relevant what can be done to ensure that the rule-making process considers poor producer interests? The primary focus of this study is on this last question.

A couple of caveats are worth mentioning before continuing. First, food safety standards are not the only factor affecting poor livestock producer competitiveness, nor are they necessarily the most important. Second, this paper focuses on one general strategy for addressing international food safety rules: influencing their development. A recent World Bank (2005) paper points out that other strategies, such as changing to target markets with different standards, or passive compliance, are also possible. Finally, there are some who argue that current international rule-making is inherently unfair for developing countries and poor producers and therefore advocate drastic change in the rule-making system. Instead, this paper takes the system as given, though some measures for reform are considered.

The paper relies on a variety of information sources. Research began with a review of the relevant secondary literature, including academic studies and legal commentary. A second source was relevant primary literature, including the texts of pertinent international agreements and meeting minutes. Third, there were interviews with staff of a variety of international organizations, including: the World Trade Organization (WTO), the World Animal Health Organization (OIE), the Codex Alimentarius Commission, the Food and Agriculture Organization (FAO), and World Health Organization (WHO). There also were interviews with country delegations to many of these organizations and interviews with academics and experts. Finally, there was direct observation of meetings of the WTO's Sanitary and Phytosanitary (SPS) Committee and Codex Committee on General Principles (CCGP) in October and November 2004.

This paper is about strategies in international rule-making and the paper's organization reflects this. The next section of this paper outlines the types of international food safety rules that exist and discusses whether and how they might matter to poor livestock producers in developing countries. Two sections then analyze the strategic setting states face. Section Three describes and analyzes the international rule-making environment surrounding food safety with special attention to the central international organizations. Section Four completes the strategic setting by examining pertinent states, the agri-food industry, and other private actors. Section Five, drawing on the context provided by previous chapters, analyzes several instances of international rule-making with respect to food safety. Finally, Section Six concludes and provides recommendations for those wishing to make international rule-making friendlier to poor livestock producer interests.

## 2. RULES THAT MATTER

An objective of this study is to identify strategic entry points for those wishing to make international rule-making friendlier to poor producers of livestock products. Thus it is important to begin with an understanding of the nature of these rules and how such rule-making might matter to poor producers.

### Why Are There Rules?

At the domestic level, the economic rationale for governments to create and enforce food safety rules is that food hazards are not easily detectable. [Annex 1 lists some of the important food safety hazards associated with livestock products.] Regulations are a market failure corrective for the incomplete information of producers and consumers. However, other forces also influence rule-making. Several food safety scares in the 1990s prompted consumers in Europe and elsewhere to pressure their government for new safety regulations and enforcement procedures. More than a few states created new regulatory authorities as a result (OECD 2003). New regulations tend to create new sets of winners and losers. The associated threats and opportunities lead some interested parties to political action.

States also create public *international* food safety rules for a variety of reasons. The primary rationale is to address policy externalities. A policy externality exists when one state's policy affects another state (Abbott and Snidal 2001). For instance, the European Union's policy to ban all meat raised using growth hormones affected US beef exporters that relied on those hormones. Similarly, from the EU perspective US policy to allow growth hormones represented a health threat to its consumers. Actions at both Codex and the WTO sought to address this issue. However, as in the domestic context, some interested parties seek the creation or elimination of particular rules for interests other than the public good.

### Types of Rules

Several distinctions can be made about the types of rules that may matter. First is the distinction between primary and secondary rules (Hart 1972). Primary rules involve the substantive obligations states face. In the area of food safety, an example is Article 5 (1) of the SPS Agreement that requires members—"as appropriate to the circumstances"—to base their food safety measures on risk assessment. International food safety standards—such as the guidelines issued by Codex—are also primary. Secondary rules, however, govern the processes for the creation, change and termination of primary rules. These are akin to the "rules of the game" discussed in the new institutional economics. An example is the WTO rule that decision-making should be primarily by consensus (Article IX, WTO Agreement).

This distinction is not trivial. It is commonly said that *developing* countries, due to their weak position in the international system are rule-takers. These comments generally target the question of secondary rules. However, it is interesting to note that *developed* country influence over such rules in the area of food safety is increasingly limited. First, developed countries have relatively high stakes in maintaining the institutions; it would be costly for them opt out or try to create new institutions that would better serve their wishes.<sup>5</sup> Second, they now face developing

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<sup>5</sup> That is, to create or eliminate secondary rules.

countries that are increasingly attuned to efforts to change the rules of the game and even actively engage in efforts to make the rules friendlier to their own interests.<sup>6</sup>

However, much of this paper addresses primary rules, specifically food safety standards. Table 1 shows the division of food safety standards into three general categories: import bans, technical specifications, and information requirements (Roberts, Josling and Orden 1999). The primary focus in this study is on technical specifications and import bans intended to protect human health. For example, the standard set by the World Organization for Animal Health (OIE) calls for states to place only partial bans on beef imports from countries where *bovine spongiform encephalitis* (*BSE*) is found. Total bans, though common in practice, are considered unnecessarily trade-restrictive.

Table 1: Classifications of SPS Standards.

	Import Bans		Technical Specifications			Information Requirements	
Regulatory Goal/ Policy Instrument	Total Ban	Partial Ban	Process Standards	Product Standards	Technical Standards	Labeling Requirements	Controls on Voluntary Claims
Food Safety Examples	Ban on ingestible products harmful to human health	Ban on imports of individual varieties or species of ingestible products harmful to human health	Measures that require specific time/ temperature regimes for imported foods	Measures that specify maximum residue levels	Specifications for packaging technology that minimize probability of microbial contamination	Requirements for labels that specify safe handling procedures or whether product poses risks for sensitive sub-populations	Measures that govern use of voluntary hygiene claims

Source: Roberts, Josling and Orden (1999)

Today, guidelines are in place requiring that food safety standards be based on science using appropriate risk assessment procedures. In certain respects, restriction to the use of scientific criteria narrows the scope for conflict between states regarding SPS measures. Several insiders suggested that conflict is far more likely for other technical barriers to trade—such as labeling requirements—than they are for food safety. However, as explained later in this section, several factors make the outcome of standards development unclear.

A third important distinction is that food safety is not the same as food quality, although there might be overlap. “Quality includes all product attributes that influence a product’s value to consumers” (Unnevehr and Hirschhorn 2000). Safety includes all measures intended to protect human health. In the WTO there is an effort to treat these issues separately: food safety issues are the realm of the SPS Agreement while a separate *Agreement on Technical Barriers to Trade (TBT)* considers quality concerns. Nevertheless, some overlap is inevitable as safe products are valuable to consumers, and as processes involved in making a product safe can also

<sup>6</sup> One African delegate to the Codex Alimentarius Commission told me that, although he may not have the technical expertise required to debate the scientific points of Codex standards, he is able to effectively argue for the construction of fair principles and procedures for guiding standard-setting.

affect other quality attributes. Thailand, for example, has complained that the heat treatment Australia requires for ensuring the safety of imported poultry meat is not only expensive, but affects its quality (making it taste like paper).

Finally, a fourth important distinction is between public and private rules. Public international rules - those made by international organizations such as the WTO and the Codex Alimentarius Commission - are made by state governments. Private international rules are made by firms or industry groups whose membership cross national boundaries and who are interested in standardizing business practice - for a variety of reasons - across countries. The focus of this paper is on public international rules. However, the issue of private international rules is important enough to merit a little more discussion.

## Private Rules

Governments are not the only important rule-makers. Increasingly, the standards set by private corporations and industry organizations act as the *de facto* standards producers must meet.<sup>7</sup> Thus, even though a state may accept a product that meets international food safety standards, obeying its WTO obligations, purchasers of those products within the state may simply choose not to purchase these products, preferring products that meet higher (or different) standards. There is no remedy in public international law for suppliers in such situations.<sup>8</sup> They must competitively meet those standards or accept that they will not be able to act as a supplier to those purchasers.<sup>9</sup>

The significance of private rules appears to be expanding (Henson and Hooker 2001; Reardon, Timmer et al. 2003). Increasing vertical coordination throughout the agri-food industry is taking power away from producers and placing it in the hands of distributors and retailers. Simultaneously, increasing concentration within the retail industry is having similar effects. WalMart, both the largest business in the world and the largest grocery retailer, is famous for its clout with suppliers. The dispersed and relatively disorganized selling power of livestock producers is little match for the coordinated and concentrated buying power of such retailers. Box 1 describes some of the important rule-making activities of retailers and their associations.

There are a variety of reasons why private actors create safety standards, including (a) to fill in for missing public standards (Reardon, Codron et al. 2001; Reardon, Timmer et al. 2003); (b) to avoid legal claims that their products are unsafe (Henson and Hooker 2001); (c) to market more effectively, including product differentiation and reputation enhancement (Henson and Hooker 2001; Reardon, Codron et al. 2001; Reardon, Timmer et al. 2003); and (d) to facilitate management of an increasingly globalized food chain by harmonization.<sup>10</sup> Reardon et al. (2003) note that private rules

<sup>7</sup> Biersteker and Hall (2002) suggest there may be two types of private authority: "Institutional market authority refers to the capacity of private actors to set standards that are recognized and adhered to by others. Normative private authority refers to the general acceptance of the more abstract idea that markets should determine decision-making over important issues."

<sup>8</sup> There may be options in private arbitration.

<sup>9</sup> Some even wonder if private international food safety rules will eventually make public international rules irrelevant. While they may indeed reduce the significance of public rules, there will probably always be a place for public international rules so long as state leaders face constituent pressures (industry or consumer) to create food safety policies that ultimately affect trading partners, and so long as state preferences for policies vary.

<sup>10</sup> On this last point, Reardon et al. (2003) write: "Moreover, as the geographic space of the procurement system of a given chain increases from zone to country to region to global, there exists the incentive and capacity to impose a standardization of private standards over suppliers in the various countries that are part of the procurement system. That is, to supply to the Central American Retail Holding Company operated by Ahold and two other regional chains in Central America, there is increasing convergence in the quality and eventually safety standards that will be necessary for a Nicaraguan just like a Guatemalan or Costa Rican supplier to meet to supply to the regional procurement system. In the same way, Brazilian melon suppliers supplying to the Carrefour system have to meet a single standard for the whole Carrefour system."

may be implemented with or without third party certification, and sometimes in conjunction with public standards. Further discussion of the activities of private actors seeking to influence public rules is provided in Section Four.

**Box 1: Private Rule-Makers**

Retailers tend to play the lead role in developing these systems of private rules. Lead actors and examples of activities relevant to livestock food products include the following:

EurepGap, an initiative started in 1997 by the Euro-Retail Produce Working Group. They recently announced they are nearing the final stages of “plans to implement global Integrated Farm Assurance standards for meat products to promote safe and sustainable agriculture”.

CIES, the Food Business Forum which represents 70% of food retail revenue internationally, also started a Global Food Safety Initiative aimed at establishing benchmarks for food safety standards. Top retailers, including WalMart, Carrefour, and Ahold, are members.

Carrefour’s (a food retail chain based in Europe, also present in Latin America and Asia) Quality Assurance certification includes measures for traceability, preserving the cold chain, elimination of pathogens and elimination of chemical contaminants.

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Sources: Carrefour (2001); Reardon, Timmer et al. (2003); and EurepGap (2004)

## Are the Rules Important to Poor Livestock Producers?

Researchers are paying increasing attention to the impact of food safety standards on developing countries (Henson, Loader et al. 2000; Buzby 2003; OECD 2003; Wilson, Otsuki et al. 2003; World Bank 2005). But there is little consideration of the specific impacts on poor producers within developing countries.<sup>11</sup> This is important because developing country government interests and poor producer interests are not necessarily the same. Differences arise for many reasons, including: (1) lack of information among officials regarding poor producer interests, (2) government capture by larger producers who may or may not have different interests than poor smallholders, and (3) government capture by consumer interests which may naturally differ from producer interests. Ethiopia provides a clear example of a case where poor livestock producer needs are not always considered by their government. In the face of a ban on Ethiopian livestock due to Rift Valley Fever, the government at one point refused to acknowledge the existence of the disease (FEWSNET 2004).

### Standards Do Not Matter?

What then are the concerns of poor livestock producers? There are at least three reasons to think that these international rule-making activities are not important.

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<sup>11</sup> For an exception, see Hall and Ehui (2004).

- **Many do not produce for export.** Few livestock products produced by the poor are traded internationally. Since international rules about food safety primarily concern trade, their impacts on non-exporting producers are only indirect. Indeed, most food is consumed in the country where it was produced. In terms of milk, only approximately 10% of all world production is traded internationally (FAOSTAT).
- **The standards may not be implemented.** Even when their own countries adopt international standards it is not necessarily the case that the standards will be implemented. States frequently adopt Codex standards as their own standards, but are able to put in place the measures required to monitor domestic production and enforce those standards less frequently. It may be even less likely that the state will intervene in cases where poor producers produce for their own consumption and not for the market.
- **Standards are not a high priority for poor producers.** A survey by the International Federation of Agricultural Producers (IFAP) found that farmers thought many other factors—ranging from social and political stability to basic infrastructure—were more important for poverty reduction (IFAP 2000).

### But Sometimes Standards Do Matter...

Nevertheless, there are several reasons why these rules may matter to poor producers.

- **Governments may require compliance.** Poor producers may face new regulations or new enforcement regimes. Researchers increasingly find that efforts to harmonize international food safety standards are causing countries to raise their standards (Post 2004, Vogel 1995). If their country adopts the international standard there is the chance poor producers will be forced to comply. This may be because the benefits associated with compliance only exist if all producers comply. If a large poultry producer wants to export, for instance, it can matter whether the country as a whole can be considered free of avian influenza.
- **A desire to export.** Some poor producers do create products for export. SPS measures can impact such trade by (a) imposing an import ban, (b) raising costs of production, distribution, and marketing, (c) diverting trade from one trading partner to another by discriminating across supplies, and (d) reducing overall trade flows through increasing costs (Unnevehr and Hirschhorn 2000). In India, poor dairy producers participate in dairy collectives which export some of their products. Moves to focus on traceability and process standards mean that even the practices of those poor producers may matter for international trade, even if intermediaries can account for the end product's safety. This can affect poor producers exporting to developing or middle-income countries as well as to developed countries.<sup>12</sup>
- **Innovation effects.** International standards might discourage countries from developing their livestock sector to include the production of processed goods (due to the higher standards placed on such goods). The existence of some tougher standards has been likened to the problem of tariff escalation that countries already face for processed food products. Innovation effects need not be negative, however. Attempts to meet higher standards could provide a positive force for innovation.
- **Market effects.** If a big producer within a country is denied the ability to export the producer may be forced to sell the product on the domestic market, lowering the domestic price for the good and the price poor producers can receive for their excess production.

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<sup>12</sup> However, it should be noted that SPS measures are only one factor among many affecting export potential.

- **Unintentional consequences of adopting inappropriate rules.** Some standards that countries adopt and implement may be inappropriate for the geographic and climactic conditions of the country. Such conditions can impact the behavior of pathogens and the utility of procedures used to address them. A standard's appropriateness also varies with population characteristics.<sup>13</sup>

### When Standards Help

Many of the above points suggest standards are bad for poor producers, but not all the consequences are negative. Already mentioned is the fact that innovation effects can be positive or negative. Several benefits also accrue when international standard-setting produces standards that can be usefully adopted by developing countries and which are appropriate to their geographical, climatic, and technological conditions. First, both poor producers and poor consumers benefit from a safer food supply. Second, when food safety measures promote animal health, producers can benefit. McLeod and Leslie (2001) provide a good overview of the costs and benefits of achieving disease free status. An obvious benefit is higher production, as fewer animals are lost to disease. Gil and Samartino (2001) estimate that the presence of tuberculosis in nine Latin American countries results in lost production of more than 128,000 MT of milk and more than 32,000 MT of beef. Less disease also means easier work for the poor producers and their families, boosting productivity.<sup>14</sup>

Animal disease is a major problem in developing countries. International rules that help a country create domestic policy to combat avian influenza (for example) not only aids the export potential of that country but also can increase poultry production for individual consumption (as fewer birds die) and act as a public health measure (boosting overall human productivity). *With appropriate technical assistance*, poor producers in most cases benefit from a stricter domestic food safety regime. Indeed, poor producers can be hurt by the lack of rules—which can serve as useful guidelines—relevant to their needs.

### Science in International Rule-Making

While science guides most standard-setting, it does not always. Several factors make the outcome of standards development unclear and increase the likelihood that non-scientific reasons will matter:

- The science is not always known (for example, in the case of genetically modified foods).<sup>15</sup>
- The science may be context-specific and not all the necessary context-specific evidence may be known. For instance, some populations are more susceptible to different food safety hazards, based on consumption patterns and other characteristics.

<sup>13</sup> Examples of inappropriate application of standards meant for developed countries but adopted by developing countries include: (a) the 1990s decision to not chlorinate water in Peru, due to potential cancer risks, led to a cholera outbreak (cited in Unnevehr and Hirschhorn 2000); (b) Abeiderrahmane (2002) writes about how standard protective clothing worn by Northern dairy workers is inappropriate to Mauritania; and (c) Bastianelli and Le Bas (2002) note that less structured supply chains—as found in developing countries—make it difficult to “prevent contamination via inappropriate additives”.

<sup>14</sup> Animal disease is viewed by many to be a major constraint on small producers. See, for example, Gning (2004).

<sup>15</sup> There is debate about the role of a precautionary principle in this area of international law. The precautionary principle has its origins in the development of international environmental law. However, debates over food safety standards for hormone-treated beef and genetically modified foods also focus on the applicability of this principle. The idea is that states should be allowed to ban or partially ban the import of some foods based on the goal of minimizing the perceived risks of new food technologies, even in cases of scientific uncertainty. The EU has especially argued that the precautionary principle should apply to food safety standards, some even arguing it is now a principle of customary international law. The US and others argue that the precautionary principle undermines the scientific justification that current agreements require for regulating food imports.

- If there is a trade-related dispute over standards and it goes to the WTO's dispute settlement body, it will not be resolved by science experts.<sup>16</sup>
- Guidelines on risk analysis can be ambiguous. A real question exists as to whether the same level of risks should be applied to all situations by international standard-setting organizations.<sup>17</sup>

The fact that the science may not always be clear leaves the door open for other factors to influence international rule-making.

### **The Importance of International Rule-Making**

It may not be fully known how much international food safety rules impact poor producers, and under which circumstances those effects are positive or negative. However, there are good reasons to believe that these rules will matter for at least some poor producers. In such situations, it makes sense to be concerned with how international food safety rules are made. Therefore, if it is established that poor producers are affected by international food safety rules, how might they influence those rules and their enforcement? The answer to this question is the subject of the rest of this paper.

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<sup>16</sup> Several sources are useful on this point, including Guzman (2004) and Stewart (1999).

<sup>17</sup> For instance, sometimes a risk of 2 deaths per billion is considered high (the early EU position on the threat posed by aflatoxin), other times it seems it is not.



### 3. THE INTERNATIONAL RULE-MAKING ENVIRONMENT

The WTO, Codex, and OIE are central to livestock food safety rule-making. This section describes and analyzes the rule-making environment these organizations create, individually and collectively. It also considers briefly the roles played by other organizations.

#### The World Trade Organization (WTO)

The original 1949 General Agreement on Tariffs and Trade (GATT) – the precursor to the WTO – contained two principles limiting food safety standard-setting by member states. The *principle of non-discrimination*, embodied by the most-favored nation clause of Article I, required non-discriminatory treatment of products from foreign suppliers. That is to say, one could not have different standards for different foreign suppliers. The *principle of national treatment*,<sup>18</sup> embodied in Article III, required that foreign products not be treated differently from domestic ones. A state should not have stricter rules for foreign products than they have for domestic products (Griffin 2000).

In many respects the above principles were too general to have much applicability to questions of food safety standards used as trade barriers. The first strong attempt to incorporate food standards into international trade law was made during the Tokyo Round of GATT negotiations, which concluded in 1979. That round produced a Technical Barriers to Trade Agreement (TBT)<sup>19</sup> which, while not specifically addressing the issue of food safety, did address some food safety-related concerns. In particular, governments were asked to make their regulatory systems more transparent by notifying other governments when their technical regulations were not based on international standards. The 1979 agreement also contained provisions for dispute resolution that were separate, and more robust, than the rest of the GATT system at the time. However, this was a plurilateral agreement, signed by only 32 GATT members. In practice its effects were limited (Griffin 2000).

In 1985, countries met in Punta del Este, Uruguay, to discuss a new round of GATT negotiations. In these negotiations agriculture and food (including food safety) were central concerns. Tariff barriers were already in decline (they declined an average of 37% between 1970 and 1996)<sup>20</sup>, and an objective of the Uruguay Round was their continued reduction or even elimination. Meanwhile, declines in tariffs heightened the visibility of sanitary and phytosanitary (SPS) measures as barriers to trade. And these barriers are very real. Today, for instance, world trade in beef and pork is largely defined by whether countries are considered free of foot and mouth disease or not (Dyck and Nelson 2003). States were concerned that SPS measures would be used as a new form of protectionism. An *Agreement on the Application of Sanitary and Phytosanitary Measures* (SPS Agreement) was seen as a logical complement to an *Agreement on Agriculture*.

#### Examples of Relevant Rules

The WTO does not set standards nor does the SPS Agreement require members to adopt particular SPS measures. However, the WTO does create rules that matter for

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<sup>18</sup> Not originally called a principle, but subsequently known as one.

<sup>19</sup> Note that the Tokyo Round TBT Agreement is significantly different from the Uruguay Round's TBT and SPS Agreements.

<sup>20</sup> Henson and Loader (2000).

food safety, and the SPS Agreement revolutionized international food safety governance. Box 2 summarizes its key features.<sup>21</sup>

**Box 2: Key features of the SPS Agreement**

Perhaps the most important feature of the agreement is that it requires states to justify any standards higher than current international standards. Specifically, science-based Risk Assessment (Articles 2.2 & 5) should guide standard-setting. WTO members are required to consider “available scientific evidence; relevant processes and production methods; relevant inspection, sampling and testing methods; prevalence of specific diseases or pests; existence of pest- or disease-free areas; relevant ecological and environmental conditions; and quarantine or other treatment.” The agreement also allows technical and economic considerations to play a role.

Other key features:

**Harmonization (Article 3).** Countries are encouraged to participate in international standard-setting organizations and base their own measures on those standards. Three organizations are mentioned by name: Codex for the protection of human health, OIE for the protection of animal health, and the newly created International Plant Protection Convention (IPPC) for the protection of plant health.

**Equivalence (Article 4).** Countries are required to accept other countries’ SPS measures provided that they can be demonstrated to provide equivalent levels of protection.

**Transparency (Article 7).** States are required to publish and notify the WTO of all proposed and implemented measures and establish enquiry points for trading partners that have questions.

**Regionalization (Article 6).** The Agreement requires states to ensure their SPS measures are adapted to the relevant regional conditions and that they allow products from pest- or disease-free areas in other states.

**Dispute Mechanism (Article 11; GATT 1994 Articles XXII & XXIII).** States should make use of the WTO’s dispute settlement mechanism when disputes that cannot be solved bilaterally arise. Dispute panels should seek the advice of experts, in consultation with parties to the dispute, and may consult the relevant international organization.

Charnovitz (1994) argues that this Agreement replaces the previous GATT principle of national treatment with that of *international treatment*. While under national treatment a state is asked to apply its own domestic standards to an imported product, under international treatment a state is asked to apply an international standard to the imported product. Country standards can only be stricter than those already accepted by relevant international standard-setting organizations if they can be scientifically justified. Many consumer groups criticize the Agreement, arguing that it is leading to a lowering of country standards. However, some research suggests

<sup>21</sup> An excellent source for (especially legal) analysis of the SPS Agreement is the WTO Analytical Index, available on their website (<http://www.wto.org>).

the overall trend is towards a raising, rather than a lowering of standards (Vogel 1995; Post 2003).<sup>22</sup>

The Agreement also placed several obligations on those who trade with developing countries, including that they should take into account developing country needs when creating standards and allow for longer periods of compliance by developing countries. At a more general level developing countries are able to receive time-limited exemptions to rules by a SPS Committee (within the WTO) and other countries should support their participation in relevant international organizations and help provide technical assistance for compliance with SPS measures.

### Decision-Making at the WTO

There are several levels of decision-making at the WTO. The top decision-making body is the Ministerial Conference, meeting every two years with the authority to make decisions for all the WTO's multilateral trade agreements. On a more regular basis the General Council meets and makes decisions on behalf of the Ministerial Conference. It is composed of representatives from all Member countries. Next in the hierarchy are the Councils for Trade in Goods, Trade in Services, and Trade-Related Intellectual Property Rights, as well as a variety of Committees and Working Groups. The SPS Committee sits under the Council for Trade in Goods.

The SPS Committee deliberates on general rules about food safety and trade, such as the procedures for establishing equivalence or the conditions under which regionalization occurs. At a more specific level, activities involve constant interpretation and re-interpretation of specific standards as well as negotiations over measures where international standards are not yet set. At this level, livestock food products are an important part of SPS Committee business. Through the end of 2003, approximately forty percent of the trade concerns raised at committee meetings involved livestock food products.<sup>23</sup> That number is higher if concerns related to animal feed, pet food, honey, and live animals are included (WTO GEN/SPS/204).

Such trade concerns are increasingly raised by developing countries themselves.<sup>24</sup> Developing country members have raised 101 trade concerns at the SPS Committee (including 2 from LDCs), compared to 143 raised by developed country members (through 2004). Developing country measures were the target of 99 trade concerns compared with 124 developed country measures. While the number of developing countries raising concerns is increasing, they are still a small number (less than 25) relative to the number of developing country WTO members.

It is easy to find criticisms of WTO decision-making. Some criticize the WTO for its ties to business. That businesses are involved is logical; firms are the "major users of the trading system" (Hoekman and Kostecki 2001). However, many feel that the

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<sup>22</sup> Victor (2000) suggests an interesting way the SPS Agreement could be used to raise standards: "Lax standards, even if applied equally to local and imported products, could favour local producers and harm imports that are produced according to more expensive standards that prevail in the rest of the world market. Using this argument, an alliance of global exporters and environmentalists may discover that the SPS Agreement is a very powerful tool—it could pry open local markets that are "distorted" by weak SPS standards and force a higher level of SPS protection." That is to say, the Agreement could be used to force countries to raise some standards. Raised standards may then privilege imports from outside producers that already meet such standards and disadvantage domestic producers that do not.

<sup>23</sup> The WTO SPS Secretariat figures suggest that fewer trade concerns deal with food safety. However, their figures exclude BSE and avian influenza-related cases where meat and dairy imports were concerned, which I include in my own measure. Their own figures (updated through 2004) are that for all trade concerns 40% dealt with animal health and zoonoses, 27% with food safety, 29% with plant health and 4% with other concerns. Considering only trade concerns related to animal health and zoonoses, 40% dealt with TSEs, 25% with FMD and 35% with other animal health concerns.

<sup>24</sup> More trade concerns were raised by developing countries in the past five years than were raised in the WTO's first five years. Developing countries raised only 2 concerns in the first 2 years of the SPS Agreement, while developed countries raised 11.

importance of trade rules mean that interests other than industry need to be represented.

WTO decision-making usually operates by consensus but many question the nature of that consensus. Steinberg (2002) argues that the GATT and WTO Agreements themselves, while created through a consensus-based process, were actually the result of power-based politics. A core insight is that consensus merely requires that other states stay silent. In some cases, this may be easier to achieve than it is to get states to make actual positive votes. In the day-to-day decision-making activities of the WTO, one must also consider the breadth of the consensus when many states are not present at meetings and it is normal practice to make decisions without even determining who is present.

Many question the fairness of WTO governance vis-à-vis the participation of developing countries. Their arguments typically focus on one of three causes for the perceived inability of developing states (and especially LDCs) to wield influence: (a) these states do not participate most likely because they lack the capacity<sup>25</sup>; (b) the rules and institutions are biased<sup>26</sup>; (c) powerful countries are behaving unfairly.<sup>27</sup>

This is changing in several ways. One, China's accession to the WTO creates a new set of bargaining dynamics. The importance of this was clear at the Cancun Ministerial Meeting when China's joining the G-21 group of states added extra clout. Two, alliances among developing countries are increasingly important. Three, all countries are learning. In the area of SPS there are several visible manifestations of learning. First, states are more careful now to bring only strong complaints to the Committee. Second, increasing numbers of developing countries are learning how to protect themselves from unfair SPS measures. Third, developing countries are increasingly bringing their own complaints forward to the committee.

Nevertheless, there is still room for improvement. Developing country attendance at the SPS Committee displays no clear positive trend. Moreover, developing country delegations are typically small whereas developed country delegations can include teams of specialists.

### The WTO's Unique Role in Dispute Settlement

An important way international rules develop and become clarified is through the settlement of disputes. Dispute settlement at the WTO may best be viewed as a pyramid (see Figure 1 below). All evidence suggests that most SPS-related disputes between trading partners are settled before being brought to the WTO. If not settled at that point, then a next step countries can take is to raise the trade concern at one of the meetings of the SPS Committee. This is not a step that countries take lightly as it may be difficult to know its effect on the dispute outcome. This action partly acts as a public shaming mechanism, but it also has the potential to reveal to other interested third parties the nature of the dispute.<sup>28</sup>

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<sup>25</sup> See Oyejide (2000); Michalopoulos (1998); Blackhurst et al. (1999); Jawara and Kwa (2003).

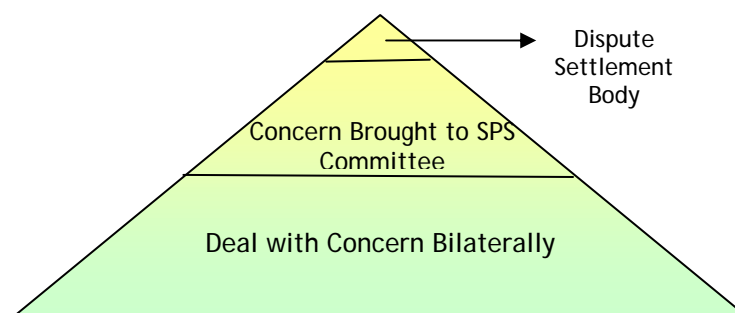
<sup>26</sup> See Blackhurst et al. (1999); Jawara and Kwa (2003).

<sup>27</sup> See especially Jawara and Kwa (2003).

<sup>28</sup> This deserves a little further explanation. It could be the case that other states have not paid attention to the fact that one Member State is placing challengeable SPS-related restrictions on imports. A public dispute means that a defaulting state (the state with the challengeable regulations) may be left open to complaints from these other states.

The final step is to resort to use of the WTO's dispute settlement system. Use of this mechanism is costly and thus the decision to go this step is rarely taken.<sup>29</sup> Of the more than 330 disputes brought to the dispute settlement system (through April 2005) approximately 30 were alleged violations of the SPS Agreement. Eight of these cases involved livestock food products and only two of those involved the establishment of a dispute settlement panel for actual arbitration (see Annex 2). In this last step, if the Dispute Settlement Board (DSB) decides for a claimant, there are three levels of enforcement. First, the WTO asks the injuring party—the defaulting state—to conform to whatever original agreements it had with the injured state. If that does not occur, then the WTO asks the defaulting state to pay compensation. If that does not occur, then the WTO authorizes the injured state—the prevailing party to the dispute—to use countermeasures, to retaliate.<sup>30</sup> The weakness of this process is that it is entirely bilateral (Pauwelyn 2000). If a state is weak, it is unlikely it will be able to retaliate; it probably does not have the necessary leverage. If the winning state is unable to retaliate, there is little incentive for any defaulting state to abide by any DSB decisions. Nevertheless, it is this law-settling and law-enforcing role that makes the WTO central to today's food safety governance.

Figure 1: WTO Dispute Settlement Pyramid.



## The Codex Alimentarius Commission (Codex)

Both the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) have independent mandates to address food safety concerns and they began collaborating as early as 1950. Since 1963 they conduct these efforts through their joint oversight of the Codex Alimentarius Commission.<sup>31</sup>

<sup>29</sup> A few additional comments are worth making here. First, legal assistance is available to developing countries. Article 27.2 of the WTO's *Dispute Settlement Understanding* requires that the WTO Secretariat provide a qualified legal expert to developing countries on request. Also, an independent Advisory Centre on WTO Law (in Geneva) was established by a group of WTO members. Second, there is no evidence of negative bias towards developing countries in developed country use of the dispute settlement mechanism. Good analysis of the use of this mechanism is provided by Romano (2002a, b). A recent paper by Brown and Hoekman (2005) discusses the roles litigation costs play.

<sup>30</sup> Annex 2: Dispute Settlement Mechanism, WTO AGREEMENT, Article 22.

<sup>31</sup> The Codex Alimentarius Commission's roots are European. Perhaps its first life was as the Austro-Hungarian Empire's *Codex Alimentarius Austriacus*, created between 1897 and 1911. In the 1950s Austria helped establish a *Codex Alimentarius Europaeus*. That Codex' Council eventually adopted a resolution in 1961 that its work be handed over to FAO and WHO (FAO/WHO 1999).

## Examples of Relevant Rules

Codex is the primary international food safety standard-setting organization, and it produces a broad range of food standards. Those most relevant to livestock food product safety include: (a) standards relating to the maximum levels of pesticide residues, contaminants, and additives that can be found in foods and (b) guidelines on processes and procedures, such as the Hazard Analysis Critical Control Point (HACCP) system (Annex 3). Other work Codex does involves labeling standards, commodity standards (defining what a product is or how it is made), and quality descriptors (FAO/WHO 2002).

There is evidence that Codex work increasingly favors process standards such as HACCP. This reflects changes in the market environment, specifically increased vertical integration and fewer open market transactions. A risk assessment approach, as prescribed by the WTO, is also very compatible with process-based standards. In turn, developing countries increasingly adopt their own HACCP-based measures.<sup>32</sup>

## Decision-Making

Final decisions about food standards are made by the Commission which now meets every year.<sup>33</sup> Acceptance of a standard requires a majority vote. Annex 4 describes the eight step process that leads to the creation of a new standard (the annex also suggests actions Codex members and observers can take at each step).

The Commission's work is regularly informed by the work of more than 30 Committees and by the work of expert committees and consultations, all supported by a small Secretariat of six professionals. The most important meetings are those of the Codex Alimentarius Commission, the Codex Executive Committee, and the General Principles Committee. At the lower levels the work of the Food Hygiene Committee, Food Additives and Contaminants Committee, Residues of Veterinary Drugs in Foods Committee, and Ad Hoc Task Force on Animal Feeding are all important to determining relevant food safety standards for animal products.

Developing countries have a difficult time participating in all the deliberations of Codex committees. Most do come to the annual meeting of the Commission but by the time a standard reaches its final stage in the approval process at the Commission, other countries are unlikely to be willing to revisit the issue. The (generally unintentional) effect of this is that a small number of well-resourced countries dominate the rule-making process (Post 2004). Many Codex participants interviewed for this study expressed their frustration that a rule could pass through so many steps only to be denied at the final stage because it is still a "new" item to one of the member countries.

In the early 1990s, Codex faced intense criticism from advocacy groups (particularly consumer interest groups) who argued that the agency was captured by business interests that did not have the public good in mind. Many industry ties to Codex are long-standing. Braithwaite and Drahos (2000) suggest that it was, in fact, US industry that was the most important financier of Codex at the beginning. Concerns about industry influence continue today. A recent review of Codex found that consumer representatives thought they had too little influence and industry interests too much

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<sup>32</sup> However, it was also clear during interviews with WTO delegates that some developing country members thought of HACCP rules as simply another protectionist tool.

One interesting twist: When the Philippines tried to put in place a measure requiring imported meat products to be produced in HACCP compliant plants, Canada and other states blocked the measure, noting that Philippines did not require the same standards for its own plants.

<sup>33</sup> This is a recent change. In the past Codex met on a biennial basis.

influence. Industry representatives thought the exact opposite was true. Governments tended to think that both groups had “appropriate” levels of influence (FAO/WHO 2002).<sup>34</sup> Section Four of this paper discusses more of these industry relations.

The SPS Agreement was probably the most significant event in the life of Codex. The associated legal recognition has added to its relevance and importance, but made compromise more difficult (FAO/WHO 2002). Indeed, some observers suggest that signs of increased conflict in Codex standard-setting occurred almost immediately (Stewart and Johanson 1998).

## The World Organization for Animal Health (OIE)

In the 1920s, threat of the cattle plague in Belgium—contracted via the port of Antwerp—prompted European countries to create the *Office International des Epizooties* (OIE).<sup>35</sup> From the beginning, the organization highlighted ties between trade and the spread of animal disease.

### Relevant Rules

As early as 1960 the OIE had an agreement with the WHO, acknowledging some linkages between animal and human health. It was only after prominent food safety scares in the 1990s and the adoption of the SPS Agreement, that the OIE began an organized response to food safety concerns. In 2002 the OIE created a permanent Working Group on Animal Production Food Safety, which includes a member from the Codex Secretariat. It also adopted a resolution clarifying its food safety mandate to “reduce food-borne risks to human health due to hazards arising from animals, in collaboration with appropriate international agencies” (FAO/WHO 2002).<sup>36</sup> In 2004 it revised its agreements with both the WHO and the FAO, placing greater emphasis on its role in creating standards relevant to food safety and the complementarity of its activities with that of Codex.

OIE’s mandate overlaps with that of Codex in some significant respects. First, there are “economies of scope” in designing public systems to address risks in animal and health safety. Recently, for example, it has become popular to advocate a “farm to fork” approach to human food safety concerns. Second, some pathogens affect both animal and human health. Zoonoses are an obvious area where OIE and Codex interests overlap. OIE’s *Terrestrial Code* provisions on bovine brucellosis and tuberculosis are of direct interest to the Codex (OIE 2003). Finally, animal production can involve exposure of animals to contaminants—including veterinary drug residues—that may remain in animal products meant for human consumption.

### Decision-Making

In the past and today, country delegates to the OIE are primarily veterinarians. Rule-making primarily takes place at the annual International Committee meeting where work is informed by the work of a number of committees that meet throughout the year, supported by a small Paris-based Secretariat. The OIE *General Rules* (Chapter 1)

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<sup>34</sup> However, a slightly higher percentage of low- and middle-income states thought industry representatives had been granted too much influence than did high-income states.

<sup>35</sup> There were reasons for concern. In the eighteenth century cattle plague - also called rinderpest - killed an estimated 200 million cattle. The impact of an 1860s Great Britain outbreak was akin to the impact of Mad Cow Disease today (Fisher 1998). In the Belgian case, rinderpest arrived when zebu arrived on their way from India to Brazil via Antwerp.

<sup>36</sup> OIE Resolution n. XV, 70 GS/FR Paris, May 2002

stipulate that a simple majority is all that is required for most decisions, and each country has one vote. In practice, this may be accomplished with a show of hands or (as was often the case in the past) by consensus. With respect to livestock food products, two sets of OIE standards are especially relevant: *The International Animal Health Code* and *The Manual of Standards for Diagnostic Tests and Vaccines*.

Some consider the OIE to be the least democratic of the organizations reviewed so far. There are probably two reasons for this: (1) the historical lack of participation by nongovernmental organizations outside of industry, and (2) the general lack of transparency in the decision-making process. The decision-making process also allows relatively few opportunities for both delegates and non-delegates to provide input. Some insiders suggest this really privileges the delegate who comes prepared to the annual meetings. However, insiders also suggest that this lack of transparency actually makes the organization more efficient. It typically takes the OIE two years to develop a standard, compared with Codex' eight years.

There are a number of signs that the OIE is trying to be more democratic and increase the participation of its developing country members. It has been a long practice of the organization to provide funding for attendance to the International Committee meeting. Now, through a Standards and Trade Development Facility (STDF)—co-sponsored by the World Bank, WTO, FAO, and WHO—more efforts are being made to train developing country delegates to the OIE. Still, some of the structural limits to the decision-making process persist.

The OIE has its own dispute settlement mechanism, which is described by David Wilson and Alex Thiermann of the OIE:

*“This is a science-based approach to finding alternative solutions and resolving differences, as distinct from the legalistic approach used in the formal WTO system. The role of the OIE is to assist the parties to arrive at a scientifically sound conclusion, which is often different from those previously offered by the individual parties.”*

States have used the OIE's good offices on at least two occasions, both in recent years. The details are kept confidential. Insiders say that in these early cases most of the costs of the process were borne by the OIE, making it especially attractive to developing countries and much more affordable than the WTO's process. However, states may be asked to share more of the costs in the future and the means for enforcing any outcome are far less.

## Other Relevant International and Regional Organizations

Most discussions of international food safety rules leave out the activities of several important international and regional organizations. While their involvement in creating the international environment for food safety governance is less than the above organizations, they do fill important niches. Box 3 lists some international and regional organizations and institutions that are part of the international food safety rule-making environment. The activities of the International Organization for Standardization and the World Health Organization deserve special attention, however.



**Box 3: Other significant international and regional organizations**

**OTHER INTERNATIONAL ORGANIZATIONS:**

The Convention on Biological Diversity (CBD) is relevant to food safety as biotechnology increases its impact on the agri-food sector.

The Organization for Economic Cooperation and Development (OECD) is active in the area of bio-safety and has recently undertaken studies to establish guidelines on the “normal” characteristics of animal feed, to be used as reference points for GM feed.

The International Dairy Federation (IDF) established standards and guidelines for the dairy industry in the 1950s, prior to the formation of Codex. Today it regularly provides expert advice to Codex on dairy regulations (and much of that advice is followed).

The International Atomic Energy Agency (IAEA) provides guidelines on the irradiation of food, a process used by some countries to eliminate pathogens.

**REGIONAL ORGANIZATIONS:**

Efforts at regional integration in trade have the potential to increase the importance of regional organizations for developing international food safety rules. Regional trade groups such as *Mercado Común del Sur* (MERCOSUR), Asian Pacific Economic Community (APEC), and South African Development Community (SADC) often deal with food safety governance at the regional level. Some other regional organizations that have been important:

The United Nations Economic Commission for Europe (UNECE) began developing food commodity standards in the 1950s. Most of these are now subsumed by the work of Codex. However, UNECE continues to do work in the area of quality standards. There has been concern about duplication of work between the two organizations, especially in the area of fresh fruits and vegetables. UNECE does create quality standards for meat.

The European Food Safety Authority is the standard-setting body for the EU.

The African Regional Standardization Organization (ARSO) has a technical committee for establishing standards in “Agriculture and Food Products”. The organization has expressed recent interest in links between standards development and trade.<sup>37</sup>

PAHO (Pan-American Health Organization) is especially active in surveillance and information provision with respect to food safety. Through *Reunión Interamericana, a Nivel Ministerial, en Salud y Agricultura* (RIMSA), Ministers of Agriculture and Health from PAHO Member States coordinate on veterinary public health.

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<sup>37</sup> See article at < <http://www.unido.org/en/doc/21905> >.

The membership of the **International Organization for Standardization (ISO)** is the standards institutes of countries. Not all these standards institutes represent the governments, making the ISO a non-governmental organization. The ISO mandate is to establish technical standards in all fields. Coordination with Codex does take place. Generally speaking, Codex can be said to supply the standards whereas the ISO supplies the sampling, testing, and analytical methods used to implement Codex standards. ISO representatives are invited to Codex (and SPS Committee meetings); Codex is invited to attend meetings of ISO's body involved in agricultural food product standards, Technical Committee 34.

There are some who criticize the ISO. The level of developing country participation is relatively low. Some also express concerns about the level of industry involvement in ISO decision-making. They think it should have a more governmental perspective and are worried that the standards set will be too high, too trade-restrictive. One Codex insider told me there have been a couple cases of tension between ISO and Codex. For instance, several years ago both Codex and the ISO began work on traceability.<sup>38</sup> There was concern of overlap in their work. After discussions, ISO apparently accepted a background role on the issue, but some were concerned that ISO could grab the initiative on such issues away from Codex.<sup>39</sup>

**The World Health Organization (WHO)** is a parent of Codex but it may soon have an independent effect on food safety governance. Through its own World Health Assembly it has the capacity to produce regulations binding on its members. Currently, it is in the process of revising its *International Health Regulations (IHR)*. Originally created in 1969, the regulations currently only address yellow fever, cholera, and the plague (WHO 2005). They require states to notify the international community within 24 hours of the presence of any of these diseases and include a series of measures to control their spread to other countries. The legal apparatus is sophisticated enough to include a dispute resolution mechanism, which is being revised. The new IHR will have a much expanded scope. It may require states to notify all other states of *any* public health event of international concern. One can easily imagine the applicability of recent cases such as avian influenza and BSE. A draft document provides WHO with the ability to ask states to restrict travel and trade to prevent the spread of diseases, but also requires WHO to minimize interference with international traffic. While these are potentially the most trade restrictive measures, there is no evidence at this point that such rules will be used to discriminate against developing countries or poor producers (WHO 1999; WHO 2004).<sup>40</sup>

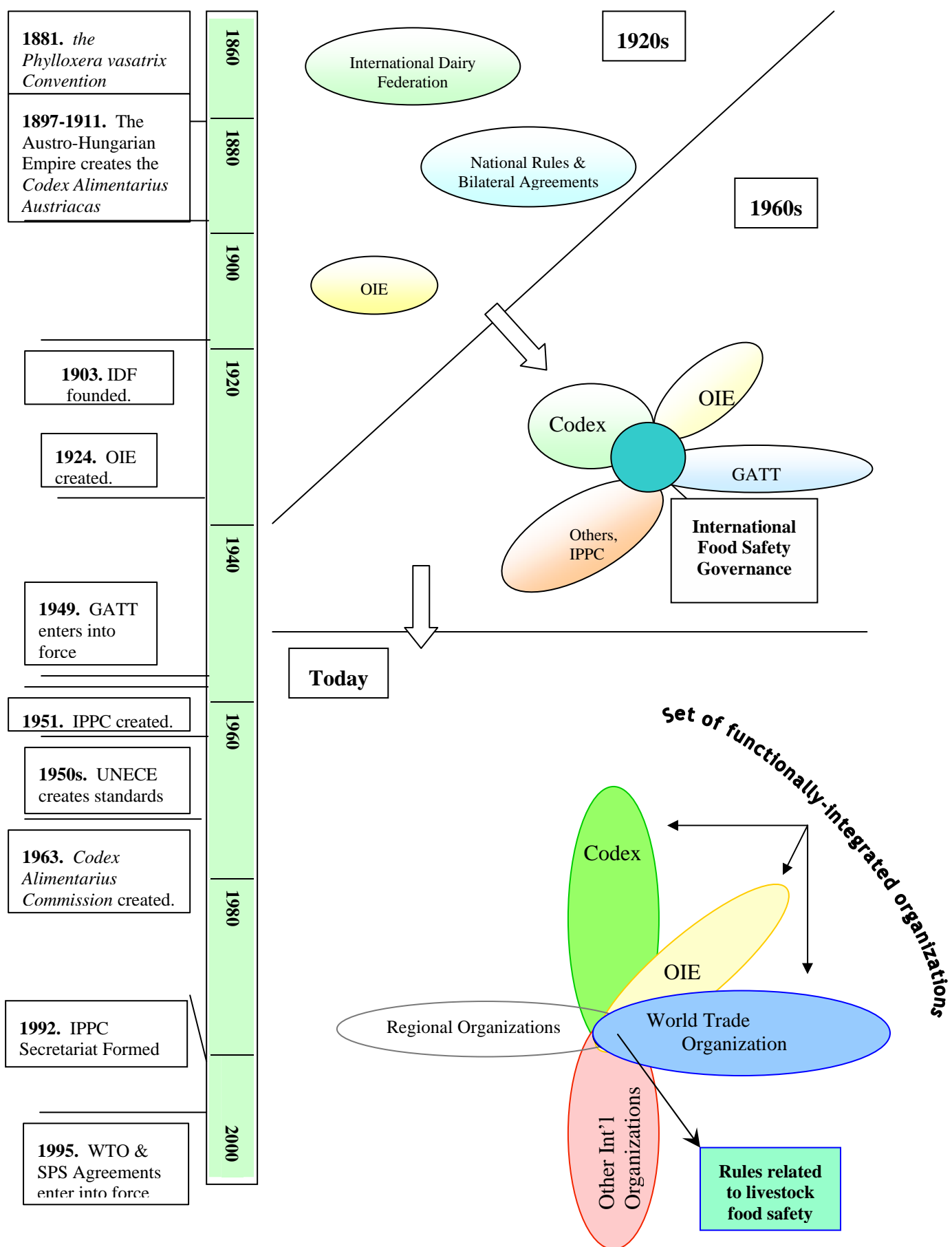
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<sup>38</sup> This is the ability to trace a product through its life cycle. For dairy products this can include everything from the animal feed that fed the dairy cows, to the places and practices of raising the cow, to the processing of the milk and its delivery to the consumer.

<sup>39</sup> Another insider told me this problem was partly solved by Nestle. A key person on the ISO committee working on traceability was also associated with Nestle. Nestle apparently acted to rein in this ISO committee person. I was told that Nestle acted this way because it favors Codex as a safety standard-setting body.

<sup>40</sup> One could see, however, that a health hazard such as avian influenza could reach the status of international concern. Avian influenza already is having a negative effect on Asian poultry production.

Figure 2: Evolution of the Food Safety Regime Complex



## Relationships among the International Organizations (IOs)

While IOs do cooperate, there are contested areas of governance in the case of food safety. Conflict among IOs is not the norm, but it does occur. Understanding the relationships among these organizations is necessary for those wishing to influence the development of international food safety law. The impact of the SPS Agreement illustrates the importance of these relationships. This sub-section also discusses the relevance of differences between the UN and WTO systems, and the importance of these inter-organizational relationships for country strategies. First, it is useful to summarize the nature of what can be called *the food safety regime complex*.

The *livestock food safety regime complex* is a legal environment unique in the way it constrains and enables states' actions. Kal Raustiala and David G. Victor (2003) coined the term regime complex and define it as "an array of partially overlapping institutions governing a particular issue area, among which there is no agreed upon hierarchy." Figure 2 is an illustration of the evolution of international organizations relevant to food safety and their relationships to each other.

Figure 2 also displays graphically how governance in this area changed over time in several ways. First, the scope of governance is increasing. Gaps in international standard-setting, while they persist, are diminishing. Second, there have been shifts in authority over standard-setting during this evolution. The International Dairy Federation in its early years played an important role in setting international dairy standards. Since the establishment of Codex, however, it has changed to a supporting role. Third, the relationships between the organizations are changing as their mandates increasingly intersect. The most significant organization in this respect is, of course, the World Trade Organization.

### Impact of the SPS Agreement

Neither Codex nor the OIE *had* to change their standard-setting practices when the WTO was formed. Institutionally, each of these organizations is distinct and separate from the other. They overlap, however, in two very important ways: membership and substantive focus. In terms of membership all three are inter-governmental organizations, and—at least currently—tend to be among the most inclusive of international organizations. Already discussed is the substantive overlap: a common concern for linkages between food safety and trade.

The question of why Codex and OIE are changing their standard-setting practices in response to the WTO's SPS Agreement is important for understanding the political context surrounding rule-making in all three organizations. Through its member countries Codex actively engaged GATT negotiators and encouraged its inclusion in the SPS Agreement. In 1990 Codex held a conference to discuss possible linkages.

The OIE, on the other hand, was not involved in the process of creating the SPS Agreement. In fact, on the eve of that agreement's passage the OIE was still debating whether or not it should allow its Secretariat to continue liaising with the WTO, let alone cooperate. Today, however, the OIE has active relations with both the WTO and Codex.

The SPS Agreement produced some similar changes at both the OIE and Codex. First, while they had used science in their previous standards development, both began to adopt the rhetoric of using a *more* science-based approach. The SPS Agreement also prompted an attempt to harmonize their understanding of science-based risk assessment. Second, WTO requests for new standards and guidelines now regularly influence OIE and Codex agendas. For instance, when the SPS Committee requested that standard-setting organizations develop guidelines on equivalence (and now

regionalization) they did. Finally, both organizations began communicating with each other.

The result of the SPS Agreement is a transformation in the regime complex surrounding international food safety rules. There is greater development towards a rationalization of food safety law. For one thing, areas of overlap and gaps in coverage are being addressed. OIE's relatively recent attention to its measures' impacts on human health is clear evidence of this. Perhaps more importantly, the core international organizations are now *functionally integrated*. That is to say, there is a division of law-making, law-judging and law-enforcing mechanisms making international food safety rules more law-like than ever before. The "law-making" functions are especially provided through Codex and the OIE.<sup>41</sup> Those organizations have their spheres of standard-setting generally mapped out (with the mentioned exceptions) and act as collaborators more than as competitors in standard-setting.<sup>42</sup> Other organizations, such as the ISO, play supplementary roles. Central to making these rules matter for states and other actors, however, is the enforcement mechanism provided by the WTO's dispute settlement mechanism.

### The UN System & the WTO System

While the OIE is relatively independent of other international organizations, Codex and the SPS Committee are not. Codex, is the "child" of the FAO and WHO; the SPS Committee is only one part of the WTO.

Of the three key international organizations, Codex is the least independent. It faces two primary constraints. First, it is tied to its institutional parents (the FAO and WHO). FAO provides most of its budget and it is housed at FAO headquarters in Rome, so ties there are particularly strong. Efforts were made in recent years to change this. Some argue that FAO influence—perhaps unintentionally—leads Codex away from a stronger focus on human health protection. In the past, the WHO and FAO have had disagreements of this sort over Codex.

A second constraint is that Codex is part of the UN system. This means that—*theoretically, at least*—procedural rules about such things as membership and observer's rights should follow UN standards. In practice, this is not always the case and the FAO legal office spends a great deal of time establishing that the exceptions made for Codex are unique, so as to not establish unwanted precedents for the rest of the UN system.

The SPS Committee is clearly integrated into the rest of the WTO. It is important to realize that decisions made in other parts of the WTO can impact the Committee's on-going work. This happens in several ways. First, some rules—particularly procedural rules—debated in the SPS Committee are actually decided elsewhere. The question of which new observers can come to meetings has been unresolved due to debate at a higher level. Second, some issues of a more substantive nature cut across all WTO areas. This is the case with Special and Differential Treatment for developing countries where the issue is being discussed in all areas of the WTO.

Third, it appears that some states use the SPS Committee to "score points" on issues of interests to them in other WTO areas and negotiations. A few delegates suggested this was the case with respect to the on-going Doha Round of negotiations about agricultural trade rules. Insiders say that some countries which claim to represent all developing countries are merely using extreme stances to score such points. They

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<sup>41</sup> I am not including the IPPC here due to its relatively insignificant importance to livestock food product safety standards. However, there is potential for the IPPC to matter, especially in the area of food safety issues related to feed.

<sup>42</sup> This is not to say there is no scope for conflict.

become embarrassed when other countries, that need a more immediate, substantive resolution to an issue, say so.

### Importance of these Relationships to Strategies

Country approaches to the food safety regime complex vary. Savvy actors recognize and use the relationships for their advantage. For some countries, rule-making strategy involves active coordination of policy in all three primary organizations. Some even have the same individuals attend meetings of multiple organizations and report substantial advantages in using insights gained in one setting in another.

There are two general types of important strategic behaviors when confronting multiple organizations: forum-shifting and issue-linking. *Forum-shifting* involves manipulating the choice of fora for considering and making decisions on an issue. A country may move an agenda from one organization to another, pursue it in multiple organizations, act to prevent an organization from addressing it and/or abandon an organization (Braithwaite and Drahos 2000). In the area of food safety, there is clear evidence that states recently have practiced all but the last of these strategies.<sup>43</sup>

A recent SPS Committee debate on regionalization provides an example where two forum-shifting strategies occurred. Regionalization refers to measures that allow countries affected with certain diseases to export from disease-free areas within their countries.<sup>44</sup> During recent meetings, Peru, Uruguay, Chile and several other countries asked the SPS Committee to begin establishing administrative guidelines for regionalization. They argued that currently some importing countries take too long to recognize the disease-free and pest-free status of regions<sup>45</sup> within exporting countries.<sup>46</sup> In their view it is part of the SPS Committee's responsibility to develop guidelines for such recognition.<sup>47</sup>

Several countries have argued that the SPS Committee should *not* work on establishing guidelines at this point. At one recent meeting New Zealand presented these arguments. The delegate argued that the SPS Committee should not concern itself with rule-making in the area of regionalization until after the international standard-setting organizations (specifically, the OIE and IPPC) develop their own guidelines for establishing the disease-or pest-free status of a region. Some at the meeting seemed to suggest that the SPS Committee should not concern itself with even the development of administrative guidelines.

In many respects this debate about regionalization reflects the practice of several forum-shifting strategies. It was clear from interviews that some of those wishing the SPS Committee to take a stronger role in establishing administrative guidelines were concerned with granting the OIE and IPPC too much authority because of their own low participation in those alternative fora. It was also clear that exporting interests

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<sup>43</sup> The creation of the WTO's Agreement on Trade-Related Intellectual Property Rights (TRIPs), is an example of a strategy of abandoning an organization. The United States, frustrated with attempts to develop rules in the World Intellectual Property Organization (WIPO) temporarily "abandoned" that organization to focus on bringing in a new rule regime with TRIPs.

<sup>44</sup> Actually, there are two approaches towards regionalization. The old approach is as mentioned above. An example would be the case of a BSE case found in the state of Washington within the United States. Guidelines could be established that would allow the US to effectively "seal off" that state and still export from the other parts of the country. The new approach—frequently referred to as *compartmentalization*—refers to establishing that biosecurity management systems are free of disease (rather than geographical areas).

<sup>45</sup> Or compartments.

<sup>46</sup> Specifically, the concern is that even after disease- or pest-free status has been determined according to OIE or IPPC guidelines there is no rule about how soon importers must allow imports. That is to say, the OIE and IPPC may determine timeframes for when it is scientifically safe practice to allow trade but they do not necessarily provide guidelines for administrative timeframes. Additionally, it is the case that some countries do not automatically accept OIE's designation of disease-free status without making their own confirmation.

<sup>47</sup> See for instance GEN/SPS/W/148.

were involved (a new global policy on regionalization would certainly create new sets of winners and losers). On the other hand, those arguing that the SPS Committee should defer to the OIE and IPPC clearly felt comfortable with the work that those organizations were accomplishing. It is possible that this is a delay tactic as well. It is unlikely, for instance, that the OIE will be able to create all the guidelines desired by member countries very quickly. Currently, the OIE only has guidelines established for four diseases and those guidelines only deal with the technical aspects of preventing disease spread. They do not deal with timeframes for recognition by other states of disease-free status. The ability of the SPS Committee to influence OIE and IPPC agendas suggests another type of strategic behavior available to actors.

*Issue-linking* is another powerful type of strategy and may be more common than forum-shifting. Linking an issue in one forum to a different issue in the same or another forum may be a way weak states can reduce the natural advantages of strong states (Braithwaite and Drahos 2000). Many issues discussed at the SPS Committee are linked to issues discussed in other areas of the WTO (Doha round negotiations on agriculture, for instance). Trade concerns may also be linked. Thus, as discussed later, it appears that Argentina's complaints about Colombian beef import restrictions became linked to Colombian complaints about Argentina's cut flower import restrictions.

## 4. ACTORS AND INTERESTS

The international setting states and other actors face is not just composed of international organizations but of all other actors, their interests, and their actions.<sup>48</sup> States are central, but it is useful to consider as well the role of non-state actors such as the agri-food industry, public interest groups, research and technical assistance groups, and poor producer advocates.<sup>49</sup>

### States and Groups of States

States differ in what food safety rules they want and in their ideas for implementation. Differences in geography, climate, and population characteristics impact the science and risk analysis of food safety. Culture matters for perceptions of risk acceptability. Europeans, for instance, appear to have a higher risk tolerance for the presence of *Listeria* in cheese made from unpasteurized milk (Unnevehr and Hirschhorn 2000).

#### Developed Countries

The most common way to divide states is by level of development. The obvious difference between developed and developing countries is the greater resources of the former. This goes a long way towards explaining the gaps in rule-making participation. Developed countries are able to send more delegates more often to international organizations. In the WTO it is not unusual to see six members of a developed country delegation sitting next to the sole member of a developing country delegation. What makes the gap even greater, however, is the fact that the developing country delegate may represent his or her state in *all* WTO areas, whereas all six members of the developed country delegation are likely specialists.

Developed countries have stronger ties to the firms that dominate world agricultural trade and production. Annex 5 lists the largest firms for meat, dairy, and retail in terms of global sales. Dyck and Nelson (2003) note that seven of the ten largest firms in terms of meat sales are in the US (the other three are in Switzerland, Japan, and Denmark). It is also interesting to note that one of the world's largest dairy firms, Fonterra, is based in New Zealand. In fact, while most countries export a very small percentage of their dairy products in proportion to total domestic production, New Zealand exports a rather large percentage. Inevitably, developed countries face a different kind of pressure from business lobbies than do developing countries.

Developed countries also have stronger ties to consumers groups. Indeed, much of the demand for food safety rules comes from developed country consumers. For instance, in Europe the Transatlantic Consumer's Dialogue played a key role in the beef hormone ban (Hoekman and Kostecki 2001). The willingness of the EC to allow some cases to be brought to the WTO's DSB, despite the likelihood of loss, can be explained by a need to demonstrate a willingness to protect consumer interests (Victor 2000).

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<sup>48</sup> This is loosely based on Lake and Powell (1999) who breakdown strategic settings into two elements. One is actor attributes and includes the actors' preferences and belief about other actors' preferences. The other is environment attributes and includes environmental constraints on actor actions and on what the actor can know.

<sup>49</sup> A list of all NGOs at Codex is available at: [http://www.codexalimentarius.net/web/organizations\\_ngo.jsp](http://www.codexalimentarius.net/web/organizations_ngo.jsp). A list of international organization observers at the WTO is available at: [http://www.wto.org/english/thewto\\_e/igo\\_obs\\_e.htm](http://www.wto.org/english/thewto_e/igo_obs_e.htm); of NGO participants at the WTO: [http://www.wto.org/english/forums\\_e/ngo\\_e/ngo\\_e.htm](http://www.wto.org/english/forums_e/ngo_e/ngo_e.htm). The OIE has some industry participation but—until recently—no non-industry NGO participation. Recent NGO participation has primarily centered on OIE work in animal welfare.



There are, of course, differences among the developed countries. Some evidence suggests the US may be more intent on opening up markets, while the EU may be more intent on protecting its own (or at least demonstrates less willingness to change its own standards). Countries have brought 43 specific trade concerns about EU measures to the SPS Committee, compared with 14 concerns in relation to US measures. The EU has raised 39 concerns of its own regarding other countries' policies; the US has raised 49.<sup>50</sup>

The above characteristics of developed states mask an important characteristic underlying the quality of developed country participation: developed countries tend to be repeat players.

### Repeat Players versus One-Shotters

Some countries—due to the nature of their size or their trading patterns—have a higher frequency of interactions within the international legal system. Broadly speaking, developed countries tend to be *repeat players* in the international system, whereas developing countries are often *one-shotters* (Galanter 1974; Byers 1999).<sup>51</sup> That is to say, developed countries tend to have a greater number of interactions in the international legal system due to the greater number of issues that involve them. This provides developed countries with certain advantages, in terms of expertise, connections with other key players, and an ability to focus on long-term strategies. Related to their position as repeat players, developed countries also played the key roles in creating the WTO, OIE, and Codex. However, it should be mentioned that China, India, and several Latin American countries are all beginning to show the characteristics of repeat players. Their size and their role in (especially agricultural) trade make this inevitable.

In contrast, one-shotters have a number of disadvantages. First, they typically have small or unmanageable claims. For instance, having a rule or a rule exception created so that Mauritania can export camel cheese (at first it was the only country producing the product), may be difficult because it matters only to Mauritania and it is unclear how high a priority it is for even Mauritania.<sup>52</sup> Second, they tend to pursue short-term legal strategies with little concern for overall impacts on the legal system. Often, developing countries react to specific trade problems rather than develop a consistent strategy for rule-making that could prevent such trade problems from arising in the first place.

The underlying logic of this analysis seems to be that frequent involvement with the legal system privileges some states. Thus, it may also be that even weaker countries, by increasing their involvement in the international legal system, can increase their influence. Indeed, Galanter makes several prescriptions for weak parties that all center around aggregating the one-shotters into units large enough to be repeat players:

*“An organized group is not only better able to secure favorable rule changes, in courts and elsewhere, but is better able to see that good rules are implemented. It can expand resources on surveillance, monitoring, threats or litigation that would be uneconomic for an OS [one-shotter]. Such units would in effect be RPs [repeat players].”*

<sup>50</sup> Through 2003.

<sup>51</sup> The terminology here is adopted from Galanter. Galanter's focus is the domestic legal system, but his general observations seem very applicable to the international system. I owe a debt to Robert Kagan for directing me to this literature.

<sup>52</sup> Nancy Abeiderrahmane, founder of the dairy, remarks: "We only produce one kind of cheese. It is difficult to make, the yield is very low and we have practically no market" (FAO 2001).

## Developing Countries

In the WTO - and in many other international organizations - states declare for themselves whether or not they are "developed". One effect of this is that Chad's rights and obligations as a developing country are similar to those of Brazil, India, and China, despite the obvious differences in levels of development.<sup>53</sup> Indeed, developing country interests are not homogenous and this can matter for food safety rule-making. The fact that some may be repeat players, as mentioned above, is one example.

Developing country interests regarding specific trade concerns can run counter to each other. Trade in agricultural products among developing countries is increasing. 47.6 percent of developing country imports and 43 percent of exports involved other developing countries in 2002 (WTO G/SPS/GEN204 2004). This means that developing countries are increasingly affected by the externalities of other developing countries' policies. It is notable, for instance, that many of the developing country trade concerns raised at the SPS Committee are from Latin American countries and a large percentage of those concerns involved other Latin American countries.

Nevertheless, there are cases where groups of developing countries have similar interests. For instance, development of the principle of equivalence—whereby countries acknowledge the SPS measures of other countries—is particularly important for smaller countries which may have a more difficult time demonstrating equivalence. Likewise, rules about exceptions for developing countries, specifically those about special and differential treatment, have long provided common ground for many developing countries in areas outside food safety.

To influence rule-making, developing countries must first participate. However, developing country participation in developing international food safety rules is uneven. While there is some evidence of an upward trend in their participation in international organizations, participation at that level is not necessarily enough. Oyejide describes several competencies a state should have for effective participation: (1) capacity to understand, internalize, and take advantage of agreements; (2) capacity to articulate trade objectives; and (3) capacity to "assert and defend its acquired trade and trade related rights" (Oyejide 2000). Achieving such competency requires dedicated state resources, including support from the home capital.

Insiders in the Codex, WTO, and OIE agreed that two characteristics of delegate participation are important. One is longevity in individual delegate participation. Delegates who represent their countries for multiple years are more apt to develop the needed expertise and connections. It may also allow them to rise to positions of authority within the organizations. The first developing country chair of the Codex Alimentarius Commission rose to his position in that manner. The second characteristic is participation of delegates from home country capitals. Such delegates should have the needed authority and expertise to make decisions on behalf of their countries at international meetings. Several members of developed country delegations expressed how impressed they are when this occurs. All too often a delegate is present who lacks the authority and expertise to make decisions on issues at meetings, when they matter.

As mentioned earlier, an important strategy for developing countries is collective action. Several regional organizations play important roles in facilitating collective action. The Association of Southeast Asian Nations (ASEAN) helps coordinate the positions of its member countries on SPS (and other) issues. SPS meeting minutes regularly announce that the Philippines (the current ASEAN designate for SPS matters)

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<sup>53</sup> Although Chad, as a *Least Developed Country*, has some special rights that go beyond those developing countries receive as a class.

is speaking on behalf of ASEAN member countries. Recent attempts to create a Caribbean Food Safety Initiative also suggest potential for cooperation in that region.

Sometimes regional cohesiveness is informal. Anyone present at an SPS Committee meeting can quickly see that Latin American countries desire to support one another (despite their complaints about each others' barriers). When one speaks, others will often follow with their voices of support. The South African Development Community (SADC) members' tendency to sit next to each other in SPS Committee meetings (as well as meetings in some other fora) is another example.

Overall most developing countries are—at least so far—rule-takers. Most find themselves modeling<sup>54</sup> the standards of leading states rather than participating in the creation of new standards. This is unlikely to change for most low-income developing countries.

Perhaps the greatest weakness of the international legal system is that it assumes states will participate even though it is impossible for full participation to occur. In 2001 there were more than 200 intergovernmental organizations, not including their subsidiary bodies (Union of International Associations 2005). The WTO alone can average more than 40 meetings per week (Blackhurst, Lyakurwa et al. 1999).<sup>55</sup> Tiny member countries, such as St. Kitts and Nevis (pop. 38,000) simply cannot fully participate. The United States State Department has more than 30,000 employees!

## The Agri-Food Industry

The agri-food industry is enormous, employing millions of laborers around the world and produces more than \$1 trillion (US) worth of goods. It is the largest manufacturing sector in Europe and one of the largest in the United States.<sup>56</sup>

A number of trends drive the agri-food industry towards a concern with food safety. Consumers in developed countries increasingly want food products that are both convenient and safe. Firm reputation is a big issue here. Second is the development of biotechnology. Biotechnology is an aid to production but the safety of genetically modified foods is still in question. A third trend involves the increasing use of information technology. This affects how food is distributed and is used to enhance the traceability of food products "from the farm gate to the dinner plate". Indeed, the industry itself is undergoing transformations in response to these trends. There is increasing vertical coordination and increasing use of global strategies for sourcing, distributing, and marketing foods (Lahidji 1997). Such global, vertical coordination enhances the utility of international harmonization in food safety regulation.

The relationship between business and international food safety rules is long-standing for two simple reasons. One is that these rules impact business directly. The costs of new rules are more visible to businesses while the benefits are more diffuse and difficult to measure for consumers. The other is that much of the scientific and technical expertise needed to inform rule-making lies within firms.

<sup>54</sup> See Braithwaite and Drahos (2000), pages 414-5, for more on modeling in this area.

<sup>55</sup> The World Development Movement (WDM) reports that the EU delegation to the Cancun Ministerial meeting had 651 members, comparing this figure with developing country delegations such as Rwanda's (3 members). "WDM also calculated that the two richest delegations, the EU (651) and the US (212), representing approximately 10% of the world's population, have a total combined delegation of 863 - over three times the total of 235 for China, India, Brazil, Argentina and South Africa, who represent 51% of the world's population. It is also over twice the negotiating strength of the combined delegations of the 30 Least Developed Country members of the WTO (377)." <http://www.wdm.org.uk/news/presrel/current/cancunnodeal2.htm>.

<sup>56</sup> For more information, see the following websites: <http://www.foodnavigator.com/news/news-ng.asp?n=59413-european-food-industry>; <http://www.ers.usda.gov/publications/agoutlook/Dec2002/ao297k.pdf>; <http://www.census.gov/prod/ec02/am0331qs1.pdf>

Firms can impact the rule-making process in a variety of ways. They probably have their least direct influence at OIE, and their most at Codex. Influence can occur through several channels, including: (a) direct lobbying, (b) lobbying through their own governments and participating as members of country delegations at the international level, and (c) supporting scientific research. Often this is done through industry associations.<sup>57</sup> In terms of direct lobbying, industry has the largest non-governmental presence at Codex. One recent study found that 71% of INGOs with observer status are industry bodies (22% are professional and 8% consumer/public interest) (FAO/WHO 2002). A 1993 study found that industry representatives to Codex outnumbered public interest groups 445 to 8. Important industry participants include Nestle,<sup>58</sup> Coca-Cola, Unilever, and Monsanto.

Industry also works through governments, whether through lobbying or through participating as members of country delegations. The 1993 study mentioned above found that 49% of US delegates and 61% of Swiss delegates to Codex were from industry. The study noted that the total number of "US and Swiss industry representatives were greater in number than all the members from all the nations of Africa (Avery, Drake and Lang, 1993, cited in (Braithwaite and Drahos 2000))

Businesses also seek to influence the scientific community's understanding of issues. Coca-Cola funded the International Life Sciences Institute (ILSI) and the Technical Caramel Association after a Codex Committee recommended a ban on caramel color additives (there was some concern about their impact on white bloodcell formation). Later, Ajinomoto, a Japanese marketer of mono-sodium glutamate (MSG), used ILSI to defend its own products (Braithwaite and Drahos 2000).

Farmers are, of course, also a business interest but they have relatively little representation and clout. Several farmer organizations participate to varying extents at Codex and the WTO. Farmer groups, including the International Federation of Agricultural Producers (IFAP) and the *Réseau des organisations paysannes et de producteurs agricoles de l'Afrique de l'Ouest* (ROPPA), primarily concentrate their attention on the WTO's Doha Round negotiations on agriculture. With the exception of occasional calls for greater technical assistance, these organizations are relatively silent when it comes to the issue of food safety standards (especially as they impact *poor* livestock producers in developing countries).

## Public Interest Groups

A variety of public interest groups attempt to influence the development of international food safety rules. Most of this activity centers on Codex. Some have very narrow concerns. Examples of such groups include the Association of European Coeliacs Societies, International Baby Food Action Network, the European Heart Network, the European Network of Childbirth Associations, the International Baby Food Action Network, the International Lactation Consultant Association, the Rural Advancement Foundation International, and the Pesticides Action Network (CI 2000).

Consumers International (Union of International Associations) is the most visible broad-based consumer group, but other important groups include the Transatlantic

<sup>57</sup> Examples of some important industry associations active at the WTO, Codex, and/or OIE are: European Round Table of Industrialists, World Business Council for Sustainable Development, International Chamber of Commerce, US Dairy Foods Association, Pork Producers Council (US), the Confederation of the Food and Drink Industries (CIAA—Europe), the World Federation of the Animal Health Industry (COMISA), the Council for Responsible Nutrition, and the Global Crop Protection Federation.

<sup>58</sup> Several studies and several interviewed for this study singled out Nestle's influence at Codex. Nestle appears to send the most industry representatives to Codex. Between 1989 and 1992, Nestle sent more representatives than all but 22 of Codex' 105 member countries (Avery 1995).

Consumer's Dialogue, International Association of Consumer Food Organizations, International Co-Operative Alliance, and the European Consumers' Organisation (BEUC). Consumer groups focus on ensuring that international rule-making guarantees the safety of food products. While developing country consumers are often represented at international meetings, this does not benefit the poor small producer of livestock products. Consumer desire for inexpensive (and safe) food may lead to preference for imported products.

There are, of course, a large number of groups actively promoting the reform or termination of the WTO. They are not, however, active at the SPS Committee.

## Research & Technical Assistance Groups

Research and Technical Assistance Groups play different roles than the other actors discussed in this section. They provide the scientific advice that forms the basis for the creation or modification of standards and/or the assistance some require for implementing the standards.

Groups involved in scientific research and technical assistance have a variety of affiliations to other actors mentioned in this study. Some, like ILSI, conduct research on behalf of industry. Others, such as the International Livestock Research Institute (ILRI), have a focus on producing research that benefits the poor.

There are also groups that seem to bridge the ties between industry and developing countries. The Industry Council for Development (ICD) is a non-profit organization that works with WHO, FAO, governments, and NGOs. The members of ICD are firms, but the clients are developing countries. ICD's goal is to help those countries reach their food safety and nutrition goals.

Professional associations such as the European Food Law Association and the World Veterinary Association also attend international meetings, but are not particularly active.

## Poor Producer Interests

None interviewed during the course of this study could identify advocacy groups that specifically represent the interests of poor producers in developing countries in the relevant international fora. However, there are a number of groups involved in promoting animal health and/or concerned with linkages between poor producers and food safety. While none of them are active participants in rule-making, they could do more to provide the scientific advice needed for international standard-setting.<sup>59</sup> *Vétérinaires Sans Frontières* is an example of such a group.

A number of groups seek to promote the interests of poor farmers more generally. These groups lobby at the national level and/or at the WTO. Their primary target for activism at the WTO is the Agreement on Agriculture and the work with respect to SPS measures usually is limited to general position statements. Oxfam, for instance, has been very active in lobbying for a fair trading system. Another category of actor relevant here is the fair trade movement (which includes Oxfam) which has supported poor producer exports of a variety of food and handicraft items, though not yet livestock food products.

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<sup>59</sup> This is not to say it *should* be their top priority.

For some, a primary goal is the dismantling of the WTO. Examples of such groups include *Via Campesina*, the Land Research Action Network, the National Union of Autonomous Regional Farmers' Organizations (Mexico), the Assembly of the Poor (alliance of various groups in Thailand), *Movimento dos Trabalhadores Rurais Sem Terra* (MST, the Landless Workers Movement in Brazil), and People's Food Sovereignty.<sup>60</sup>

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<sup>60</sup> The perspective of this paper, however, is one of working within the existing system, not one of system change. One weakness in the position of groups that desire that the WTO "get out of agriculture", is that they do not offer a clearly viable alternative. *Via Campesina*, for instance, still wants governments to control the spread of disease and pests to ensure food safety, but does not explain how governments can do this without an international organization (at least not in the literature I reviewed). Some international trade will always occur (there are, for instance, some countries that simply cannot produce enough food for their own people) and some means of regulating that trade to ensure food safety will always be necessary.

## 5. CASES OF INTERNATIONAL RULE-MAKING

Many food safety rules are made with little controversy. However, controversy and conflict do occur and such cases provide a window into the political dynamics that accompany the legal processes we normally see.

This section provides sketches of six cases of rule-making. The intent is to illustrate key aspects of the political and organizational dynamics of food safety rule-making. Not all the cases involve developing countries, let alone their poor producers. The first is the EU-US dispute over the use of beef hormones. This case highlights some of the changes in the food safety regime complex. The second case is the development of standards for aflatoxin in nuts and milk. Here developing countries played a highly visible role. The question of whether their participation made a difference is relatively murky, however. A third case illustrates the inter-organizational dynamics within the food safety regime complex by considering the development of rules for BSE. The fourth case involves a dispute between Argentina and Colombia over a ban on imports of Argentinean beef. The section concludes by discussing two cases where poor developing country producers have not benefited from international rule-making.

### Beef Hormones: The SPS Agreement's Difference

Public anxieties about the presence of the illegal hormone diethylstilbestrol (DES) in Italian baby food prompted the EU to a series of bans on beef hormone use in the 1980s (Roberts 1998). In 1981 the European Community placed its first ban on the import of beef raised using growth hormones. In 1985 this ban was extended (after an important European Parliament vote) to include three more natural hormones and two synthetic hormones. This had its most direct effect on US beef producers who had been using hormones since the 1970s.<sup>61</sup> The ban on hormones continues today. However, the case teaches important lessons about rule-making, dispute resolution, and the impact of the SPS Agreement on these processes (U.S. Foreign Agriculture Service 2003).

The EC argued that the ban's intent was the promotion of public health. According to the EC, hormone residues remained in meat from cows raised on them. These hormone residues, they argued, were unsafe for public consumption. The US, on the other hand, argued that the ban's intent was to protect EC beef producers. Indeed, the ban was extended to include all hormones and in 1988 the EC banned all US meat (U.S. Foreign Agriculture Service 2003).

#### First Dispute Resolution Attempt

In 1987 the US challenged the EC under the 1979 TBT Agreement, requesting the establishment of a technical experts group to consider the justifications for the EC ban. The EC attempted to block this, arguing that TBT applied only to end products and that this was instead a process issue. Nevertheless, the US retaliated by placing tariffs on European imports. The dispute was left unresolved (Kastner 2001).<sup>62</sup>

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<sup>61</sup> European farmers were also using these hormones until the ban.

<sup>62</sup> Some link US involvement in strengthening Codex was linked to the economic impact of the beef hormone ban. US officials were also concerned with how Japan's stringent phytosanitary standards regarding apples were blocking US exports (Braithwaite and Drahos 2000; Hoekman and Kostecki 2001).

## Second Dispute Resolution Attempt

The Uruguay Round's completion in 1995 offered the EU and US a new set of rules to consider for the dispute. The new SPS Agreement and Dispute Settlement Mechanism were significant departures from the previous GATT-TBT regime. It was not long before the US requested the establishment of a Dispute Settlement Panel. That panel decided that the EU's ban on growth hormones was not based on scientific evidence, nor had the EC carried out a sufficient risk assessment. An Appellate body upheld the ruling. The EC immediately interpreted this as a sign that they needed to produce more scientific studies supporting their claims.<sup>63</sup> The US interpreted it as a victory. It won approval to retaliate by continuing their previous policy of placing tariffs on European imports so long as Europe continued the ban.<sup>64</sup>

Key to the WTO decision was the standards set by Codex. Codex had decided that beef hormones were not a risk for consumers. Despite the long history of growth hormone use, Codex did not create standards for their use until the 1990s. The primary reason for this was the dispute between the EC and US. The US, however, had an advantage at Codex. It was (and remains) chair of the Committee on Residues of Veterinary Drugs in Foods. It had failed once before to get the committee to approve the use of hormones. However, a later vote at a 1995 meeting to stop action on the issue failed. The US was then able to get a favorable vote (by secret ballot) on the issue of hormones themselves.<sup>65</sup> US moves to obtain support for the use of beef hormones were bolstered by analysis of the issue from a key Codex advisory body, the FAO/WHO Joint Expert Committee on Food Additives (JECFA). JECFA had established the safety of the five hormones in dispute and proposed standards for adoption.<sup>66</sup>

The OIE did not play a significant role in this even though the application of animal growth hormones is clearly related to their mandate. That is not to say the OIE would not play a role today. One key player in these issues today is the International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products (VICH) program.<sup>67</sup> VICH was started in 1996 following a decade of discussions between the US and EU. It is a trilateral (EU-Japan-US) initiative aimed at harmonizing technical requirements for veterinary drug registration, and the head of the OIE Collaborating Centre on Veterinary Drugs chairs the Steering Committee.

The hormone case is not just a case for developed countries. In recent years Chile, Mexico and South Africa have allowed the use of growth hormones (Inforum 2001). On the other hand, Indonesia's attempt to ban the import of hormone-treated beef met quick resistance in a 2003 meeting of the SPS Committee (WTO G/SPS/R28).

## Aflatoxin: A Developing Country Victory?

In 1960, 100,000 poultry died in the UK from a new disease, first called "Turkey X disease" and later known to be aflatoxin (Saad 2004). Aflatoxin is a complex of toxins

<sup>63</sup> Indeed the EC's own studies were varied in their results. The first commissioned Lamming report of 1982 found that hormone use presented no significant risks. Some later studies suggested there were risks, but they considered the problem of *direct* human exposure to high levels of hormones rather than to hormones found as residues in meat.

<sup>64</sup> Canada was brought on as a third party to the dispute and won a similar right to retaliate.

<sup>65</sup> The dominance of host country agendas was mentioned in a recent Codex evaluation (FAO/WHO 2002).

<sup>66</sup> Standards were eventually adopted regarding the safety of five growth-promoting hormones. Three of these are naturally-occurring: estradiol-17beta, progesterone, and testosterone. The two others are synthetic: trenbolone acetate and zeranol. Codex has yet to set a standard for third synthetic hormone used in the United States, melangestrol acetate (MGA). Since this beginning of this dispute, the use of recombinant bovine Somatotropin (rbST) as a growth promotant to boost milk yields has been a topic of further dispute between the EU and US.

<sup>67</sup> More information is available on the VICH website: <http://vich.eudra.org/html/what.htm#t2>



formed by molds and can occur in a variety of agricultural products including nuts and grains. Cows that eat feed contaminated by aflatoxin may also produce contaminated milk. This matters for human health because high levels of exposure may cause liver disease, cancer, and Reyes Disease. A 1974 outbreak in Northwest India may have killed 108 people and affected many more (FDA 2004). In Europe, countries responded to this by establishing their own standards.

In 1998 the European Community notified WTO members that harmonizing disparate standards within the EU had led them to adopt a standard of no more than 10 ppb of aflatoxin for groundnuts and 0.05 ppb for its presence in milk, more stringent standards than previously required by many European states. At the time, Codex was still debating what its standard should be (perhaps due to EC intransigence on the issue in that forum). However, JECFA (playing a key advisory role here as well) had already created its report. It recommended limiting the intake of aflatoxins to levels as low as reasonably possible.<sup>68</sup> It also noted that the difference in a standard of 10 ppb and 20 ppb (that desired by most other countries) for Europeans was that approximately 2 lives per billion might be saved each year (WHO 1999).<sup>69</sup>

At the SPS Committee, the new EC standard prompted the biggest reaction yet from member states. Ten developing countries and one developed country (Australia) argued at the March 1998 meeting that the new EC levels made no significant positive impact on human health while placing severe restrictions on international trade (WTO G/SPS/R/12). Those countries would later be joined by many other states (including the United States) in calling for the EC to change its standard. The concerns of these countries appeared to be supported by researchers. From a scientific perspective, there was little evidence that a standard set at 10 ppb led to significantly greater health benefits than one set at 20 ppb. On the other hand, it was clear that meeting a more stringent standard would have a significant effect on producers. A well-known World Bank paper (Wilson, Otsuki et al. 2003) estimated that the implementation of the new EC standard would decrease Africa's cereal, dried fruits and nuts "exports by 64 percent or US \$670 million in contrast to regulation set at an international [Codex] standard". This was especially significant given that Europe is Africa's greatest trading partner and the importance of agricultural exports to African economies.

There were, in fact, several forces opposing the European standard. First, developing countries were able to provide an effective argument about the effect of these measures on their trade with Europe. Philippines, representing ASEAN, and India argued that the proposed minimum standards for milk were unreasonable and would have strong negative consequences for trade.<sup>70</sup> Senegal argued that it made no sense for the EC, which at the time was encouraging Senegalese groundnut production for human consumption, to put in place a measure that would severely restrict their ability to export. At the time, 74% of Senegalese groundnut exports went to the EC.<sup>71</sup> Arguably, developing countries had the most to lose if the EC's higher standard had stood. Their ability to argue from a position of need and credibly demonstrate the negative impacts on their relatively fragile economies were important.

However, it also appears that developing country positions were substantively supported by the interests of developed states. Some argue that in this case - as in many other WTO cases - the result was a compromise between the United States (which desired less stringent standards because of its domestic nut and grain industry

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<sup>68</sup> However, it also stated that the "greatest relative impact on estimated average aflatoxin levels is achieved" by limiting contamination to less than 20 ppb.

<sup>69</sup> Interestingly, the higher standard could save 300 lives per billion in China, given the different population characteristics built-in to their model.

<sup>70</sup>WTO G/SPS/GEN/54 and G/SPS/GEN/62.

<sup>71</sup>WTO G/SPS/GEN/55.

interests) and the EU's positions (Silverglade 2000). The fact that the current standard is the middle figure of 15 ppb is suggestive.

It is also important to note the relationship between SPS Committee activities and activities occurring in Codex. The EC notified the WTO of its intended standard only a year before Codex was to meet and discuss setting its own standard.<sup>72</sup> Notes from the April 1998 SPS Committee meeting where the complaints were first made suggest that the EU recognized its role in blocking consensus at Codex (WTO G/SPS/R10). It also sought to use the WTO's Appellate Body Report from the EC Hormones case to undermine some of the relevance of Codex norms.

Finally, it is worth singling out business interests within the developed states. Several interviewed for this study suggested that such business interests provided the information submitted to the WTO by some developing country members on the aflatoxin case. A simple search on the internet leads to a report by the Healthy Nut Initiative, formed in Hamburg in 1997 by the International Nut Council, the German Peanut Council, and various national associations to oppose the EU Commission's proposed standard.<sup>73</sup> Information from such sources may have played an important role.

This aflatoxin case is an example where developing countries identified proposed maximum residue limits (MRLs) as potential threats to their trade. MRLs pose a specific challenge in food safety standard-setting. Developing countries occasionally complain that the MRLs set by standard-setting organizations can be unnecessarily strict (as in the case of aflatoxin in milk) with no clear health benefit over a less strict standard which may be more practical. This is especially the case when enforcing a stricter standard requires laboratory equipment such countries may not have.

## Mad Cows: Limits to Public Rules

The UK announced the existence of a new disease affecting humans in 1996: variant Creutzfeldt-Jakob disease (vCJD). The cause of this degenerative brain disease appeared to be consumption of animal products (specifically, beef) tainted with another transmissible spongiform encephalopathy (TSE) - *Bovine Spongiform Encephelopathy (BSE)*, perhaps better known as "Mad Cow Disease". Since its discovery, BSE has been detected in livestock in many European countries, Canada, the United States, Japan, the Falkland Islands, Oman, and Israel.<sup>74</sup>

The announcement prompted a public health crisis and undermined public confidence—especially in Europe—in the safety of food supplies. BSE, after all, had been found present in cattle as early as 1986 and given vCJD's apparent long gestation period in humans it was impossible to know how many people could have been infected and how far outside the UK BSE could have spread.<sup>75</sup> Most of these questions are still unanswered.

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<sup>72</sup> This is a short time relative to the length of time it typically takes Codex to adopt a standard. Codex adopted a standard in 1999 for the presence of aflatoxin in "peanuts intended further processing" (revised 2001). The current standard allows for up to 15 ppb. In 2001 Codex agreed on a standard of 0.5 ppb in milk. EU member states, desiring a much lower standard (highest levels allowed being 0.05 ppb) expressed their reservations but did not block the decision. Consumers International also expressed some reservations.

<sup>73</sup> I received unconfirmed reports that European nut importers directly provided developing countries with information that was later used in documents submitted to the SPS Committee and SPS Committee discussions.

<sup>74</sup> These include native and non-native (animals imported from disease-affected countries) cases. For most countries, the number of BSE cases detected so far has been extremely small (WHO 2002).

<sup>75</sup> Determining its spread is further complicated by the fact that no test exists that can identify the presence of BSE in live animals.

Mad Cow Disease provides one of the clearest examples of the link between OIE activities and food safety. Most of the concern for BSE and most of the pressure on the OIE to develop rules occurred after the UK announcement of its link to vCJD. The OIE began developing guidelines for BSE in the early 1990s and classified BSE as a List B disease, signifying that it is easier to contain than some (List A) diseases.<sup>76</sup> The OIE provides guidelines for establishing five levels of exporting country status based on risk level (free, provisionally free, minimal risk, moderate risk, high risk). There are greater restrictions on the categories of meat that can be exported from countries as risk level increases. However, some categories of meat (given proper testing) can be exported from countries of *all* levels. That meat, according to OIE guidelines, can be assumed safe.

Despite such guidelines, countries regularly place bans on all bovine meat products from countries where BSE has been detected. Sometimes, the ban is extended to other meat products as well.<sup>77</sup> This inevitably leads to disputes over the legality of those bans. TSEs have been an especially important item on the SPS Committee agenda. Roughly 16 % of the concerns raised at meetings involved TSEs. The role of the committee as a forum for discussing related trade disputes is important.

The case of Mad Cow disease illustrates some of the limits to the authority of international organizations. Current histories of the spread of BSE and regulatory reactions invariably focus on the actions of state regulators.<sup>78</sup> The OIE's efforts to reassure importing countries that some meat products from BSE-infected countries are safe is an example. For country ministers responsible for ensuring the safety of food imports, the potential political risk of making the wrong choice is high.

## Argentina v. Colombia: FMD and beef

Trade between developing countries also faces inappropriate uses of SPS Measures. Uruguay has complained about El Salvador's bans on its meat and dairy products (WTO G/SPS/R17). Costa Rica and other South American countries have complained about Honduran restrictions on poultry meat imports, Argentina and Indonesia have had disputes about dairy products: all are concerns brought to the SPS Committee. In many of these cases Latin American countries have been involved.

One recent case involved Colombian restrictions on Argentinian meat imports following an FMD outbreak in Argentina in 2001. Colombia set requirements for plant inspections within Argentina in order for trade resumption. In 2002, Argentina raised the concern at the WTO's SPS Committee that Colombia continued to restrict imports despite the fact that no new outbreaks were occurring. Argentina also claimed that Colombia was slow in carrying out the plant inspections it required. For its part, Colombia complained at the end of 2002 that Argentina was blocking imports of fresh flowers. There was the suggestion that the two issues were now linked, although Argentina denied such claims. Colombia said it would need further information from Argentina before resuming imports.

<sup>76</sup> This system of Lists is no longer practiced by the OIE.

<sup>77</sup> There is ample evidence suggesting that BSE is not just a problem for cattle and humans. Numerous animals have contracted TSEs in laboratory testing and a recent outbreak among goats in Europe provides further reason for concern.

<sup>78</sup> The OIE, Codex, and WTO are missing from histories reported by TV stations and other media sources. See, for example: <http://www.kirotv.com/health/2771940/detail.html>, <http://www.newscientist.com/popuparticle.ns?id=in43>, and <http://www.e11th-hour.org/resources/timelines/madcow.outbreaks.html>.

In October 2003 Argentina reported a resolution to the issue, stating that Colombia had eliminated its restrictions. Colombia stated that the fresh flowers issue also was discussed during their bilateral consultations.<sup>79</sup>

Several points about this case are worth mentioning. First, it demonstrates the role of the SPS Committee in facilitating dispute resolution. It provided a public forum for both countries to give notice of their complaints, and in the process provided information to other countries about how SPS measures were being applied. Second, it demonstrates an example of issue-linking, common in trade dispute resolution though rarely stated so clearly.

## Out of the Loop: Mauritanian Camel Cheese & East African Livestock

The lack of power on the part of developing countries can be viewed through the lens of unresolved trade disputes hurting poor producers. Developing countries are increasingly aware of the impact of SPS measures on their trade. However, this does not mean they bring the issues to the international organizations. Most attempts to resolve issues takes place at the bilateral level. This has been the case for Mauritanian camel cheese producers. East African livestock producers, on the other hand, have been limited by the fact that a major trade partner (Saudi Arabia) is not a member of the WTO and thus not subject to the strictures of the SPS Agreement.

### Mauritanian Camel Cheese

A dairy in Mauritania has the unique trait of producing all its dairy products from camels, including cheese. In 1987, Nancy Abeiderrahmane started the dairy company Tiviski. Since that time she has won several awards for her innovation in developing an enterprise that could bring direct benefit to many small producers of camel milk. It is truly a small producer - based operation. Tiviski collects its milk from more than 1000 camels - each producing a scant 3.5 litres per day. The milk is collected using an ad hoc collection system: the dairy sends people in 4X4s out to collect from the producers, most of whom are nomadic. The seasonal nature of the dairy, however, means that at certain times they have more milk than needed. One solution was the development of the world's first camel cheese. But since Mauritians do not eat cheese, the hope was to sell it to Europeans. Indeed, the cheese was a hit at a German cheese fair and plans were made to begin exporting to Europe.<sup>80</sup> Unfortunately, EU food safety rules make no provisions for camel cheese and the EU decided that cheese would have to come from camels milked mechanically.<sup>81</sup> The decision was not based on any clear risk assessment. Mechanical milking in such a small-scale and dispersed operation is not economically feasible and—despite many efforts and much publicity surrounding the issue—Tiviski is still unable to export its cheese.<sup>82</sup> The issue is not being considered at Codex<sup>83</sup> and—interestingly—there is no report of Mauritania ever attending a meeting of the SPS Committee.

<sup>79</sup> Much of the above relies on WTO G/SPS/GEN/204/Rev. 5/Add. 3)

<sup>80</sup> So said Nicholas Stern of the World Bank in a speech.

<sup>81</sup> Another obstacle the dairy faced is that the EC does not allow *any* animal products to be imported from Mauritania. The EC requires Mauritania to have a sanitary control system and an approved laboratory that can certify that a product meets necessary standards. (Bianchi 2005; Stern 2002).

<sup>82</sup> The issue of mechanical milking is not only a problem for camel cheese. The same issue blocks small-scale dairy producers in India from exporting their dairy products to the EU (case cited in Mehta and George 2004).

<sup>83</sup> This is according to the author's most recent information.

## East African Livestock

Second is the case of East African livestock. The livestock sector has great potential in some East African studies. One recent study suggests that two commodity categories—beef/veal and cow milk—are among the top five commodities in the region with greatest potential for investment (IFPRI 2004).

One obstacle to development of the livestock sector, however, is its ability to meet international food safety standards. A particular problem for the region is Rift Valley Fever (RVF). RVF is a viral infection that affects animals and humans.<sup>84</sup> It has been the cause for Saudi Arabia and other Persian Gulf States export bans more than once in the past 10 years. In 1997 an outbreak occurred in Somalia and Kenya. The result was an immediate drop in livestock exports of up to two-thirds. That ban was lifted in 1998 (FEWSNET 2004).

In 2000 a new ban<sup>85</sup> on livestock and livestock products from the Horn<sup>86</sup> was put in place after cases of RVF were discovered *in* Saudi Arabia and Yemen. The ban was put in place even though no clear linkages were established between the epidemic and African imports. OIE rules recommend that bans should be in place for at least three years. The length of a ban could even be extended by the fact that many of the African countries placed on the ban may not have the resources necessary to establish the safety of their exports.

No one interviewed for this study at the WTO, Codex, or OIE seemed aware of these issues. There is one great reason for this. Saudi Arabia is not yet a member of the WTO (although it seems likely this will change soon). This means that Saudi Arabia faces no threats under the SPS Agreement, making it easier to ban imports for food safety concerns.

## Summary Analysis of the Case Studies

These cases teach us a series of lessons about international food safety rule-making. The beef hormones case teaches two lessons. First, the case supports the conclusion that international rule-making has undergone significant changes in the past two decades and much of this is due to the SPS Agreement. That agreement increased the relevance of international standards to trade disputes *and* created new principles for guiding the settlement of such disputes. Second, the beef hormones case illustrates the role the WTO dispute settlement process plays in food safety rule-making. Though not used often, dispute settlement can refine states' understandings of their rights and obligations and it can clarify the status of standards created by international standard-setting organizations. In this case, the WTO accepted Codex standards on beef hormones, though passed by Codex with a narrow voting margin.<sup>87</sup> Panel and Appellate Body decisions provided some of the guidelines that the EU would have to follow to justify their own different standards.

A third lesson from these cases is that international rule-making is interdependent. Rules made in one organization can impact rules and enforcement outcomes in other organizations. There are two primary ways that this manifests itself. One is when the organizations act as functionally integrated units. These are the cases where dispute resolution in the WTO relies on the standards set by Codex and/or the OIE. The WTO process can clarify and harden interpretations of these standards. The other way is

<sup>84</sup> Approximately 1% of infected humans die from the disease. It can be contracted through mosquitoes or handling meat.

<sup>85</sup> The Persian Gulf States participating in the ban include Saudi Arabia, Bahrain, Oman, Qatar, Yemen and the United Arab Emirates.

<sup>86</sup> Nine African states were targeted for the ban.

<sup>87</sup> The EU would argue that the narrow voting margin reduced the normative value of the Codex standard.

through the development of general principles in food safety governance. As explained earlier in the paper, the SPS Agreement affected how the Codex and OIE approach the standard-setting process, their focus now being on the use of science-based risk assessment. But the organizations continue to affect each other's rule-making through occasionally simultaneous discussions of principles such as equivalence and regionalization.

Fourth, although developed countries still dominate international rule-making, poor producer interests can play an important role in deliberations. Even though science is the intended basis for rule-making practical considerations also play a role. Thus in the aflatoxin case *prima facie* health-related concerns<sup>88</sup> were tempered by realization of the need for rules fair to (in particular) developing country exporters. The case demonstrates the potential role that MRLs can play as a trade barrier.

Fifth, this system of international rules has limits for poor producers. In one case—Mauritania—camel cheese producers have faced numerous obstacles in bilateral negotiations. The SPS Agreement has so far been of limited utility. The SPS Agreement has also had little impact on trade disputes over East African livestock exports to Saudi Arabia, mostly due to the fact that Saudi Arabia is not yet a member of the WTO. While in both of these cases future benefits could come from engagement by the affected countries at the relevant international organizations, it remains unclear whether single issues such as this are worth the heavy costs of participation. This is one reason small states may benefit from regional coordination in food safety rule-making.

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<sup>88</sup> A risk assessment by JEFCA stated that aflatoxin levels in milk of 0.5ppb or 0.05 ppb did not make a significant difference to the health of consumers. The EU apparently argued for the 0.05ppb limit because this 'was achievable and easily detectable'.

## 6. CONCLUSIONS AND RECOMMENDATIONS

Achieving safe food should be a goal for all countries, all peoples and all producers. Where scientific risk assessments demonstrate food hazards exist, developing countries and poor producers should not fight standard-setting but instead find ways to obtain assistance in meeting those standards. A two-tiered system of standards—where one set of standards applies for export markets and a different set of standards applies for domestic markets—is likely unethical and in most cases is impractical.<sup>89</sup> This is true whether it is the case of developed states exporting lower quality products to developing states, or developing states exporting higher quality products and allowing their own citizens to consume lower quality products.

Interventions in the area of international food safety standards need to take place within a larger strategic framework. If the overall goal is the expansion of livestock production by poor producers,<sup>90</sup> then food safety standards may be important, but will only be one factor among many determining the overall competitiveness of poor producers. Other factors include political stability, basic infrastructure needs, access to inputs, other non-tariff barriers and tariff barriers.

Most of public international food safety rules concern trade-related aspects of food safety and in many cases such rules will not be directly relevant to poor producers. However, as described in Section Two, there are cases where standards do matter. Some of the potential effects are negative—such as decreased export potential for some producers, but standards combined with proper technical assistance can also enhance poor producer productivity.

The study identified the WTO, Codex and OIE as the primary international organizations relevant to public international rules for livestock food product safety. The WTO's SPS Agreement significantly altered the international rule-making environment. General principles were created and revised, most notably the supplanting of the principle of national treatment by the principle of international treatment and the clarification that science-based risk assessment procedures should guide standard-setting. There were also changes in the relationships among international organizations. Codex and the OIE actively collaborate in new ways, for instance.

The interests of poor developing country producers of livestock food products are *not* directly represented in international food safety rule-making. Indirectly, their interests may be represented by their own governments but developing country participation in relevant rule-making activity is limited. Additionally, it is clear that developing country governments interests will not necessarily be the same as those of their own poor producers.

Influencing the development of rules requires an understanding of the international organizational environment and the capacities and interests of relevant actors. Specifically, it is important to consider (a) the unique rule-making dynamics of each organization; (b) the degree to which these organizations are embedded in other international organizations (Codex is embedded in the UN system, for instance); (c) the dynamics that formal and informal linkages between these organizations create; (d) the relevant differences in capacities of states for participation in these organizations; (e) the different situations of repeat players and one-shotters; (f) how coordination among one-shotters can provide some of the advantages of repeat

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<sup>89</sup> A recent FAO report, for instance, warns of the negative ethical dimensions associated with a policy whereby affluent consumers benefit from higher standards than poor consumers (FAO 2003c).

<sup>90</sup> Such expansion does not necessarily mean poverty reduction. Poor producer interests may not be same as the interests of poor consumers. And in some cases it may indeed be that the best option for poor producers is to exit a particular industry.

players (for instance, through regional organizations); and (g) the relatively high level of engagement by industries and consumer groups compared to those with pro-poor concerns in lobbying for rules and shaping scientific discourse. These factors are important determinants of the constraints and opportunities the current international rule-making system has for poor livestock producers and their advocates.

## Recommendations

The paper's central question was how public<sup>91</sup> international food safety rule-making might be friendlier to poor livestock producer interests. This final section puts forward a series of recommendations for accomplishing just that. First, key current issues are highlighted. These are issues about the development of specific primary rules (obligations states face in setting standards and the actual standards) and secondary rules (rules about how those primary rules are made). Next, strategic recommendations for influencing international rule-making are presented for two sets of actors: (a) poor producers and their advocates and (b) developing countries.

### Important Issues

#### *Secondary Rules*

Three types of rules are important to poor producers and their advocates. First are the rules about rule-making (the so-called secondary rules). As discussed elsewhere, there are three key rule-making environments: the WTO's SPS Committee, the Codex Alimentarius Commission, and the World Organization for Animal Health (OIE). Criticisms of the nature of developing country participation in rule-making activities exist in all three bodies. Indeed, one important set of secondary rules are rules that influence *who* gets to participate in international rule-making and the quality of their participation.

Two items currently being discussed at the SPS Committee are relevant in this respect.<sup>92</sup> First is the issue of Special and Differential Treatment for developing countries. Some of the potential provisions may change how international rules are settled. For instance, there are discussions about much time a developing country has to object to a new sanitary and phytosanitary measure imposed by an importer. Second is the issue of Technical Assistance and Training Activities. One theme of this paper and elsewhere is that developing country capacity for participating in international rule-making activities and complying with international rules is limited. Thus, capacity-building and technical assistance activities are (unsurprisingly perhaps) important.<sup>93</sup>

Capacity-building and technical assistance are also issues at Codex and the OIE. The OIE has a long history of providing assistance to country delegates to attend its annual

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<sup>91</sup> While this study focused on public international rules, it is clear that private international rules are increasingly important to poor producer interests. Any parties interested in developing the production and marketing potential of these producers must take into account these private rules.

<sup>92</sup> The SPS Committee is concluding its second operation and implementation review. That review tackles the following subject areas: - Consistency (Article 5.5); - Equivalence (Article 4); - Transparency (Article 7 and Annex B); - Monitoring the use of international standards (Article 3.5 and 12.4); Technical assistance and training activities (Article 9); - Special and differential treatment (Article 10); - Regionalization (Article 6); Monitoring Implementation of the Agreement (Articles 12.1 and 12.2); - Co-operation with Codex Alimentarius, World Organization for Animal Health (OIE), and the International Plant Protection Convention (IPPC) (Article 12.3); and Dispute settlement activities (Article 11).

<sup>93</sup> I might also suggest the Committee consider two specific reforms. First, not all members are able to attend the informal meetings, yet those are often more important in substance than the formal meetings. Minutes of those informal meetings could be useful for those who miss the meeting. Second, throughout the WTO the practice of taking attendance could set the record straight for determining the nature of consensus decision-making. At present, it is often left unknown which countries are making the decisions.



meeting. However, participation at lower level bodies is historically lacking. Several initiatives to improve the depth and quality of participation are taking place.

At Codex, a FAO-WHO Trust Fund facilitates developing country participation. The Fund has increased attendance at (especially) the main meetings of the Commission. However, some interviewed for this study suggested there is room for improvement in at least two respects. First, it changes from year to year which countries receive funds to send delegates. If a country relies on the fund, this negatively affects their ability to develop a delegation that has the necessary knowledge and personal contacts to perform well. As mentioned in Section Four of this paper, regular and thoughtful participation is an important aspect of wielding influence. Second, Codex procedures should be improved to allow for greater feedback from those delegations that are unable to attend meetings. Statements from such governments can be read and entered into the meeting minutes. Responses can be encouraged.

### *Primary Rules about State Obligations*

The second type of rules are the primary rules that tell states what kind of SPS measures they can apply to imports and how. Most of the relatively hard obligations states face are created by the SPS Agreement and refined by the SPS Committee and the WTO Dispute Settlement Mechanism. The issue of **equivalence** is one example. It is still unclear whether the guidelines created by the SPS Committee work. No states have yet given notice of the establishment of equivalence. Equivalence is primarily important to poor producers that export. India, for instance, has attempted to establish that its measures for maintaining the safety of dairy are equivalent to those of the EU. Mechanical milking (required by the EU) is one way to ensure the safety of dairy products, but it is not the only way. Requirements such as this will likely increase, however, as industry and consumers require higher levels of **traceability** and the **application of the HACCP system**. The costs associated with complete product traceability (especially when one includes inputs) and with implementation of HACCP can be a burden to poor producers. In this case, and elsewhere, poor producers should be concerned that international rules require equivalent outcomes rather than processes.<sup>94</sup>

Rules on **regionalization** (also known as compartmentalization) will likely influence poor producer production as well. Specifically, in some countries it may be the case that poor producer interests will be ignored once larger producers are able to establish the safety of their product independent of poor producer production. Even worse for poor producers is the possibility that the quest of larger producers to establish disease-free compartments or regions would involve the end of smallholder production.<sup>95</sup> That said, regionalization also offers some important opportunities for developing country exporters. The challenge will be to ensure that the interests of poor producers are considered when regionalization is applied.

Finally, **transparency** provisions in the SPS Agreement provide a critical link between exporters and importers. Developing countries regularly find it difficult to stay aware of all the measures notified to the WTO and their applicability to their own exports. Currently, the SPS Committee is discussing mechanisms to decrease some of this burden.<sup>96</sup>

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<sup>94</sup> Related to equivalence are current OIE discussions on the roles played by competent veterinary authorities within countries. On this issue developing countries should stress that equivalent veterinary systems be recognized. It should not be necessary that all veterinary authorities be organized similarly or even be public. A variety of public and private partnerships may be equivalent, depending on their contexts.

<sup>95</sup> This could be the case where unregulated smallholders or backyard farmers are considered barriers to the establishment of zones or compartments.

<sup>96</sup> Proposals include lengthening the amount of time developing countries have to respond to a notified measure and requiring developed countries to directly notify countries that will be affected by new measures.

### ***Primary Rules: Standards Relevant to Livestock Food Product Safety***

The third type of rules is the standards themselves. Examples of such standards were provided in the cases in Section Five. Especially important in the long-term is the potential role that **maximum residue limits (MRLs)** for contaminants can play as trade barriers. Here it is beyond the scope of this paper to identify which standards are most important to poor producers in all contexts. However, it is possible to point out areas others identify as important and areas currently receiving the attention of international standard-setting organizations. **Avian influenza** and **BSE** are examples of hot topics. The regionalization requirements associated with these diseases can be of great importance to developing country producers, especially in the case of avian influenza. There is a risk, for example, that poor poultry producers in parts of Thailand could be driven out of the poultry market to facilitate recognition of regionalization requirements for larger exporters.

Several issues related to **veterinary drugs** are important. One long-standing problem for developing countries is that pharmaceutical companies have (at least in the past) notified Codex that certain drugs are obsolete and should be disallowed. The problem (especially for poor producers) is that it is not always clear that all of these drugs propose a safety risk to either the animals or humans that consume animal products. Sometimes it merely is the case that a pharmaceutical company wants to market a new drug.<sup>97</sup> Another issue is that of anti-microbial drugs. There is much concern that animals are being over-medicated and/or facilitating the development of antibiotic resistance of micro-organisms that also matter for human health. These are legitimate concerns and correct information needs to be transmitted to poor producers.

Despite the general importance of the above issues, in most cases the specific standard of concern to poor producers will vary greatly from one country to the next. The narrow needs of Mauritanian camel cheese producers provide one example.

### **What poor producers (and their advocates) can do**

Given that relevant issues are identified and assessed, what can poor producers and their advocates do?

Poor producers and their advocates have at least four options<sup>98</sup> for influencing the development of international food safety rules. First, since it is countries that make the rules and choose how they will implement them domestically, poor producers will have the greatest impact if they can influence their own country's position on an issue. Their ability to do this and their choice of strategies will vary from country to country. Such detail is beyond the scope of the present study. However, there are a few general entry points irrespective of country. Each country<sup>99</sup> should have an SPS contact point and a Codex contact point. In many cases countries have SPS and Codex committees. These individuals and committees should be a focal point for lobbying activity. In particular, if a committee exists poor producers should apply to have a representative as a member of those committees. If a contact point or committee is missing or found lacking, pressure should be placed on the relevant ministries for establishing one and to include the input of poor producer interests.

Related to this participation in national-level institutions, poor producers and their advocates can lobby those conducting training of WTO, Codex, and OIE delegates (such as the training that is done through the STDF or the Codex Trust Fund) to

<sup>97</sup> This information comes from a reliable Codex source.

<sup>98</sup> A fifth possibility is to consider opportunities for marketing "fair trade" livestock products. This is currently done with a number of other commodities (most notably coffee), and with some success.

<sup>99</sup> That is, each country that is a *member* of the WTO or Codex, respectively.

include a focus on the relationship between food safety rules, poverty reduction, and the needs of poor livestock producers.

A third route to influencing international rule-making is establishing transnational alliances with other poor producers and/or NGOs that share similar concerns. This is an important point as currently there are no groups with specific mandates to advocate for poor producers in international food safety rule-making fora. This puts them at a disadvantage compared to the agri-food industry and consumers groups. At the international level the most effective organizations may be those that are truly trans-regional in membership. The OIE, for instance, only allows international organizations to observe its main meetings. Consumers International provides an example of an effective advocacy group. Their strategy documents (available through their website) can provide useful information for those seeking to influence Codex.

Finally, poor producers and their advocates can contribute to the scientific understanding of food safety concerns in their unique contexts. Research can be useful in a number of ways. One, research may be done that suggests alterations to current standards are necessary to allow for specific developing country contexts. For instance, establishing the equivalence of a labor-intensive method for accounting for product safety as opposed to a capital-intensive method. Two, research may be done that affects current debates on specific standards. Three, research can support developing country claims in disputes concerning an importing country's unnecessarily high standards (or perhaps to justify their own high/different standards). Collaboration with veterinary services and international research centers may be effective here, as may strategic alliances with the private sector.

### What developing countries can do

A recent World Bank (2005) report suggests developing countries facing international food safety standards have three types of strategies available:

- **Exit**, which implies switching away from certain markets, products, or buyers toward others whose standards may be more cost-effectively met. (Going out of business altogether is another form of exit.)
- **Voice**, whereby developing country governments and exporters seek to influence the standards that they face through negotiations (with technical agencies in the countries of trading partners, for example, or with a major buyer) or through formal complaints (via international venues such as the WTO's SPS Committee).
- **Compliance**, whereby a set of legal, administrative, technical, and organizational steps is taken to conform with product or process requirements."

This was a paper about Voice, with an emphasis on influencing the actual development of international rules.

While developing country participation in international organizations is historically less than that of developed countries there are signs of improvement in participation quality in recent years. Persons interviewed in the course of this study suggested that the initial impact of the SPS Agreement may have made it seem against developing country interests. However, many developing countries today are growing savvy and are beginning to use the system of rules to protect themselves.<sup>100</sup>

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<sup>100</sup> Interestingly, some countries seem to be following similar steps in their reactions to the SPS Agreement. The first step tends to involve initial familiarization with the agreement and recognition of its importance. The second step is compliance. Countries will report, for instance, that they are taking measures to ensure that their own health and safety regulations are not protectionist. The third step is less reactive and more proactive. Countries learn of ways to use the agreement to their advantage, to protect exporters from other countries' protectionist policies, for instance. None of this is to suggest that such a linear path is inevitable, but it does seem to describe the general experiences related by several developing country delegates.

Recommendations for developing countries include:

1. Greater coordination is necessary at the national level, among both the ministries and individuals responsible for developing policy positions in all international food safety organizations.
2. Countries should send delegates to the WTO, Codex, and OIE on a regular basis. [If they do not have the resources, they should plan to coordinate their participation with other countries (see next point).] ; Countries should invest those delegates with the authority to make decisions and statements on their behalf. Continuity in delegation is important. That way, they can develop some of the needed expertise and contacts.
3. Countries, especially small developing countries and LDCs, should form alliances with other like-minded countries on issues of particular concern. Regional organizations may play a crucial role. Many developing countries could benefit from combining resources and expertise at the regional level. Indeed, for the smallest countries this may be the only way to effectively engage other states. As discussed earlier, some regions are already doing this. Caribbean plans to develop a regional organization with a mandate for food safety may provide an example for other regions. Ideally, some of these regional organizations could provide some of the technical expertise required to provide standards-relevant scientific research.
4. Developing countries should lobby for technical assistance to comply with international standards and with a goal for complying with private international standards as well.
5. Developing countries should do more to address the interests of their poor producers. Those working on SPS, Codex, and OIE policy need to work to actively include poor producers. Foreign direct investment may help larger producers meet standards but poor, small-scale producers will likely require public funds whether they come from developing countries or external technical assistance programs such as those implemented by the World Bank. Ministries responsible for developing policy positions and representing the state in the relevant international organizations can—in most cases—do more to listen to the concerns of poor producers.

Participation in the development of international food safety standards for livestock products is challenging and time-consuming. It requires a lot of expertise on the part of country delegates. However, the rewards to some poor producers can be great and, in the long-term, developing countries and their poor producers will benefit from involvement.

## ANNEX 1: EXAMPLES OF LIVESTOCK FOOD PRODUCT HAZARDS

*The following is not intended to be a complete list of livestock food product hazards but to give the reader a good impression of the range of possible hazards.*

### Biological Food Hazards

There are four general types of biological food hazards: bacterial, parasitic, viral, and natural toxins/carcinogens.

Bacterial Hazards: Salmonella, campylobacter, listeria, e. coli, shigella, yersinia, vibrio (cholera), staphylococcus, clostridium, and bacillus.

Parasitic Hazards: Giardia, toxoplasma gondii.

Viral Hazards: Norwalk-like virus, hepatitis, rotavirus.

Natural Toxins and Carcinogens: Aflatoxin and other mycotoxins (through feed)

### Chemical and Physical Food Hazards

There are several important categories of chemical and physical food hazards. First, there are those associated with the processing, storage and preparation of food. Second, there are food additives whose purpose is to enhance some quality of the food, whether color or nutrient value. Finally, there are the environmental, industrial, and agricultural contaminants of food.

From processing, storage and preparation: Many of the biological hazards mentioned above enter the food chain during storage and preparation. One example is carcinogenic nityropyrrnes. Packaging techniques present hazards, including the migration of chemicals from plastics to food and the use of lead soldering.

Additives: Some food dyes are carcinogenic; nitrites, nitrates, and N-nitroso compounds used to preserve meat (among other uses) are regulated. Some hazards also exist with nutrient fortification.

Environmental, industrial and agricultural contaminants: dioxin; hexachlorobenzene (fungicide by-product that can contaminate animal fat and dairy products; pesticides, including mirex, aldrin, dieldrin, chlordane, lindane, heptachlore and ddt; veterinary drug residues.

Sources: Bacon and Sofos (2003); Bhandari (2003); Jackson (2003); Reid (2003); Rupp (2003); Specchio (2003)

## ANNEX 2: WTO SPS-RELATED DISPUTES INVOLVING LIVESTOCK FOOD PRODUCTS, 1995 - APRIL 2005

Dispute Number	Parties and Nature of Complaint	Timeline	Outcome
5	US complaint against Korea's shelf-life requirements for frozen processed meats and other products	Consultations requested in May 1995.	Korea notified the WTO of a mutually agreed solution in July 1995.
26	US complaint against EU's import prohibition for meat produced with growth-promoting hormones	Consultations requested in January 1996. Panel requested in April and established in May. In August 1997 the issued its report. After appeal by the EU, the Appellate Body issued its report and a final decision was issued in February 1998.	US authorised (26-Jul-99) to raise tariffs by 100% on EU products worth USD 116 million p.a.
48	Canada's complaint against EU's import prohibition for meat produced with growth-promoting hormones	Consultations requested in June 1996. Canada's complaint then effectively joined the US complaint above and followed the same timeline.	Canada authorised (16-Jul-99) to raise tariffs by 100% on EU products worth CAD 11.3 million p.a.
100	EU's complaint against US restrictions on imports of poultry products	Consultations requested in August 1997.	No solution reported.
133	Switzerland's complaint against Slovakia's BSE-related restrictions on cattle and meat imports	Consultations requested in May 1998.	No solution reported.
279	EU's complaint about India's import restrictions maintained under the Export and Import Policy 2002 - 2007	Consultations requested December 2002.	No solution reported.
287	EU's complaint about Australia's quarantine regime for imports (including pigmeat)	Consultations requested April 2003.	No solution reported.
297	Hungary's complaint about Croatia's measure affecting imports of live animals and meat products	Consultations requested July 2003.	No solution reported.

Source: WorldTradeLaw.net (2005)

## ANNEX 3: THE HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP) SYSTEM

In the 1960s, the HACCP system was developed in the United States to help the National Aeronautic and Space Administration (NASA) reduce microbial contamination for food in longer space travel. The Pillsbury Company brought it to public attention in the early 1970s. Primarily used in the processing sector, primary producers increasingly turn to the system as a method for safety control.

Seven principles are involved in developing and operating a HACCP program:

1. Conduct a hazard analysis. (Assess the hazard, list the steps in the process where significant hazard can occur, and describe the prevention measures.)
2. Determine the Critical Control Points (CCPs).
3. Establish critical limits (for each CCP).
4. Establish a system to monitor control of each CCP.
5. Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control.
6. Establish procedures for verification to confirm that the HACCP system is working effectively.
7. Establish documentation concerning all procedures and records appropriate to these principles and their application.

Codex also provides guidelines for the application of HACCP, with a series of 12 tasks:

- |                |   |
|----------------|---|
| <i>Task 1</i>  | Assemble the HACCP team   |
| <i>Task 2</i>  | Describe product  |
| <i>Task 3</i>  | Identify intended use   |
| <i>Task 4</i>  | Construct flow diagram  |
| <i>Task 5</i>  | On-site verification of flow diagram  |
| <i>Task 6</i>  | List all potential hazards, conduct a hazard analysis, determine control measures |
| <i>Task 7</i>  | Determine CCPs  |
| <i>Task 8</i>  | Establish critical limits for each CCP  |
| <i>Task 9</i>  | Establish a monitoring system for each CCP  |
| <i>Task 10</i> | Establish corrective action for deviations that may occur                         |
| <i>Task 11</i> | Establish verification procedures   |
| <i>Task 12</i> | Establish record keeping and documentation  |

*Sources: Annex to CAC/RCP 1-1969, Rev. 3 (1997); (Unnevehr and Hirschhorn 2000; Mayes 2001; Baines, Ryan et al. 2004)*

## ANNEX 4: CODEX STEPS AND POSSIBLE ACTIONS BY DEVELOPING COUNTRIES TO INFLUENCE CODEX OUTCOMES

Step	Possible Actions
1. Commission decides a standard should be elaborated, given its criteria for establishing work priorities. Commission decides which subsidiary committee or other body will work on the standard.	<ul style="list-style-type: none"> <li>▪ Promote a standard</li> <li>▪ Oppose a standard</li> <li>▪ Seek to influence which committee or body works on a standard</li> </ul>
2. Secretariat or Committee arranges for preparation of a proposed draft standard. Preparation takes into account the advice from expert committee (JECFA, JMPR, IDF).	<ul style="list-style-type: none"> <li>▪ Provide scientific advice and information</li> <li>▪ Participate in drafting standard</li> </ul>
3. Proposed draft standard is sent to members and observers for comment.	<ul style="list-style-type: none"> <li>▪ Comment! Write a Circular Letter.</li> </ul>
4. Committee considers comments and may amend the proposed draft standard.	<ul style="list-style-type: none"> <li>▪ If on Committee, make sure enough comments have been received from developing countries and relevant to poor producer interests</li> <li>▪ Important to participate in debate</li> </ul>
5. Proposed draft standard submitted to Codex Commission or Executive Committee with a view to its adoption as a draft standard. Process takes into account member comments and economic implications.	<ul style="list-style-type: none"> <li>▪ Send delegates prepared with facts and with authority to make decisions and statements on behalf of the state.</li> <li>▪ Write a Circular Letter.</li> </ul>
6. Begin second round of consultation by repeating Step Three	
7. Repeat Step Four in this second round.	<ul style="list-style-type: none"> <li>▪ Write a Circular Letter.</li> </ul>
8. Commission decides to adopt. If adopted, it becomes a draft standard.	<ul style="list-style-type: none"> <li>▪ Vote</li> </ul>

Sources: FAO/WHO (2002); Consumers International (2000)



## ANNEX 5: OIE STANDARD-SETTING PROCESS AND POSSIBLE ENTRY POINTS

Step	Possible Actions
1. Director asks an expert group to draft a supporting document.	<ul style="list-style-type: none"> <li>▪ Promote a standard</li> <li>▪ Oppose a standard</li> <li>▪ Seek to influence which committee or body works on a standard</li> </ul>
2. Expert group convenes and drafts a proposed standard.	<ul style="list-style-type: none"> <li>▪ Provide scientific advice and information</li> </ul>
3. Proposed draft standard is sent to members and observers for comment.	<ul style="list-style-type: none"> <li>▪ Comment</li> </ul>
4. If comments are too technical, experts are brought in again to provide advice.	<ul style="list-style-type: none"> <li>▪ Ask for such advice, if needed.</li> </ul>
5. Decision is made at annual meeting of the International Committee. Changes are made yearly as new scientific advice arrives.	<ul style="list-style-type: none"> <li>▪ Participate in the meeting.</li> <li>▪ Continue to contribute to the scientific understanding of important food safety/animal health issues.</li> </ul>

Sources: General Rules of the Office International Des Epizooties; Interview Notes

## ANNEX 6: AGRI-FOOD INDUSTRY STATISTICS

*Table 1: World's Largest Meat and Poultry Firms, 2001/2002.*

Firm	Country	Sales (bil \$US)
1. Tyson Foods, Inc.	U.S.	24.0
2. ConAgra Foods	U.S.	13.9
3. Excel Corp	U.S.	12
4. Nestle SA	Switzerland	10.15
5. Swift and Co.	U.S.	8
6. Nippon Meat Packers	Japan	7.85
7. Smithfield Foods, Inc.	U.S.	7.4
8. Farmland Refrigerated	U.S.	4.7
9. Danish Crown	Denmark	4.5
10. Sara Lee Packaged Meats	U.S.	4.16

Source: Dyck and Nelson (2003)

*Table 2: World's Largest Dairy Firms (2000).*

Firm	Country	Sales (bil \$US)
1. Nestle SA	Switzerland	13.0
2. Dean Foods	U.S.	9.0
3. Dairy Farmers of America	U.S.	6.7
4. Kraft Foods	U.S.	6.1
5. Danone	France	6.0
6. Parmalat	Italy	5.7
7. Snow Brands	Japan	5.5
8. Lactalis	France	5.1
9. Fonterra	New Zealand	5.0
10. Unilever	U.K.	5.0

Source: Dobson and Wilcox (2002)

Table 3: Supermarket News Global Top 25 Retailers (2005).

Company	No. of Stores	Sales in Billions	Countries of Operation (home country in bold)
1. Wal-Mart Stores <sup>a</sup>	5,164	\$244.50	Argentina, Brazil, Canada, China, Germany, Japan, Mexico, Singapore, South Korea, United Kingdom, <b>United States</b> , Vietnam
2. Carrefour	10,704	\$64.70	Argentina, Belgium, Brazil, Chile, China, Colombia, Czech Republic, Dominican Republic, Egypt, <b>France</b> , Greece, Indonesia, Italy, Japan, Malaysia, Mexico, Oman, Poland, Portugal, Qatar, Romania, Singapore, Slovakia, South Korea, Spain, Switzerland, Taiwan, Thailand, Tunisia, Turkey, United States
3. Ahold <sup>b</sup>	9,407	\$59.20	Argentina, Brazil, Chile, Costa Rica, Czech Republic, Denmark, Ecuador, El Salvador, Estonia, Guatemala, Honduras, Indonesia, Latvia, Lithuania, Malaysia, <b>Netherlands</b> , Nicaragua, Norway, Paraguay, Peru, Poland, Portugal, Slovakia, Spain, Sweden, Thailand, United States
4. Kroger	3,667	\$51.80	<b>United States</b>
5. Metro	2,411	\$48.50	Austria, Belgium, Bulgaria, China, Croatia, Czech Republic, Denmark, France, <b>Germany</b> , Greece, Hungary, India, Italy, Japan, Luxembourg, Morocco, Netherlands, Poland, Portugal, Romania, Russia, Slovakia, Spain, Switzerland, Turkey, United Kingdom, Ukraine, Vietnam
6. Tesco	2,294	\$39.50	Czech Republic, Hungary, Ireland, Malaysia, Poland, Slovakia, South Korea, Taiwan, Thailand, <b>United Kingdom</b> , United States
7. Costco	400	\$38.00	Canada, Japan, Mexico, South Korea, Taiwan, United Kingdom, <b>United States</b>
8. Albertsons	1,688	\$35.60	<b>United States</b>
9. Rewe Zentrale	12,077	\$35.20	Austria, Bulgaria, Croatia, Czech Republic, France, <b>Germany</b> , Hungary, Italy, Poland, Romania, Slovakia, Ukraine
10. Aldi	6,609	\$33.7e	Australia, Austria, Belgium, Denmark, France, <b>Germany</b> , Ireland, Luxembourg, Netherlands, Spain, United Kingdom, United States
11. Safeway	1,887	\$32.40	Canada, <b>United States</b>
12. ITM Enterprises	12,863	\$31.5e	Belgium, Bosnia, <b>France</b> , Germany, Poland, Portugal, Romania, Spain
13. Ito-Yokado <sup>c</sup>	23,700	\$27.2e	Australia, Canada, China, <b>Japan</b> , Malaysia, Mexico, Philippines, Spain, Taiwan, Thailand, Turkey, United States
14. Edeka	14,374	\$27e	Austria, Czech Republic, Denmark, France, <b>Germany</b> , Poland
15. Auchan	1,120	\$25.90	Angola, Argentina, China, <b>France</b> , Hungary, Italy, Luxembourg, Mexico, Morocco, Poland, Portugal, Russia, Spain, Taiwan, United States
16. Sainsbury	681	\$25.9e	<b>United Kingdom</b> , United States
17. Aeon	8,120	\$24.6e	Canada, Hong Kong, <b>Japan</b> , South Korea, Malaysia, Philippines, Thailand, United Kingdom, United States

18. Tengelmann	7,015	\$24.4e	Austria, Canada, China, Czech Republic, <b>Germany</b> , Hungary, Poland, Portugal, Slovakia, Slovenia, Spain, Switzerland, United States
19. Schwarz Group	5,342	\$21.6e	Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, <b>Germany</b> , Greece, Hungary, Ireland, Italy, Latvia, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, United Kingdom
20. Casino	9,056	\$21.5e	Argentina, Bahrain, Belgium, Brazil, Colombia, Comoros, <b>France</b> (incl. Reunion), Lebanon, Madagascar, Mauritius, Mexico, Netherlands, Poland, Taiwan, Thailand, Tunisia, Uruguay, United States, Venezuela, Vietnam
21. Delhaize Group	2,520	\$19.40	Argentina, Bahrain, <b>Belgium</b> , Brazil, Colombia, Comoros, France (incl. Reunion), Lebanon, Madagascar, Mauritius, Mexico, Netherlands, Poland, Taiwan, Thailand, Tunisia, Uruguay, United States, Venezuela, Vietnam
22. Leclerc	535	\$19.2e	<b>France</b> , Italy, Poland, Portugal, Slovenia, Spain
23. Supervalu	1,220	\$19.2	<b>United States</b>
24. Daiei	4,086	\$17.7e	China, <b>Japan</b> , United States
25. Publix	756	\$15.90	<b>United States</b>

Notes: Sales figures are for the latest financial year unless otherwise stated. Companies included on the list must have a significant portion of their sales in food. The foreign currency results were translated into dollars at current exchange rates. The information came from company documents unless otherwise stated.

e = estimate; a = Store numbers include Seiyu; b = Ahold is currently in the process of disposing of several options in South America and Southeast Asia; c = Ito-Yokado also has franchise operations in Denmark, Norway, Singapore, South Korea and Sweden. Bold signifies the company's headquarters country.

Source: <http://www.supermarketnews.com> accessed 11 March 2005.

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