

The role of Standards under Kenya's Export Strategy

The World Bank¹

Contribution to the Kenya Diagnostic Trade and Integration Study

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1. EXECUTIVE SUMMARY

The expansion and diversification of Kenya's exports into horticulture has increased the attention given to dealing with the complex issue of standards². Such issue was of little importance in the past, when traditional agricultural commodities, whose competitiveness is driven more by price and quality concerns than by standards-related measures, constituted the main source of export for Kenya. Yet, the success story of Kenya's fresh produce industry, and to a lesser extent the response to the challenges posed to Kenya's exports of fish by food safety standards in international markets, illustrate how adopting food safety and agricultural health standards can serve as a catalyst for trade and an opportunity to redefine the industry's comparative advantage.

Attaining a strong market position has not come at any cost. A significant process of industry consolidation and private investments has been required, supplemented by facilitating measures of the Government of Kenya and certain private sector associations. The main fresh produce exporters and the Government of Kenya have embraced a strategy focused on value-added products sold to those markets that place a special value on well designed and documented systems of food safety and quality management.

The public-private partnerships built in these sectors, comprising a suitable regulatory framework and the broad adoption of good agricultural and manufacturing practices, should serve as example to other industries. The development of such a system is crucial in permitting Kenyan industry to make the continuous challenges associated with competing in developed markets. With this objective, priorities are i) awareness raising on good agricultural practices; ii) improvement of pest risk assessment and management capacities; and iii) improvements of landing sites and environmental management in Lake Victoria.

Regarding other sectors others than the successful horticulture, the quality, standards and conformity assessment system should follow a medium term strategy to support diversification into new export markets, both regionally and globally. Toward this goal, it is important that the standard-setting and conformity assessment institutions are reviewed to center more on their facilitating role. This will imply enhancing the participation of the private sector in the regulatory debate and promoting the emergence of services provided by the private sector (mainly testing, conformity assessment and consultancy), whenever possible. KEBS should be discouraged from competing in the markets for advisory and certification services with the private sector. In contrast, budget support should be given to institutions like KEBS to enable it to manage national systems for standard-setting and accreditation.

The emergence of a customs union initiative in Eastern Africa brings new challenges and opportunities in the standards field. To achieve free trade within the customs union, harmonization

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² The term standard, unless otherwise specified, is used in a broad sense, covering technical regulations, i.e. mandatory standards settled by governments, and private-driven standards.

and mutual recognition has to advance and be given a legal and institutional framework. So far the process of regional cooperation in the field of standards has advanced very slowly. Constraints lay with the difficulties of delegation of competence, the different capacities of the countries involved, the need for streamlining of national regulations and institutions and the little private sector participation and political determination.

At the regional level, the Government of Kenya should lead efforts to develop joint SPS management capacities and share selected resources. The use of Kenya's future accreditation system as a regional platform is a good example. Other promising areas for regional collaboration might include: i) cross border management of pests and diseases (a clear public international-regional good); ii) cooperating in food safety, hygiene services and training to the tourism industry; iii) sharing resources following the concept of "regional centers of excellence" in areas where capacities are lacking in neighboring countries and markets are seen as regional by the industry (like pesticide regulation, registration, research and awareness).

The study does not intend to provide a comprehensive review of Kenya's standards management capacity. Rather, it builds upon existing work³ with the final objective of providing some ideas of how Kenya can capitalize standards developments to expand other types of agricultural products, or exports of agro-industrial products, to target other destinations for its traditional exportables and to develop regional markets. To do so, this paper is structured as follows. The first section provides an overall framework of the role of standards, quality and SPS management under the national export strategy. The second chapter provides an overview of the main trends of Kenya's trade and how it affects the relative importance of SPS management and other standards related issues. Section 3 provides a review of the Kenya's standards-related architecture, its capacities and constraints, the main challenges facing, and the on-going efforts to strengthen. Section 4 reviews efforts and challenges at the regional level. Annexed are some product case studies that illustrate the challenges, constraints, and impact of standards in export performance.

2. THE ROLE OF STANDARDS, QUALITY AND SPS MANAGEMENT UNDER KENYA'S EXPORT STRATEGY.

2.1. Some basic concepts on the importance of food safety and agricultural health functions

Standardization architecture is the system, which determines, controls, and guarantees that the goods and services domestically produced or traded in a country are safe, compatible, and fit for local consumption or export. A country's standardization architecture includes the procedures, strategies, people and infrastructure for identifying, developing, implementing, enforcing, and redesigning standards and technical regulations (including service or product performance directives, quality specifications and assurances, certification requirements, accreditation, and metrology systems) to meet public safety and other socio-economic objectives. When standards and technical regulations are properly developed, put into operation, and enforced, they help to overcome market failures in a variety of ways:

³ Recent relevant studies are Nyangito, H., T. Olielo, D. Magwaro (2003) *Improving Market Access through Standards Compliance – A Diagnostic and Roadmap for Kenya*, in Wilson and Abiola, *Standards and Global Trade: a Voice for Africa*, World Bank; Henson, S.J. and Mitullah, W. (2004). *Kenyan Exports of Nile Perch: Impact of Food safety Standards on an Export-Oriented Supply Chain*. DEC Working Paper, World Bank, Jaffee, S. (2004). *From Challenge to Opportunity: Transforming Kenya's Fresh Vegetable Trade in the Context of Emerging Food Safety and Other Standards in Europe*. ARD Discussion Paper. World Bank.

- *Standards convey useful information about products or services in a way that improves competition and consumer capacity to choose.* By indicating safety and quality requirements, standards can contribute to more efficient production and higher levels of economic activity. Similarly, standards can serve guarding against fraud and counterfeits.
- *Standards are an important instrument for technology transfer to developing countries.* Because standards embody technical knowledge, they provide information that encourage efficient use of production resources (e.g. ISO 9000), reduce transaction costs by promoting compatibility of goods and services across industries or countries (e.g. standards in the computer and high technology industry), and support the development and adaptation of technology that can spur industrial progress (e.g. IEC standards, and other industrial codification and compatibility systems).
- *Standards have also been applied to promote sustainable use and quality of environmental resources and improvement of living conditions,* through environmental and labor standards like ISO 14000, Forest Stewardship Council, Marine Stewardship Council and other ecological, emissions, and resource management standards.
- *Standards can help reduce the risk of food borne diseases.* By safeguarding public health, good standardization architecture can contribute towards improving quality of life – particularly those of the poor. Food safety standards usually complement other policies to raise productivity and increase growth and incomes.
- *Standards are also an important instrument in private sector development and in allowing developing countries to integrate into global supply chains.* For a *standards-as-catalyst perspective*, the enhanced capacity to meet with new health and safety standards, rather than eroding Kenya's comparative advantage, can create new forms of competitive advantages, and therefore new trade, growth and employment (Jaffee, 2004). In agriculture for example, increases in overall level of compliance with quality, grading and food safety standards, good agricultural practices, and food packaging for domestic as well as export supply chains, can improve productivity, quality, yield, and revenues from agricultural produce and exports. Also, when farming practices and systems are similar to those in targeted export markets, through compliance with standards-related requirements, there is a higher likelihood of integrating into international supply chains and attracting foreign direct investment.⁴ Similarly, good domestic standardization architecture and awareness is important for the growth of tourism in the country.

With regard to trade, a particular concern for developing countries is the impact of SPS standards and other related measures on their ability to access export markets. While globalization of markets for agricultural and food product and results of agricultural trade liberalization can provide opportunities for developing countries to benefit from trade, the ability to cope with SPS requirements in industrialized countries is vital for developing countries. For example, importing countries frequently require guarantees that exports are derived from pest or disease-free areas, that minimum hygiene standards have been followed during the process of manufacturing, or that products are free of contaminants or residues. The exporting country must have the capacity to meet these requirements, both in the public and the private sector, and undertake the necessary conformity checks in order to ensure compliance.

⁴ Standards should therefore be dealt with under the broad umbrella of competitiveness, among other important factors that affect the ability of Kenya's products to enter new markets and gain value added. Among these factors, major concerns of the main horticultural/floricultural exporters are transport and an eventual loss of the current tariff preference under the negotiations of the new European Partnership Agreements. See Nyanguito and others (2003) for a review of competitiveness of Kenya's agriculture.

Increasingly, therefore, having a certain minimum level of SPS management capacity is a necessary condition to access high-value markets for agricultural and food products. This ‘minimum’ level will reflect the level and specific characteristics of SPS standards in particular export markets. It will not, however, enable the evolution of SPS standards to be used strategically as a means to competitive advantage and necessarily implies that the exporter will act in a responsive manner to emerging SPS requirements (see Jaffee and Henson, 2004; World Bank, 2005). The ultimate aim, therefore, should be to establish SPS management capabilities within public authorities and private sector exporters that enable SPS standards to be used as a source of competitive gain. This suggests that the focus of capacity-building should not be on gaining and maintaining market access *per se*, but enhancing the strategic options available when choosing if and how to comply. The desired outcome of prevailing SPS management controls, therefore, is the ability to comply with SPS requirements in export markets in a manner that yields a competitive gain, or at the very least, any potential costs is minimized.

2.2. Diverse SPS management functions, prioritization and phasing

Standards management functions involve an agglomeration of very diverse technical and administrative functions (Box 1). All these functions are integrated a complex system where producers, buyers, regulators, standard developers (private, public and international bodies), providers of certification services, consultants, laboratories, international organizations and the civil society interact.

Box 1. Main standards management functions

- Regulatory and standard-setting.
- Application of good agricultural and manufacturing practices (GAP, GMP), Hazard Analysis and Critical Control Points procedures (HACCP) and quality management (QM) at the enterprise level.
- Establishment of identity of products (traceability)
- *Conformity assessment* activities, involving the different actions to check compliance with standards, like metrology, quality assurance, certification and testing for risks, contaminants or residues.
- Accreditation of laboratories.
- Report of possible hazards to trading partners.
- Registration of pesticides, chemicals and veterinary drugs.
- Inspection and license of food establishments.
- Establishment of pest-free areas.
- WTO notifications, participation in international standard-setting processes, etcetera.

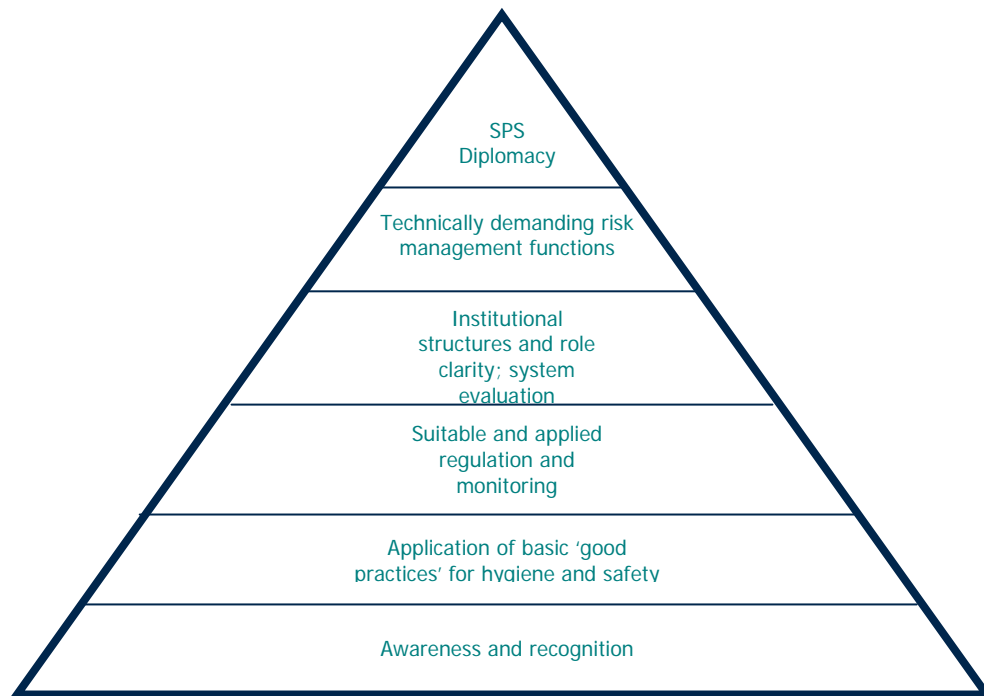
One way to simplify the complex tasks of SPS management is to cluster these functions in a pyramid-shaped hierarchy (Figure 1). Functions toward the base of the pyramid represent the foundation stones, while those at the top add value and sophistication to the entire system of SPS management, gain importance in mature industries, and encounters increasingly complex, technical and political challenges (World Bank, 2005).

In the bedrock of the system are awareness and recognition, and application of basic good practices for hygiene and safety. Although awareness of major SPS challenges and opportunities is needed at the senior trade and agricultural officials’ levels, it is at the level of enterprise and farmers where it is most needed. Good practices, food safety, hygiene and quality-management systems involve training farmers and workers in basic hygiene, use and storage, or record-keeping about production practices and cycles. With broad awareness and common application of good practices, many potential SPS risks can be effectively managed. In this bedrock of the system, the private sector has a fundamentally important role to play. The private sector is generally well informed of the

technical options and costs and benefits associated with standards; it is the final responsible for compliance with food safety and agricultural health requirements; its capacity can complement (or even substitute) the public sector in certain fields, like particular laboratory testing facilities; and finally its voice serves as a guide to agencies to effectively implement their SPS management responsibilities.

The risks that cannot be controlled by individual farms and enterprises require a proper regulatory framework and transparent institutional structures to deal with them, where the public sector has to play its fundamental role (surveillance, quarantine, basic research, emergency management systems).

Figure 1: Hierarchy of trade-related SPS management functions



This hierarchy of functions controverts the dominant responses to capacity building and policy action. Much of the focus of developing countries-donors interactions has been at the top parts of the pyramid, covering laboratory equipments, participation in international standards-setting institutions, and assistance for surveillance systems. Although these functions are important and need strengthening in many countries and sectors, the effective use of those capacities depend strongly on the strength of the foundational and mid-level functions, the clarity of the institutional roles, and the effectiveness and suitability of legislation.

Kenya is a country with strong trade focus and relatively strong institutions dealing with SPS management. Yet some constraints exist in the bedrock of the system and justify priority attention. The conclusion from the above exercise is the need to lay out the major strengths and weaknesses of its system, prioritize measures –from policy and regulatory reforms, awareness and investments–, and distinguish between short and medium-term priorities and scope for action. This is an exercise that should involve a multi stakeholder participation, from the Trade authorities to the members of the Agricultural Taskforce, and with a strong involvement of the private sector.

3. TRADE TRENDS IN KENYA AND THE ROLE OF STANDARDS.

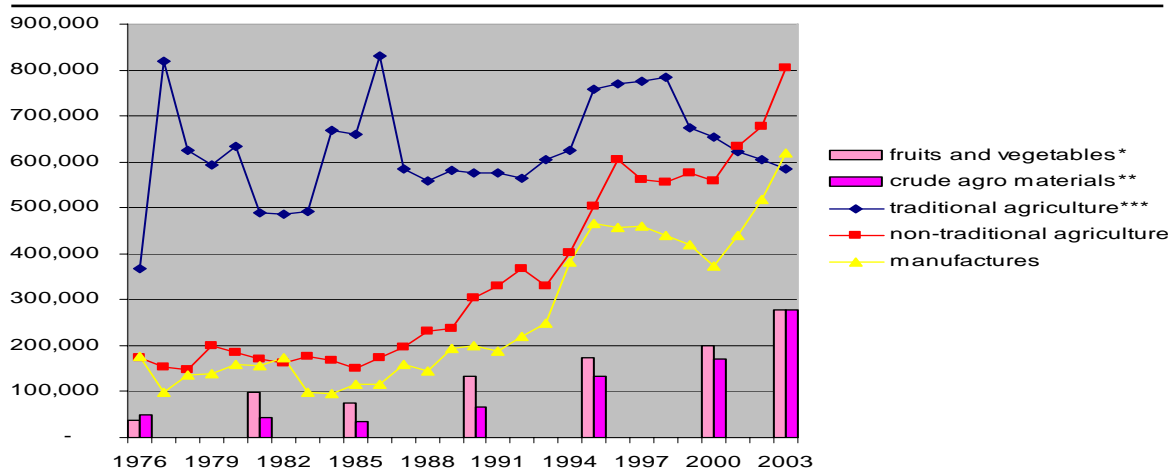
3.1. Main trends in Kenya's agro-food exports

Historically, Kenya's exports have been largely dominated by agriculture. Still today, around 60 per cent of Kenya's total exports are food and agricultural materials. However, there have been major changes in the composition of this trade and the composing categories have behaved differently. Kenya's exports of traditional agricultural products have experienced some severe declines during the period and been submitted to the instability of international prices. This decline has been especially relevant in exports of coffee, reflecting a collapse in coffee prices, but also an erosion of Kenya's market share in EU markets. The value of Kenya's exports of traditional commodities today is at the same level as in the mid 1980s and its contribution to GDP and total export revenue has gone down noticeably. Traditional agricultural products are not largely affected by SPS. In coffee and tea, it has been quality and price the main drivers of competitiveness. The strategy of targeting niche and higher value markets, like specialty and organic products, has grown recently.

Against this background, high-value agricultural exports have grown more than five-fold from the early 1980s. Exports of fruits and vegetables and crude agricultural materials account today for 600 million dollars and 28 percent of total export earnings. Among them, exports of fresh vegetables and cut flowers have been the faster growing categories. Fresh vegetables and cut flower have been growing at annual rates around 10 percent in the last ten years, which was far higher than the correspondent rate for all exports, and represent together around half of total exports of Kenya to the European Union. Fish has been another food product whose share has risen considerably.

As current supply, demand and price trends in international markets are likely to persist, the described trend will also likely continue. Traditional agricultural products most probably will continue being affected by a declining or relatively low growth in global demand for these products, falling real prices and unstable prices and export earnings. By contrast, demand for high-value agro-food is expected to persist growing, moved by higher income demand elasticity for high-value food and floricultural products, demand toward product differentiation, healthy eating and quality, and demand for year-round supplies. At the same time, demand for semi-prepared, and/or ready-to-eat combinations has been progressively increasing, offering opportunities for countries like Kenya for adding value in products that frequently do not run into problems with tariff escalation.

Figure 2. Kenya's Export Trends for different categories (US\$,000)



Source: COMTRADE and authors calculations. Computations based on partners' import statistics.

* The largest 4-digit component in the category of fruits and vegetables' exports of Kenya is 0545 other fresh or chilled vegetables (50% in 2003).

** The largest 4-digit component in crude agricultural materials' exports of Kenya is 2927 cut flower and foliage (80% in 2003).

*** Traditional agricultural products for Kenya include two-digit SITC 07 coffee, tea & spices; 26 textile fibers, mainly cotton; 06 sugar; and 12 tobacco.

Kenya's exports of fruits and vegetables and cut flower are concentrated in European Union countries. In 2003, around 90 percent of exports in both categories (SITC 05 and 29) went to the European Union (Table 1). The United Kingdom received 38 percent of Kenya's exports of fruits and vegetables, accounting for the larger increase in exports since 1990. The Netherlands received 56% of Kenya's exports of crude agricultural materials, where the Dutch auction market still account for a large share of cut flower sales abroad.

Table 1. Main destinations of Kenya's exports of fruits and vegetables and crude agricultural materials in 1990 and 2003
(Export values in US\$,000 and percent shares)

	Fruits and vegetables (SITC 05)				Crude agricultural materials (SITC 29)			
	1990	2003	Export change (\$,000)	share 2003 (%)	1990	2003	Export change (\$,000)	share 2003 (%)
European Union*, of which:	121,073	270,811	149,738	87.6	53,155	277,227	224,072	89.4
<i>UK</i>	35,365	116,301	80,936	37.6	5,249	60,521	39,292	19.5
<i>France</i>	36,072	57,943	21,872	18.8	2,519	5,240	2,721	1.7
<i>Germany</i>	19,570	25,912	6,342	9.5	17,750	27,091	9,341	8.7
<i>Netherlands</i>	8,576	29,468	20,892	8.4	21,230	174,548	169,299	56.3
Asia of which:	14,862	16,412	1,549	5.3	1,479	6,973	5,495	2.2
<i>India</i>	11,421	8,055	(3,366)	2.6	140	908	768	0.3
<i>Japan</i>	2,967	3,868	901	1.3	981	4,062	3,081	1.3
USA	2,019	7,422	5,403	2.4	16,427	9,033	(7,395)	2.9
Sub-Saharan Africa of which:	350	6,582	6,232	2.1	117	3,189	3,072	1.0
<i>South Africa</i>	-	1,407	1,407	0.5	-	516	516	0.2
<i>Tanzania and Uganda</i>	-	977	977	0.3	-	1,545	1,545	0.5
Switzerland	2,285	2,883	598	0.9	1,420	8,323	6,903	2.7
Middle East & North Africa	2,993	1,099	(1,894)	0.4	490	268	(223)	0.1
Total	148,451	308,982	160,530	100	74,765	310,155	235,390	100

* European Union refers to EU-15 members

Source: COMTRADE and authors calculations. Computations based on partners' import statistics. Inconsistency of trade statistics is especially relevant with regards to trade of fresh vegetables and cut flowers with the European Union.

Growth of exports of fresh vegetables, and in a lesser extent of cut flower, to the European Union is at large a result of the growing importance of European supermarkets as buyers of Kenya's fresh produce⁵. Entering these higher value markets has permitted many producers getting higher prices for their products. Markets served in the beginning of the 1990s, dominated by wholesale and traditional retailing structures, have been losing importance in the share of Kenya's exports of fresh vegetables. Exports to India and Middle Eastern countries have declined during the observed period, and so exports to the Asian market in the UK. There has been no diversification regarding geographical destinations in any of the two categories examined. The share of the European Union

⁵ Supermarkets account for 68% of fresh food sales in France, 72% in the Netherlands, and 80% in the UK (Cadilhon, Fearn, Hughes and Moustier, 2003).

as a destination market for exports of flower has augmented considerably, mostly due to the large decline of exports to the United States. Vertical coordination of the Kenya flower and fresh vegetable industry with European large retailers explains this trend at large and has important implications for Kenya's SPS management.

A closer look at the evolution of imports of fresh vegetables into the European Union (Table 2) shows that EU imports of fresh vegetables from outside Western Europe (not-accounting intra-European trade) have grown at an average rate of 15 per cent per annum, and processed food imports have contributed especially to this faster growth. Although intra-EU trade in fresh vegetables still accounts for about 75% of total EU imports of the category, imports from outside the EU have been growing at a larger rate.

Despite its disadvantaged geographical position to supply fresh products to EU markets, compared to Northern African countries, Kenya has maintained its position as the largest African exporter of leguminous vegetables to the EU, and held its position as the first or second larger exporter of the category other vegetables. Market shares of Kenya in these categories in the EU are 34 and 8 per cent of extra EU imports; respectively. Additionally, showing Kenya's adaptation to demand in industrialized markets, exports of processed vegetables have been the fastest growing category of exports in Kenya during the last years. The market share of Kenya's cut flowers has reached 25 percent of extra-EU imports in 2004. Compared to trends in vegetables markets, market shares of Kenya's flowers in the EU have grown at even larger rates.⁶

Table 2: Imports of fresh and chilled vegetables into the EU from various regions in 1995, 1999 and 2003

	All non intra-EU imports (\$,000)	All Africa ^b (\$,000)	Sub-Saharan Africa (\$,000)	Kenya (\$,000)
Leguminous vegetables ^a				
1995	138,008	126,577	96,770	49,114
1999	195,775	183,701	138,628	85,766
2003	281,058	256,805	134,063	95,397
% increase 1995-2003	104	103	39	94
Average annual growth rate	12.9	12.9	4.8	11.8
Market share				
1995	100	91.7	70.1	35.6
1999	100	93.8	70.8	43.8
2003	100	91.4	47.7	33.9
Other vegetables				
1995	300,694	52,016	35,698	16,907
1999	384,587	90,835	54,353	25,480
2003	717,140	195,213	108,518	56,915
% increase 1995-2003	138	275	204	237
Average annual growth rate	17.3	34.4	25.5	29.6
Market share				
1995	100	17.3	11.8	5.6
1999	100	23.6	14.1	6.6
2003	100	27.2	15.1	7.9

Source: COMTRADE and authors calculations. Data refers to imports of the 15 EU Member States.

^a HS 0708: leguminous vegetables, shelled or unshelled, fresh or chilled. HS 0709: other vegetables, fresh or chilled.

^b All of Africa, included North African countries.

⁶ In 1995, Kenya's flowers represented 12 percent of EU imports of flower, against 25% in 2004. Also in cut flower, imports to EU countries from other EU countries still account for 75% of the market. Kenya's 25% share refers to imports from outside the EU.

3.2. Structure of Kenya's regional trade

Considerable caution must oversee any analysis of Kenya's regional trade. Divergences in reporting are outstanding. A further problem is the extent of "informal" or "unrecorded" trade. Some estimations point out that informal trade in food and live animals could double official figures.

Trade within the region is largely dominated by refined fuel and manufactures. Refined fuels have been the only product group whose value has grown considerably, accounting for 47 percent of Kenya's exports to Tanzania and Uganda. The category other manufactures accounts for another 23 percent of exports, and is concentrated in a few products like lime and cement, paper products, metal manufactures and fabrics.

Regarding trade in food, export values at the regional level are very modest (Table 3). Weak purchasing power, transport and distribution constraints, similarity of commodities produced and high tariffs have been traditional constraining factors. Some products show some dynamism like food preparations, processed meat, dairy products and oil seeds. In trade with COMESA and South Africa, exports of fruits and vegetables are becoming more important. Except for some categories, like cereals, meat or vegetable oils, standards do not seem to have been a factor inhibiting trade, but an element adding additional costs to tradable products.

Table 3. Kenya's exports of food to the region
(export values in US\$,000)

Largest 2-digit SITC Food Products	COMESA		EAC		SOUTH AFRICA	
	Exports 2003	Change 1995/03	Exports 2003	Change 1995/03	Exports 2003	Change 1995/03
Live animals (00)	10	(1,026)	615	534	5	5
Meat and meat preparations (01)	29	29	1,281	1,065	-	-
Dairy products and eggs (02)	20	(130)	1,679	1,272	-	-
Cereals and cereal preparations (04)	1,540	1,255	7,896	(9,915)	76	(18,483)
Fruit and vegetables (05)	5,318	4,189	977	155	1,407	701
Sugar, sugar preparations and honey (06)	2,625	2,479	2,564	(1,638)	373	373
Coffee, tea, cocoa, spices (07)	92,242	8,455	1,777	1,468	718	(3,352)
Miscellaneous food preparations (09)	1,165	846	5,229	1,491	22	21
Beverages (11)	133	121	1,588	(5,090)	2	2
Oil-seeds, oil nuts and oil kernels (22)	-	-	8,130	8,039	-	-
Animal and vegetable oils (41+42+43)	8,169	8,037	2,079	(5,809)	-	-

* Source: UN COMTRADE and authors calculations based on imports from partner countries.

3.3. Main trends in food safety and agricultural health for main Kenyan exports

Kenya's export-oriented horticulture is a relative 'success story' from the perspective of standards and trade. Given Kenya's accumulated investment, experience, know-how, and other forms of competitive advantage, this trade and employment is expected to continue to grow in the future. What it is worth now is to underline the main challenges that trends in SPS, mainly in EU, pose to Kenya. For example:

- *Increasing oversight and attention in OECD markets to phytosanitary controls and the transmission of plant pests.* Border rejections have been increasing in the last years, and this tendency might continue as a result of EU Directive 2002/89, entered into effect on April 1,

2003. The Directive establishes the possibility of more stringent phytosanitary procedures and formalities. Yet enforcement varies considerably between EU countries. To ensure compliance, Kenya's produce follows an intensive and well organized process of inspection. Product for export is checked both in the field and in the pack houses before presentation for inspection at exit points. Kenya is showing in the last years very low numbers of rejected consignments to the European Union. According to EU Commission's data, in 2003 only 3 consignments from Kenya were subject to border detentions, out of 1,856 notifications.⁷ Investing in gaining reputation of low risk country has high results.

- *Increasing use of pre-approval arrangements based on pest-free or disease-free status.* APHIS (US Animal and Plant Health Inspection Services) has a substantial backlog of requests from developing countries for risk assessments, necessary before many fruits and horticultural crops can be approved for imports. Whether others, like the EU, are going to move progressively in that direction can be an issue for the future.
- *The EU has paid particular attention to the presence of pesticides in fresh produce.* The Directives and Regulations issued by the EU in this field have published the list of approved pesticides; establish maximum residue levels and more intensified surveillance mechanisms for pesticide residues.⁸ Producers should embrace Good Agricultural Practice (GAP) which includes different procedures about application, safety protocols, analytical checks of produce, etcetera. The PIP program has assisted small farmers in this area. As said above, there has not been so far a large incidence of rejections for pesticides residues on imports (with the notable exception of imports to Germany, which shows the level of enforcement within the EU is very different depending on the country). Capacities in Kenya to undertake analysis for produce to detect presence of residues are limited and could be developed in the future. However, buyers often require these tests be performed in the markets of destination and foreign countries certifications are not always accepted by markets.
- *Directive 1148/2001⁹ requires a certificate of conformity* to all consignments of fresh fruits, vegetables and nuts subject to EC marketing standards before being released into free circulation in the EU. The EU Commission can grant approved status to the certificates granted by the exporting country. Kenya applied to be granted approved status by the EU and awaits the outcome. The conformity criteria include the inspection standards, technical competence, inspection infrastructure and points of inspection among others.
- *Regulatory authorities increasingly adopt a full-supply chain perspective.* There is a tendency to pay attention to the very different points in the supply-chain where the food safety hazard might occur. One of the most recent examples is the traceability requirement for animals or agricultural products. The application of traceability requirements is becoming mandatory in relation to meat and fish products.
- *Increased attention is being given to HACCP systems.* Although these systems are originally industry-driven, recently some regulatory measures have made them compulsory for certain industries supplying certain markets. EU regulations have made HACCP requirements compulsory for meat, dairy and fish, with a system of oversight by the competent national authorities, followed by periodic supervision from the EU technical institutions. Also several US regulations have made mandatory HACCP in meat, poultry, fish and fruit juices.

⁷ The 2003 EU Commission's Annual Report on the Functioning of the Rapid Alert System for Food and Feed shows the incidences by country of origin, destination, product and identified risk. Mycotoxins, chemical and microbiological contamination account for the large number of rejections.

⁸ Directives 76/895, 86/362, 86/363, 86/365, 90/642 and 91/414 establish the pesticides regulatory framework in the EU and came into effect in 2000. There were large transitory periods for the removal of certain agro-chemicals.

⁹ Directive 1148/2001 entered into effect on April 1, 2004.

- *Movements in private standards, supply-chain governance and third-party certification are increasing and influencing enormously agricultural and food production and marketing.* Adoption of industry codes of practice, certification of good agricultural practices, and imposition of traceability systems have proliferated and imposed by buyers on their suppliers. Authenticity in relation to credence claims, origin, organic produce, etc., is progressively monitored by buyers. An increasing number of these industry or company codes of practice extend beyond quality and safety management to include environmental and social safety standards. One prominent initiative at the level of production has been the development of the EUREPGAP protocol for fresh fruits and vegetables¹⁰. These developments include an intensifying requirement of food-chain leaders to test suppliers' produce for different health and safety hazards and to monitor production and management systems of their suppliers. Industry protocols involve some form of third-party certification scheme. Certification of food companies for ISO 9000, previously rare, has also become increasingly common, especially for supplying to European markets. The need for certified food-safety systems is one of the main factors contributing to the international consolidation of supply-chains.

**Box 2: Diverse private sector requirements and different level of enforcement
with SPS regulations in the EU vegetable markets**

A complex set of private and public requirements has been increasingly affecting Kenya's exports to the European Union. The European Union is moving towards a harmonized system of regulations governing quality control, food hygiene, pesticide use, and phytosanitary measures. In the private sector, groups like EUREPGAP are adding sets of harmonized requirements. Yet the level of requirements and enforcement of standards continue to vary significantly between countries and market segments. Because requirements imposed by buyers are demand driven, Kenyan companies expect that demands from their European clients will continue being stringent, the more they specialized in high-value segment markets.

This is contrasted with the situation on some distribution segments, like Asian ethnic food, where little attention has been given to food safety issues, and price, quality and continuity criteria are the main drivers of marketing. The same is the case of traditional wholesale markets especially important as a distribution mechanism in Southern European countries. The following trends can be highlighted:

- *Quality/service requirements* (product conformity, supply continuity, packaging specifications): mostly commercially required, though not legally mandated, in all Northern European markets (UK, Scandinavia, France, Belgium and Germany).
- *Food safety standards.* MRL tolerances are legally mandated and increasingly enforced (mainly in UK supermarket chains, and still minimally in other European markets). HACCP systems, microbiological testing and product traceability are fully required by UK supermarket chains, and not in other European markets, though being somewhat commercially beneficial.

Other requirements like phytosanitary certificates, GAP, environmental and social planning only show some tendency to be required for commercial purposes, again with UK supermarkets ahead in this tendency.

Source Jaffee (2004).

- *For meat products and live animals, there have been long-standing concerns about the possible transmission of contagious and economically significant animal diseases through trade.* With the emerging links between certain animal diseases and human food and health risks (in particular BSE and Avian Flu), far more stringent sanitary measures have been adopted by many industrialized and developing countries. The presence of several endemic animal diseases in the

¹⁰ EUREPGAP was developed by EUREP (Euro Retailer Produce, the platform of leading retailers in Europe) as a result of increase consumer concerns about food quality and security. Large retailers demand compliance with EUREPGAP as production standards for growers, as well as more recent protocols for flowers, coffee and aquaculture.

East African region has severely restricted its trade in livestock products, especially beyond the East Africa region.

- *For cereals and oilseeds there has been growing international attention to microbiological contamination, plant health risks and, for certain markets, the need to identify and label supplies based on genetically modified varieties.* There is a considerable amount of trade in these products within the Eastern African region. There have also been some food safety concerns that have hindered trade in the region.
- *Regarding technical standards, the companies involved in regional trade of the largest exported manufactured products are large producers capable to deal with technical specifications, and national and regional specifications are adapted to international standards in most cases.* Cooperation in the field of technical standards can reduce their operating costs, give certainty to their regulatory framework, and could provide a basis for possible trade diversification in the future. This has important implications for the design of a regional trade policy in technical standards, as it will be developed in chapter below, that should facilitate trade without acting as a barrier for imports of machinery and capital goods that are vital for the region's development and where East African countries do not have a comparative advantage.

Therefore Kenya faces two different realities regarding its standards architecture. On the one hand, food safety and plant health measures play an important role in defining the competitiveness of its fresh produce exports through quality, value addition and cost reduction. In this field, Kenya has performed successfully but the challenges posed by high-value and stringent markets are evolving and need continuous effort. On the other hand, Kenya has to develop a sort of standards architecture in the regional scene that moves towards greater standards compatibility, joint management systems and mutual recognition. Such architecture should create the conditions for enhancing trade within the region, avoiding any diverting effect towards import.

Table 4. Illustration of the major standards-related requirements facing Kenya's main agro-food exports

PRODUCT GROUP	STANDARDS, REGULATIONS AND PRIVATE PROTOCOLS RELATED TO FOOD SAFETY, AGRICULTURAL HEALTH, QUALITY AND ENVIRONMENT. STANDARDS, REGULATIONS, OR PRIVATE PROTOCOLS				
	FOOD SAFETY	ANIMAL/PLANT HEALTH	QUALITY OR TECHNICAL ATTRIBUTES	ENVIRONMENT AND SOCIAL	TRADE EFFECT
Fresh and Processed Fruits and Vegetables	Pesticide residue limits Microbiological standards Traceability requirements Hygiene requirements Controls on additives	Plant material quarantine Pest risk analysis needs Fumigation requirements	Quality grades General labeling requirements Nutrition labeling Packaging standards	Pesticide restrictions Regulations on water/soil contamination Organic codes and certification Monitoring of child labor and occupational health	Despite good performance, Kenya may be subject to potential rejections if required standards are not met Price premiums
Fish and Fish Products	Microbiological and foreign matter standards Factory hygiene standards	Restrictions on antibiotic use in aquaculture	Quality grades Labeling requirements Packaging standards Boat crew regulations	Protection of specific species Fish catch restrictions	Exports were banned till issues were resolved
Live Animals and Meat Products	Veterinary drug residue limits Microbiological standards	Disease free areas Disease surveillance Restrictions on vet. Drugs Traceability of	Quality grades Labeling requirements Packaging standards	Organic codes Regulations on animal waste	Exports of livestock products have suffered bans in the region

		animals			
Cahsews	Mycotoxin limits Microbiological standards Pesticide residue limits	Fumigation requirements and restrictions	Quality grades Consumer pack labeling requirements Packaging standards	Organic codes	Price discounts due to low quality
Cereals, Oilseeds, and Animal Feed	Microbiological standards Pesticide residue limits Mycotoxin limits	Quarantine requirements Fumigation requirements or restrictions	Quality grades, GMO labeling Restrictions on animal feed ingredients Product content and nutritional labeling	Biosafety regulations (for GMOs) Codes for organic practices and certification	Exports of cereals have been restricted in several occasions in the region
Cut Flowers		Plant material quarantine Phytosanitary certification Pest risk analysis needs Fumigation	Quality attributes Packaging standards	Pesticide restrictions Regulations on water/soil contamination Monitoring of child labor and occupational health	Potential higher phytosanitary inspections Price premiums
Coffee and tea	Pesticide Residue Limits Ochratoxins	Fumigation requirements	Quality attributes Packaging standards	Codes for organic practices and certification Codes to limit biodiversity loss	Potential rejections after the EU introduced new standards for coffee
Honey			HMF level	Codes for organic practices and certification	Trade suspended with some industrial countries

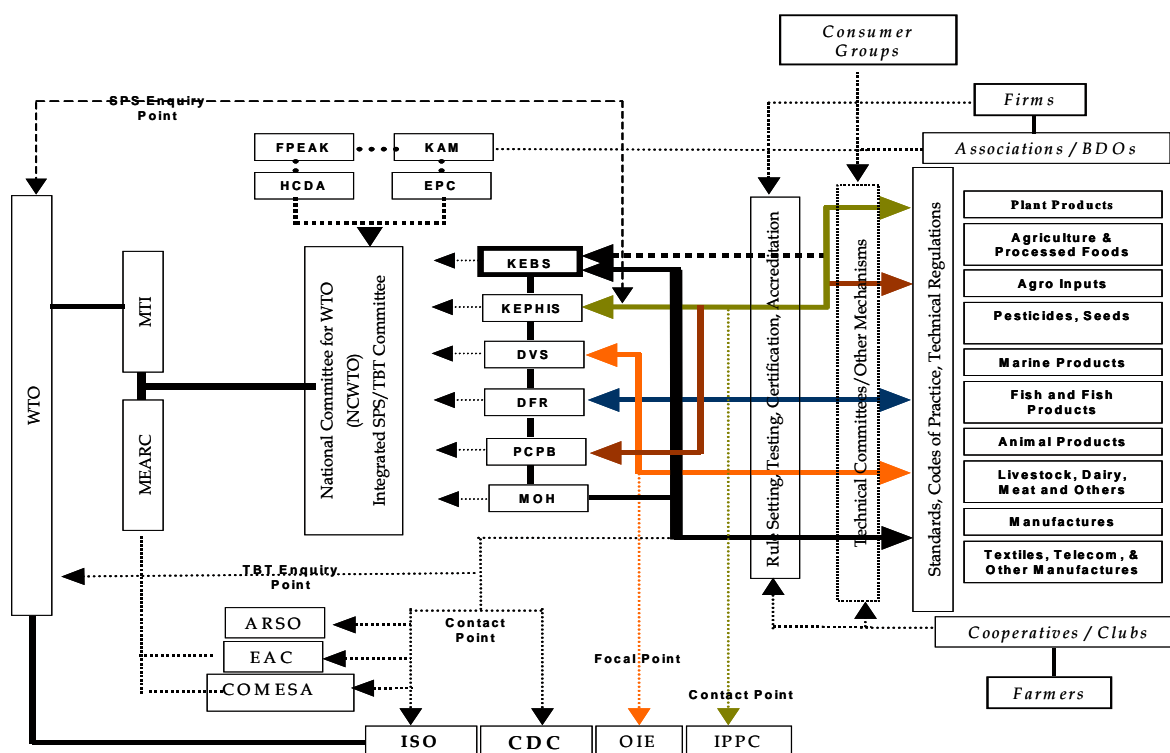
4. THE NATURE OF STANDARDS ARCHITECTURE IN KENYA

Nyangito et al., in Wilson and Abiola (World Bank, 2003), provide an analysis of the standards setting processes, and the roles and responsibilities of each of the different agencies and organizations involved in Kenya. Basically, four government ministries – Ministry of Trade, MOAGR and Rural Development, Ministry of Livestock and Fisheries and Ministry of Health – are involved in standard setting and implementation through their dependent agencies. The main agencies involved are Kenya Bureau of Standards (KEBS), under the Ministry of Trade, and Kenya Plant Health Inspectorate Services (KEPHIS), under the MOAGR and Rural Development, and Kenya Department of Fisheries (DFR) and Kenya Department of Veterinary Services (DVS), under the Ministry of Livestock and Fisheries. Figure 3 below presents a simple schematic of how SQAM issues in Kenya are linked to the WTO framework through interconnections among various agencies and corporations within the referred Ministries.

This section will focus on presenting a synopsis of the strengths and constraints of the current standardization system in Kenya, with a view to drawing out some general conclusions about the capacity to support the country's trade objectives.

In general, Kenya's SPS capacity has developed considerably in the areas considered strategically important from a trade perspective. In the domestic and regional areas, development of SPS capacities is seen as a work in progress. Thus, there are limited areas of well-developed capacity in both the public and the private sectors alongside areas in which there is little capacity to perform important management functions. However, even in the areas where capacity is more developed, there is sometimes an overlap of capacity and some scope for efficiency gains, very important in a context of limited resources.

Figure 3: Kenya's Institutional Standardization Framework



4.1. Standards development and Quality Assurance

Kenya Bureau of Standards (KEBS) is the public organization responsible for developing, setting and implementation of standards in Kenya. An overview of its basic functions is developed below.

Development of national standards.

KEBS is the responsible body for developing national standards. It is a public organization inscribed to the Ministry of trade, whose relationship with the private sector is structure through the mechanism of the Technical Committee System (TCS) for standards development. Kenya, through KEBS, is member of international standard-setting bodies, mainly CAC and ISO. Private sector participates with KEBS in some of the technical committees of these organizations, depending on the priorities of the country. Despite its financial constraints, it is considered as an active participant and its standardization body has the reputation of being one of the best performing in Africa. KEBS also participates in the development of regional CODEX and ISO standards for Africa through ARSO (Africa Regional Organization for Standardization). The standards and rule setting process has improved over time in Kenya. Yet, there are number of outstanding issues and emerging challenges that need to be addressed.

In practice, most Kenyan standards are adapted or adopted from international ones (Codex and ISO). This practice follows the philosophy of WTO SPS and TBT Agreements. International standards fill in the gaps in Kenya's laws where national standards do not exist or are outdated, and developing costly risk assessments required to formulate new standards is out of purpose. International standards should be benchmarked to improve competitiveness of the industry, enhance trade and get the externalities in them embodied. Adopting them avoids the need to develop seemingly duplicative standards, conformity assessment and enforcement regimes - one that is

targeted at domestic and regional markets where firms and farmers face less stringent enforcement levels, and another that supports export-oriented firms that need to strictly comply with certain foreign standards. The presence of multiple product and supply chains is also a problem for an industry integration to capture economies of scale benefits of a customs union.

However, international standards may not necessarily be compatible with requirements in the local or regional environments, enforcement capabilities, risk tolerance levels, and consumer welfare within Kenya or the EAC. For a developing country like Kenya, in the process of regional integration with his neighbors, there is an issue of sequence of adoption of international standards and differentiation between voluntary standards and technical regulations.

This phenomenon has been observed in a number of instances in sectors like seed, dairy or meat, where the attempt to adopt foreign standards as national (and regional) technical regulations may impose too high compliance costs on regional and domestically oriented firms. Likewise, there are also debates ongoing about whether to convert the KEBS Code of Practice for the Horticultural Industry (which draws on HACCP and EUREPGAP like requirements) into a mandatory regulation that will affect small scale farmers whose primary produce are geared towards the domestic market. Kenya still has a major problem of lack of compliance with basic food safety and agricultural health practices in local markets and awareness in local markets and small producers. International standards address the concerns of large producers oriented to exporting sectors.

For these cases of sectors not very integrated into international markets, alternatives should be found like setting a standard referred to an international standard and targeted to it in the long-run or promoting the adoption of adoption of international standards as voluntary, combined with a process of building awareness. Certain countries introduce formulas to regulators to weight the international standards versus other alternatives, like requiring regulators to verify whether international standards provide less trade-restrictive standards that currently used national standards through regulatory impact analysis. Higher involvement of stakeholders in the standards development process in a transparent and non-discriminatory can help produce “impartial” standards in some of the referred cases. Another possibility is the consideration of an umbrella of standards that could be acceptable for local or regional trade.

Enforcement of Standards.

Under the Standards Act Cap 496, national standards become mandatory after publication in the official Gazette. Inspectors appointed by the Act enforce the set standards. KEBS officers visit producers and supermarkets for collection of samples and inspections. All local manufacturers pay also an annual levy based on volume or value, addressed to finance the costs of inspection and testing. The manufacturer will pay, however, for any additional test requested.

Imported products must also comply with local standards or approved regional or international standards. New imported products are subject to inspection and testing prior to the first shipment, and before preinspection certificates are issued. KEBS inspectors do random inspections of following consignments at the ports of entry into Kenya. KEBS inspectors also scrutinize all compliance certificates received for imports before customs are notified and consignments released. Also KEBS carries out quality inspections of imports covering food, beverages, vegetable oils and fats, chemicals, electric machinery, appliances and textiles. The quality inspection fee is 0.2 percent of the C&F value of the product and the certificate of release of customs is conditioned upon the inspection and payment of the fees. Additionally, imported food must be tested for radiation, whose cost is again “paid by consumers”.

Inspection of imports, a service not necessarily provided to facilitate trade, and the producers' flat annual levy, whose direct relationship with the services received (mainly standardization, which is the least financially viable activity) is put into question by the industry, are important sources of revenue for KEBS.

Conformity assessment: Quality and System Certifications, testing and product certification.

Third party conformity assessment¹¹ is a growing requirement for trade. Inspection services described above are also part of the conformity assessment activities. However, in quality and system certifications, as well as in product certification and testing services there is a growing and profitable business where public and private sector act together, sometimes under a difficult equilibrium.

KEBS provides quality and system certification schemes like ISO quality assurance (ISO 9000) or environmental (ISO 14000) management schemes, HACCP or EUREPGAP certifications. Private sector is also a provider of voluntary quality, safety and environmental certification schemes. SGS and Bureau Veritas are accredited to perform BRC (British Retail Consortium) certifications, and audit for different social/environmental private certifications like ETI's (Ethical Trade Initiative), UTZ ("responsible good coffee") or SA 8000 (social accountability). Other small emerging service providers joined the market. Africert (supported by ICIPE project) is a local company providing EUREPGAP certification, organic certification in conjunction with the Soil Association of Kenya and HACCP training.

With respect to ISO certification, the most recent ISO survey shows that the number of Kenyan firms reported to have the 1994 version of ISO 9000 certification declined from 112 in 2001 to 41 in 2003, while firms with new 2003 versions of ISO 9001:2000 certification increased from 8 to 29. ISO upgraded and merged its 1994 ISO 9000 certification schemes (i.e. ISO 9001, 9002, and 9003) into one integrated scheme beginning in December 15, 2003. All previously certified firms are now required to transition to this integrated new standard. Some firms in Kenya may have not completed this transition, or be awaiting approval; hence they may have been excluded from the data. There are other limitations in the survey data that make it difficult to draw conclusions from it¹².

In many developing countries like Kenya, third party conformity assessment services have been predominantly provided by the public sector. This has been always a good point of start, when private sector does not provide the service because of insufficient demand and financial viability to establish in the country, and the externalities associated with these sectors are not captured. This trend is however changing with globalization and the tendency is to the private provision of these

¹¹ Conformity assessment services are those involved in the testing, validating, auditing, inspection and quality assurance. Conformity assessment activities can be self declaration of conformity, quality and system certification or testing and product certification.

¹² The previous ISO 9000 surveys did not differentiate between firms that have one certificate for multiple firm sites versus those who have one certificate for each firm site (or plant). The new reporting system under ISO 9001:2001 identifies this difference. Hence it is possible that significant number of the 112 certificates in 2001 were those belonging to firms that had multiple certificates for their different plant sites, but which have now integrated all plant sites into one single ISO 9001:2001 certificate. Some firms totally dropped out of ISO certification. ISO estimates that about 5-10% firms dropped out totally from the global sample either because: (1) They were previously certified to ISO 9002 or 9003 for a limited scope of activity, and the transition into a more robust organizational wide ISO 9001:2000 standard was too costly or unnecessary for them (2) They were previously interested in having the ISO certificates "for show" and realized that that approach was a significant waste of resources. (3) Other firms that perhaps discovered that further investment in ISO certification did not yield higher returns to their respective firms.

services with the overseeing of the public authorities, plus some reference institutions and provision of services to remote areas.

In Kenya, KEPHIS, for example, has developed procedures for involving the authorized private sector and other qualified third party institutions in the provision of seed sampling, crop and field inspection and audits, and seed testing services. Similarly, the private sector is now involved with provision of meat inspection, provision of veterinary clinical services, inspection of slaughter houses, provision of Artificial Insemination (AI) services, control of ticks, veterinary laboratory services and farmer (livestock owner) training in the meat and livestock industry – although private sector provision of these services is still very weak in rural and remote areas. Other private laboratories, including some built by manufacturers and growers have proliferated in the country.

KEBS has a product quality certification scheme (Diamond Mark) that is widely recognized in the region, but not for extra-regional trade. This quality certification scheme involves both product certification and some additional checking beyond technical specifications and into quality standards, sometimes made mandatory by Law. KEBS has also a calibration mark scheme and a safety mark scheme.

KEBS now has testing facilities in different producing district centers, and along key border posts. Five KEBS laboratories have been accredited by UKAS (United Kingdom Accreditation Service) within the last 10 years, and there are initiatives on the way to secure accreditation for others. KEBS also uses laboratories owned by KEPHIS and Department of Agriculture and Fisheries to carry out its conformity testing and quality control activities. In the same vein, the KEPHIS laboratory in Nairobi is well equipped to support its export and import control activities. Similarly, the Department of Fisheries has laboratories in Kisumu and Mombassa, and another under construction in Nairobi, for use in the detection and diagnosis of animal diseases, and in some cases, the Department also uses laboratories belonging to KEBS and KEPHIS for diagnosis of fish diseases. DVS has some capabilities for testing disease status of imports and exports of animals and related products, using its labs in Kabete and Nairobi. There are also five regional labs used for diagnostic tests by farmers. Pest Control Product Boards (PCPB) has also its laboratories for analysis, and uses laboratories of other institutions to conduct its bio-efficacy field trials.

In general, by examining the nature of growth and quality of laboratories in the system,¹³ one can say that the general environment in Kenya has improved significantly in the last years – especially for agro-based products. Some laboratory infrastructure still needs upgrading. However, a stocktaking analysis of infrastructure and an audit of testing competences should be carried out to correctly ascertain the national capabilities for testing in the country. Besides, it should be analyzed whether local certification for some tests is generally accepted by buyers in the destination markets before incurring in an investment, to avoid duplications of testing. The conformity assessment picture in Kenya is complicated by the spread competences of private and public providers. To avoid the effect of the public sector crowding out the private sector, Kenya should find the way for a globally integrated approach to conformity assessment, and develop the accreditation system as a necessary and key public sector service. Today, in most modern standardization systems the legislative function (converting standards into technical regulations) and accreditation functions are in the public sector, while certification and consultancy services are generally open to competition. This would require adequate funding of basic KEBS activities.

¹³ The capacity for testing and product certification can be better evaluated on a product by product basis. Product case studies in the annex of this report shed more light on product-specific conformity assessment services.

Accreditation

The result of tests have to be trusted and accepted by Kenya's trading partners before one can conclude that the system work well. Accreditation of laboratories and certification of technical personnel can help resolve this credibility problem. The pursuit of accreditation from outside bodies (especially in Europe) is a good strategy because this will lend credence to the Kenyan system. However, this first-level approach has high regulatory costs in that either requires the authorities investing resources in assessing certifiers abroad or involves a great degree of uncertainty about regulatory performance.

Currently, KEBS who also houses the national accreditation body (QSAC). Accreditation done by QSAC does not have international recognition. Industry complains about unfair competition from a body that regulates certifiers, thus the direct competitor with KEBS certification services. It is viewed as rents accruing to KEBS from the industry that directly compete with KEBS in conformity assessment services.

KEBS' joint work program with PTB (the German standardization institute) to develop a new accreditation organization for Kenya (Kenya National Accreditation Service, KANAS) may turn out to be a workable alternative if properly implemented. With a serious accreditation system, conformity assessment services will improved, the market for these services will develop and competition between private sector providers can be enhanced for the benefit of the end users. In doing so, collaboration with international accreditation and European national accreditation bodies should be enhanced, like outsourcing assessors, until the system gains the necessary credibility.

Kenya should avoid the risk that either the quality of the accreditation work will fall short, or the national accreditation body will have to charge too high fees or to have access to rather large government subsidies in order to provide the services at the right quality but on too slim a market. Recognition of the accreditation procedures themselves is not an easy task. Only a few developing countries have obtained such recognition, South African National Accreditation System being the most outstanding. The process involves elaborating confidence-building measures to reassure the partners involved that accrediting authorities on each side do their job properly and ensure that their respective accreditation bodies are familiar with the standards of the other side for which they are supposed to certify conformity. It is essential to ensure independency of the accrediting body from KEBS. Pursuing the setting up of a regional accreditation center would permit reducing implementation and management cost and promote resource sharing (see below chapter 5 on the regional issues).

Training and consultancy in quality management.

KEBS assists Kenyan industries in promoting and developing organized in-plant standardization through training programs and seminars. Also it assists manufacturers, exporters and importers in the fields of quality assurance, formulation of standards, measurements and calibration, ISO management systems, and quality standards for exports. Yet KEBS should avoid the conflict of interest between its consultancy and certification activities. A possibility could be the establishment of a separated subsidiary, with no financial and staff connections to KEBS, and concentrated in training of trainers and consultants, while facilitating private sector development of these services and joint-ventures between experienced international firms and local technical specialists or entrepreneurs.

4.2. Food safety

Government plays an important role in assuring safety of food for consumers through regulation, education, research and conformity assessment activities. Kenya's system of food safety rests on several pieces of legislation and multiple institutions involved. Ministry of Health is responsible of the coordination of the multiple institutions involved in food safety management, including the MOAGR and its agencies (DVS and DFR), the public commodity sector boards (for dairy, meat, sugar or cereals) and KEBS. The latter is increasingly involved in food safety in its condition of responsible authority for developing standards and checking conformity with the standards that are set mandatory by law (see above for import procedures related to food products).

The incidence of food-borne diseases is undoubtedly important in Kenya, although no systematic records are available. There is very limited awareness and application of basic hygiene practices among consumers and food handlers. This limits considerably the impact which official controls or risk management capabilities of the public sector can have. Thus far, HACCP approach has been adopted only in the export oriented fish and vegetable processing sector, as required by main destination markets, and in a more limited way in the dairy and poultry sectors.

While requiring food manufacturers to apply HACCP systems might be appropriate in the long-run, it is not certain whether this is appropriate in many cases where there is little general awareness about HACCP, little capacity for HACCP training and certification and also little capacity to enforce such a guideline. Further, it would lead to higher prices associated to the higher costs; a major issue for low-income consumers. Attention should be given first in the short and medium-term to awareness building and voluntary, encouraged HACCP application in selected industries where risks are seen to be higher. In this area, the Ministry of Health has very scarce resources; somewhat logical considering the many serious health challenges facing the country, especially malaria, water-borne diseases and HIV/AIDS.

4.3. Plant health

KEPHIS is a state corporation whose mission is to provide dependable, effective and competitive regulatory service for ensuring quality agricultural inputs and produce. The activities undertaken include:

- Seed certification. This involve registration, field inspection, seed processing examination, laboratory testing and post control to ensure that only seed meeting the required quality standards are sold to farmers.
- Fertilizer analysis to ensure conformity to the required standards.
- Plant variety protection.
- Soil testing for fertility evaluation and recommendation.
- Water testing for irrigation suitability and chemical contamination.
- Agrochemical analysis. Tests of pesticides regulations to verify conformity with labels. Also testing for maximum pesticide residue levels.
- Plant quarantine services for safe movement of plant materials without exposing national plant resources to pest and disease risks and to facilitate international trade.
- Grading and inspection of products for export and issuance of phytosanitary certificate.
- Inspection of imported plant materials and checking of phytosanitary certificates issued by country of origin.
- Plant clinics.

KEPHIS export and import control activities are supported by a well-equipped laboratory facility in Nairobi. It also has a growing number of competent staff including over 60 scientists, 100 technical officers and 150 support staff, and an annual budget of around US\$ 2 million.

There have been a series of pest outbreaks, either related to trade or the cross-boundary migration of pests. For example: larger grain borer confined to South-eastern Kenya, that makes KEPHIS pay special attention to large consignments of cereals; serpentine leaf minor confined to eastern Kenya; cassava bacterial blight confined to western Kenya; banana nematode confined to central Kenya; aschoyta blight of cowpeas confined to Machakos District; fruit fly has affected citrus and mango-growing areas of Kenyan coast and an FAO-supported regional program has been launched to monitor and control this pest.

KEPHIS has been successful in controlling plant health risks and meeting overseas phytosanitary requirements. Priority areas for capacity development are:

- Intensification of efforts to build farmers' awareness of plant protection and plant health matters through regular awareness programs, especially for small growers.
- Institutionalization and preparation of manuals and guidelines for all aspects of export certification, development of computerized data management system and information about the requirements stated by main trading partners.
- Development of a pest surveillance system, including a regular reporting mechanism, proper documented procedures, a surveillance database system, etc. Development of a proper pest reporting system in line with international standards is important for an exporting country.
- Streamlining regulations on agricultural inputs, where their price is very high compared with other competing countries (World Bank, 2004). Seed and pesticide certification is a cumbersome process. These processes cause delays in seed and pesticide processing and distribution and add costs to costs of compliance. There is also a huge informal market. The stringent requirements of the export sector, to whom the regulations are targeted, introduce a divide of formal versus informal and export versus local markets that introduce also a challenge to inspectors.

4.4. Animal Health

The Department of Veterinary Services (DVS) and the Department of Fisheries (DFR) are the main institutions in this area. DVS overseas animal health services in the country including livestock disease control, supervision of slaughter houses and meat processing facilities and facilitation of inspection and certification of meat imports and exports. DVS is also involved in the formulation of standards in the sector and mandated to determine and control the existence of disease epidemic, quarantine and disease free zones.

DVS Division of Public Health is the chair of the National Codex Committee and also a focal point for OIE. DVS endorses the adoption of OIE measures on disease free areas, and other requirements related to the implementation of residue program to determine the safety of the use of drugs and pesticides in livestock products, as well as the use of risk analysis as a basis for addressing food-borne diseases. A few of these have been implemented in Kenya in conjunction with other NGO and international organizations. DVS has also some capabilities for testing disease status of imports and exports of animals and animal products, using its labs in Nairobi and Kabete. There are also five regional labs used for diagnostic tests by farmers. DVS also maintains official presence at some entry points, and a country network of veterinarians who help in advising farmers on disease control and disease surveillance.

Among the main constraints of DVS are:

- Although DVS officials have attended some meeting, overall attendance rate in Codex and OIE meeting and contributions to technical committee matters is very minimal.
- Capacity of DVS to implement sanitary and phytosanitary aspects of animal and disease control is weak because of lack of capacity and understaffing in the Division of Veterinary Public Health. As a result, inspection and enforcement of standards in slaughter houses is weak. The provision of veterinary services to small farmers (especially in the ASAL areas) is also inadequate.
- Animal health infrastructure is also weak. Regional DVS lab for example do not have the capacity to test for residues in meat. Likewise, the use of risk analysis to determine the status of disease free zones in the country is still limited. The government has not developed these programs because of lack of funding.

5. REGIONAL TRADE AGREEMENTS AND STANDARDIZATION

5.1. Developments within the Eastern African Community

The creation of a customs union with Tanzania and Uganda introduces a considerable challenge in the field of standards and conformity assessment if the realm of an internal market without barriers is to be achieved. The Members of the EAC signed in January 2001 a Protocol on Standardization, Quality Assurance, Metrology and Testing (SQAMT). Under the protocol, the countries agreed to apply a common policy on standardization, quality assurance, metrology and testing of products produced and traded within the Community. The Protocol laid down the principles for cooperation among the three member states and defined their obligations with relation to four areas of standardization.

Following the signing of the SQMT protocol the drive for harmonization of standards gathered momentum and EAC proceeded to harmonize a large number of standards. But with the exception of harmonization activities, the SQMT Protocol didn't set off any substantial regional activities with relation to standards. Limited financial resources, lack of coordination and political considerations have largely hampered the drive for cooperation on standards among EAC members. In March 2004, and in response to requests by the EAC members, the German National Metrology Institute (PTB) launched a project to support the EAC's SQMT structures. The overall goal of the project is to "ensure that the regional SQMT activities are harmonized and in agreement with the international requirements and that the technical infrastructure is in a position to meet the services demanded".¹⁴ PTB developed a new regional SQMT structure where four technical subcommittees dealing with the Standardization, Quality Assurance & Accreditation, Metrology and Testing were established.

Box 3: PTB Technical Assistance on Standards, Quality, Metrology and Testing in the EAC

Objectives:

1- Establishment of legal framework

- Approximate acts, regulations, procedures, and ordinance in relevant fields (e.g. scheme for certification of products traded, produced, manufactured or packaged, scheme for management etc.)
- Develop procedures for harmonization, development, issuance, acceptance and implementation of EAS
- Design EAC Accreditation Scheme and establish Accreditation Body for calibration and testing laboratories
- Establish funding mechanism for all SQMT activities

¹⁴ Structure and implementation of the project "Establishment of a regional SQMT architecture in the East African Community, EAC" Presentation at the 8th Meeting of the East African Standards Committee, 25th and 26 March 2004, Arusha, Tanzania

<i>2- Building human resource capacity</i>	
-	Basic and further training with regard to quality systems and accreditation
-	Train and register auditors
-	Train technical staff of NBS
-	Train in selected fields of industrial and legal metrology
-	Train both National Accreditation Focal Points and a pool of regional technical assessors
<i>3- Appropriate infrastructure</i>	
-	Upgrade technical capacities of NBS
-	Extend legal metrology activities (number and new fields of verifications) on the basis of OIML guidelines
-	Provide selected basic equipment
-	Compile measurement capabilities
-	Participate in inter-laboratory comparisons and ensure quality control measures are in place
-	Participate in proficiency testing
<i>4- Awareness</i>	
-	Promote participation of all stakeholders in standardization process
-	Facilitate participation of target groups representatives in all relevant committees
-	Conduct awareness seminars for Quality Management in national, regional and international trade
-	Develop and disseminate information material
<i>5- Networking</i>	
-	Create information center on EAC SQMT infrastructure
-	Provide regional network including customs and other relevant authorities
-	Publicize EAC standards
-	Revise internal working procedures of SQMT institutions
<i>Targets:</i>	
-	At least 20 calibration and test laboratories as well as certification bodies have been accredited by the EAC accreditation system which is internationally recognized.
-	From 2006 on, an annually increasing number of customers inside and outside the EAC obtain information about East African Standards (EAS) from the EAC Information Center or the NBSs.
-	From 2007 on, the number of ISO 9000 /14000 certificates issued by certification bodies accredited by the EAC increases every year.
-	From 2008 on, at least 3 new kinds of measuring instruments are verified or monitored by the verification authorities within the scope of legal metrology (verification system).

Standardization

Under the objective of applying uniform rules and procedures for the formulation of national standards, the standards sub-committee has developed a process of harmonization of standards since 1998. So far, EAC members have harmonized 490 standards. (Table. The vast majority of the harmonized standards relate to “specifications” of various products with few harmonized standards covering testing, sampling methods and labeling. 160 standards are related to food, plant or animal products. For the most part, the EAC harmonized standards were based on international standards set by CODEX , ISO and OIE.

Table 5 . Agro-food Standards Harmonized under EAC

Product Covered By Standards	Number of Standards	Type of Standards
Processes in the food industry	2	Code of practice, HACCP
General methods of tests and analysis for food	9	Specifying methods for different microbiological testing
Cereals, pulses and derived products	25	Specifications /methods of testing
Fruits. Vegetables	27	Specifications, sampling and method of testing
Milk and milk products	24	Specifications, methods of microbiological testing and analysis
Meat, meat products and other animal produce	4	Specifications/method for Nitrogen analysis
Tea. Coffee. Cocoa	5	Specifications/vocabulary
Beverages	18	Specifications/methods of testing
Sugar. Sugar products. Starch	10	Specifications /Methods of chemical analysis
Edible oils and fats. Oilseeds	28	Specifications, sampling method, determination of level of certain metals. Code of hygiene for transportation of edible fats and oils.

Spices and condiments. Food additives	8	Labeling of food additives, Specification. Sampling and test methods, Schedule for permitted food additives
Prepackaged and prepared foods	2	Specifications, labeling
Tobacco products and related equipment	18	Specifications, methods of testing
Animal feeding stuffs	23	Specifications, methods of testing

Metrology

Regional activities on metrology are closely linked to accreditation since one of the basic requirements for establishing a regional metrology system is training assessors under an accredited system. The metrology subcommittee is currently in the process of identifying national metrology regulations and the needs and services of providers for an inter-laboratory comparison. The subcommittee is also working on identifying available training services and needs in EAC. Metrology is a category where joint managed facilities are possible where investments for complicated calibrations are not justified in the three countries.

Quality Assurance and accreditation

Limited technical capacities put off regional efforts to establish a regional quality assurance and accreditation system. In July 2004 the Quality Assurance and Accreditation subcommittee held its first meeting during which representatives from national bureaus of standards discussed the potential structure, processes and outcomes of a regional accreditation system. Limited funds and technical capacities to start and sustain such a system, and lack of political will are among the weaknesses that could threaten the drive to establish a regional accreditation system. In parallel, Kenya is in the process of establishing a national accreditation body. It is not clear how the establishment of a national accreditation body in Kenya would affect efforts to develop a regional body. Given that current level of demand for accreditation services is very limited, having two accreditation systems may not be optimal or cost effective.

Testing

Since its establishment, the subcommittee has undertaken a number of tasks including the building of a regional database of testing facilities to highlight services and needs. Recognition of certifications and tests is an objective of the regional integration process in which very little has been advanced. The final objective of the EAC exercise could be to adopt a framework of mutual recognition, as it has been done in other regional areas such as SADC.

5.2. Key constraints to development of an effective regional standardization system

The development of a regional standards architecture under EAC has been constrained by a number of factors. Among them, lack of a clear strategy and political constraints are the main responsible for the low progress. These constraints include the following:

- *Limited involvement of political authorities in the process.* The process so far has been largely directed by high-level technicians, mainly from the standards bureaus. There is not a clear mandate from the Ministries on the technical bodies. This result in lack of strategy and efforts whose consequences are not very certain for the authorities.
- *Limited awareness among the private sector and the civil society on standards and quality-related issues.* Apart from the horticulture industry oriented to EU markets, attention to standards and food safety issues on the local market and the small growers supplying local markets have been scarce. On similar grounds, the private sector has not participated sufficiently in the regional process of standardization, sometimes more concerned with other more important constraints to their competitiveness. Industry may see standards much more as a constraint than

as a tool for development and competitiveness. On the civil society side there is apathy among the consumers and other related groups which would benefit from the SQMT activities leading to lack of demand for quality of the services in general.

- *Lack of institutionally binding mechanisms.* A legal structure is needed if harmonization of standards and mutual recognition wants to be effective for trade. Diplomacy and cooperation should be accompanied by a legally binding instrument to ensure that partner countries fulfill their obligations such as building capacity, adopting harmonized standards into national legislation, withdrawing conflicting national legislation, or accepting conformity assessments performed in a partner country. This process requires always some giving up of competences by existing regulators and conformity assessment providers.
- *Differences in SPS related capacities between EAC members.* Kenya has by far more capacities and better infrastructure than Tanzania and Uganda. In 2002, for example, Kenya had 17 accredited laboratories and Uganda and Tanzania didn't have any. During that year, metrology labs in Kenya performed 3820 calibrations, compared to 68 in Tanzania and none in Uganda. ISO certifications and quality marks are large in Kenya and very scarce in Tanzania and Uganda. EAC member countries also complain that limited funding and lack of physical and human infrastructure has slowed down regional activities. Some conformity assessment activities could be provided on a regional basis (for example, costly calibrations or certifications that do not justify three different infrastructures, like fuels calibrations or pesticides testing), but the reference institutions tend to be in Kenya in most cases.
- *Conflicting national and regional interests.* The three countries compete directly in international markets and have different interests. Countries are not always ready to give up the setting of infrastructure or the developing of capacities within their countries. The case of establishment of a Kenya National Accreditation System when a regional process is under discussion is an example of different capacities and importance attached to diverse objectives. Other examples can be brought showing how Kenya cannot wait a longer period to develop necessary capacities (especially those needed for its export oriented sectors).
- *Conflicting regulatory and trade interests.* Some risk management measures may unduly restrict trade. At the same time, some institutional sustainability considerations can take precedence over objectives of trade facilitation and provision of public goods. This equilibrium between provision of public health objectives, facilitation of trade and assurance of institutional sustainability is not easy to balance. Some examples can be brought to illustrate the resistance of national regulators to share resources with their partners, complicated with the problem of losing or sharing revenues. For example, a recent law enacted by the Tanzania Food and Drug Agency_which requires importers of food products to pay US\$ 200 for registering each food item they import into the country. While requiring importers to register food imports with the food and drug agency may be essential for ensuring the protection of human health, the high fees associated with this registration may indeed have a negative impact on trade flows and undermine the "trade facilitation" objectives.

5.3. Opportunities and recommendations for an effective regional approach

Differences in standards, food safety and agricultural management activities or enforcement of quality have not impacted significantly intra-regional trade in the past. Rather, lack of cooperation in this field result in duplications and higher costs that prevent complete contestability of markets. However, companies trading in the region have coped with the duplicative procedures adapting to them and charging them to the final price. With a few exceptions (dairy or meat), interviewed companies coincided these costs were small compared to other factors affecting trade like transport and tariffs (Box 4).

Box 4. Contestability of markets and cost of re-testing in the EAC

Bidco, a Kenyan company manufacturing edible-oil and margarine, supplies the three EAC countries through different plants established in every one of them. The company complies with three different standards and has passed the three different conformity assessment procedures in every country, obtaining three “diamond marks” for its products. The situation adds cost to its operations, though it has not had an influence in the company’s decision to establish three production plants. Tariffs (still at 25% and 16% for its products in Tanzania and Uganda) and transport costs make it impossible to compete with local producers through trade.

Another example is pesticide registration. Currently, any firm that seeks to import a pesticide into any of the three Members of the EAC has to register the chemical with the national Pesticide Board. Kenya Pesticide Board (KPB) conducts the necessary testing on the chemical before it registers it and allows its importation. The registration process takes about three years and costs anywhere between US\$ 3000 to 5000. KPB is the main national board in the region, with higher capacity for testing and the leader of a starting effort for harmonization of the standards for the product and registration procedure. Given the small size of the Tanzanian and Ugandan markets for pesticides, very few firms venture to seek registration and incur the logistical and financial costs of the process. As a result of this lengthy process, access to the most recent, and often more effective, pesticides available in the market. Differences in climatic conditions and product applications are presented as the main argument for re-testing pesticides imported from abroad. Differences in technical capacities to perform advanced testing are also another argument that prevents recognition of certificates from other countries in the region. A good alternative to the current policy would be for the Pesticides Boards to automatically recognize pesticides that are registered by Kenya, which usually has a much larger number of chemicals registered and a speedy registration process compared to Kenya. However, such policy would be very costly to other Pesticide Boards which rely on chemicals registration as a main source of revenue. An alternative for such mutual recognition is the creation of a supranational agency for conformity assessment (Kenya’s agency updated and becoming a regional agency).

Pesticides are an input shown particularly expensive to farmers in supply-chain analysis recently published (World Bank, 2004). The costly registration process and the constraints to registration of generic products are a contributing factor. The case illustrates the need to share resources and streamline the process regionally to find a cheaper, faster, and more advanced solution. Donor action and policy reform could go together to find the optimal solution.

As trade integration between the three countries deepens, one could argue that standards will become prominently important and could permit enhancing trade and facilitating diversification. Regional harmonization of standards, advance in mutual recognition, and joint SPS management mechanisms present attractive opportunities for the region over the medium term.

At the present stage, the technical assistance project with the German Institute of Metrology is helping the countries to achieve more equivalent prior conditions that will facilitate the process of integration. An important step in the process will be the establishment of a Draft Bill of Standards, Quality, Metrology and Testing in the EAC, which seems to be in an advanced step of preparation.

Defining a strategy from multiple possible pathways

A strategic plan should accompany the Bill, stating clearly the objectives and signaling steps and benchmarks. The experts involved in the exercise should give policy makers a clear idea of the different possible pathways to facilitate trade within the region on standards-related issues and their diverse implications in terms of costs and benefits. It is up to the Member countries to define their priorities and develop the model of integration that they envisage.

The final result should be a combination of harmonization and mutual recognition that will define the level of ambition. As paradigms of trade liberalization, harmonization and recognition can be considered as alternatives seeking to redress the trade-impeding effects of domestic regulations. However, in practice the two are mostly complementary. Harmonization of technical regulations provides a single rule, but without some form of recognition in the enforcement side, the effect on regional trade liberalization can be small. Even in cases where regional partners accept to rely on

the same rules, mutual recognition of conformity assessment is not extended as a matter of fact. To define the way in which both principles are going to complement in the future it is necessary to evaluate the different policy alternatives.

**Box 5. Alternatives in harmonization of technical regulations and mutual recognition
in regional trade integration initiatives**

Without the aim of being very specific, some distinctions on policy alternatives for regional integration in the field of technical regulations and conformity assessment can be listed. They involve different levels of integration and giving-up of competences:

- *Extended Harmonization* (ASEAN, MERCOSUR, ANDEAN, CAFTA). Harmonization can consist in adopting international standards as much as possible (ASEAN) or deciding regional standards whose objective is to upgrade in the future to international ones (MERCOSUR and ANDEAN). Harmonization does not imply eliminating national conformity assessment, import checking procedures and adoption of common marketing standards and free circulation within the area.
- Efforts to *make standards compatible* and concentrated efforts in “*managed mutual recognition*” (NAFTA and FTAs in Latin American countries and with US). It would not involve harmonization and work will follow on a case by case basis for recognition, mainly on test data. Recognition will not usually be automatic and additional approval procedures in the host country are not eliminated. Market access is most widen for industrial manufactures and less for consumer products.
- *Recognition of foreign certification bodies*. Meaning granting access to foreign certification bodies to national accreditation systems in a case by case basis and following compatibility of standards. For the region it would mean to accept certification of accredited labs (by the future regional or other international accreditation body).
- *Recognition of accreditation systems* (APEC pool of accreditation systems, European Cooperation System for Accreditation). This means the recognition of the systems as a whole.
- *Minimal harmonization, recognition of equivalent national standards and global approach to certification*. The combination of some sort of minimal harmonization, recognition of equivalency of different national standards and mutual recognition of other Member States accreditation and certification bodies is the paradigm in the EU.

Regional Harmonization Process

There is a perception that the regional process of harmonization should lead to an up-grading of standards to international ones. International standards may not always have the pretended positive effects on trade within a developing country region, at least in the short run. In some cases, this could be appropriated. Yet in other circumstances the adoption of stringent standards could have negative effects on domestic markets, regional trade, small holders and poor consumers. This has found to be the case in some sectors, like meat and dairy, where the pretension of some authorities to adopt international standards as technical regulations or regional regulations would undermine some existing trade, or create higher split between the exportable and the domestic sector. The region should decide for some cases, what standard could be appropriate for their level of risk tolerance, consumer preferences and institutional capacities, without undermining international market access of certain suppliers. Some reference to international standards or some regulatory impact analysis can be alternatives (see section 4.1. above).

It is also important to engage the private sector more actively in the harmonization process. It is only a demand driven process that can give a better idea of what alternatives exist and what selection and prioritization criteria should be followed.

Streamlining regulations and achieving mutual recognition

It seems that it is not in the harmonization per se, but in other forms of regional cooperation where further integration is more complicated from a political economy point of view and from the point of view of capacity starting points. The regional harmonization process should be accompanied by

an approach aiming to eliminate as much unnecessary regulation as possible (removing old unused standards) and increase transparency (a minimalist approach). As important as infrastructure, capacity building and investment in facilities is the design of modern and well functioning standards architecture at the national and regional levels. Double testing and lack of recognition of certificates from the country of exportation should be substituted by advances in mutual recognition and a better monitoring system. Some unilateral recognition of national conformity assessment mechanisms, and/or tests would be a good indicator of the commitment of integration.

Pooling resources for an effective joint management system

Creation of supranational bodies responsible of some conformity assessment activities, metrology or accreditation is an alternative to mutual recognition of national certificates. The two options are open to EAC countries, and both require a serious cooperative structure. Specialization of member countries' laboratories in different standards would help the region have a better regional testing capacity. There are some well performing centers in the region for different sectors. There would be gains from having single centers of excellence for some specialized SQMT areas (let's say pesticides, seeds, medical, etc.) whose location could be determined according with existing expertise. There are conflicts among national SQMT institutions competing for the same market in every country, duplicating analysis, tests and capacities, and unable often to achieve the economies of scale necessary for higher investment in research, equipment and technology.

Development of a regional accreditation body in the region is another example of positive cooperation. The main reason for the suggestion on the accreditation body is the limited volume of work that a national accreditation body in the region could attract in the foreseeable future. Kenya might have enough certification, inspection bodies and laboratories to justify building the rather complex and knowledge intensive organization which constitutes an accreditation body, but Tanzania and Uganda might not. Other countries have found solutions to this problem. New Zealand for instance has teamed up with neighboring Australia to form a joint accreditation body (Box 6)

While it is true, that in Europe in particular, many even quite small countries have their own independent accreditation body, this may not be the most feasible solution for the region. Some observers argue, that every country establishing own accreditation leads to much unneeded duplication of effort and leaves the accreditation bodies constantly challenged with basically too low a volume of work to enable them to meet the high requirements on expertise, documentation and experience placed by the international organizations and the peer accreditation bodies. A recent study by the European Commission on the progress of ten new member states in developing their accreditation services indicated, that their primary difficulty in achieving international recognition rested with a lack of experience and a lack of volume of work in specific corner of the conformity assessment scene to prove to peer assessors of other European accreditation bodies that they would be able to comply with the agreed terms. When this is the case in small developed countries, it should be clear that the same would almost inevitably become true for the EAC region.

Kenya should avoid the risk that either the quality of the accreditation work will fall short, or the national accreditation body will have to charge too high fees or to have access to rather large government subsidies in order to provide the services at the right quality but on too slim a market. This problem would be augmented by the difficulties of developing countries to attain international recognition for their accreditation bodies (only a few of them has).

Box 6. Regional Accreditation Body. New Zealand-Australia Joint Accreditation Service

New Zealand has teamed up with larger neighboring country Australia to create an accreditation body for two countries, Joint Accreditation Service – Australia New Zealand.

JAS-ANZ is a not for profit, self funding international organization established under a Treaty between the Governments of Australia and New Zealand on 30 October 1991 to act as the joint accreditation body for Australia and New Zealand for certification of management systems, products and personnel. On 28 March 1996 a regulation was made under the Australian International Organizations (Privileges and Immunities) Act 1963 declaring JAS-ANZ to be an international organization to which the Act applies. New Regulations re-affirming JAS-ANZ's status were made on 18 June 1998.

JAS-ANZ is non-discriminatory, in that it will accept applications from Certification Bodies operating anywhere in the world. The JAS-ANZ Board has placed no geographic limitations on the organization's operations. JAS-ANZ accreditation programmes are accessible to all Certification Bodies, irrespective of size, location or affiliations, whose operations include activities for which accreditation programmes are currently available.

Multi-country collaboration for problem solving

Apart from the bureaus of standards, collaboration between other official agencies involved in promoting food safety and agricultural health can be extremely important. There is scope to develop regional surveillance or contingency plans to tackle selected risks. Regional information alert systems on animal and plant diseases, and joint planning and monitoring would help prevent the spread of diseases through the uncontrolled borders. Some sort of fund mechanism with assistance of donors could be proposed to cost-share such initiatives.

6. CONCLUSIONS AND RECOMMENDATIONS

The “success story” of Kenya’s fresh produce industry illustrates how adopting food safety and agricultural health standards can serve as a catalyst for trade and an opportunity to redefine the industry’s comparative advantage. Food safety and plant health measures have played an important role in defining the competitiveness of Kenya’s fresh produce through quality, value addition and cost reduction. In fact, Kenya’s fresh produce industry and its developed private-public partnership has become something of a model that many other developing countries would like to emulate.

Specific challenges remain, especially in strengthening the organization of the industry’s smallholder production base and in moving toward more complete traceability of exported products, as will inevitably be required. Considerable efforts are now being made to address these and other challenges posed by European regulations (pesticide use and residues, recognition of KEPHIS as conformity authority or development of an effective management system of pest identification and control). An implicit sharing of compliance-related costs –among the Government, the industry and donors- has occurred and is expected to continue.

Other sectors and activities still show existing challenges and constraints. Cases exist where public sector capacity is lacking, where awareness is not widespread and where a better coordination of responsibilities and functions between the public and the private sector should be improved. Kenya should develop a strategy (as somehow exists in the horticultural sector) of enhancing trade capabilities in a prioritized manner, as shown in Figure 1. This requires Kenya to focus as much as possible in establishing awareness and good practices in the private sector. It is important in general involving the private sector in the system, including the standard setting and the conformity assessment field, and streamlining regulations so as to make them more business-friendly. In

identifying recommendations for the development of trade-related SPS management capacities in Kenya, a distinction should be made between general recommendations and sector-specific recommendations. Some sector-specific proposals are developed in Table 6. The following broad strategy recommendations can be highlighted:

- *Coordination of national efforts related to quality assurance and SPS management is important.* This mechanism exists in the form of the Agricultural Taskforce, headed by KEPHIS. Yet for other aspects outside the horticulture sector, coordination has been mostly lacking. The regional process of integration should be taken as an opportunity to enhance such coordination and involve fully the private sector in the system. Presence of private sector in the board of standards and agricultural health institution would be very beneficial.
- *Involvement of the private sector in standards-management capacities should be enhanced.* This include the scope for cost-sharing and or identification of areas in which the private sector can take the lead in developing capacity on a collective basis or through individual private enterprises. In doing so, the potential drain on the public purse will be minimized, while the private sector will also recognize its own role in establishing and maintaining a certain level of standards management capacities aimed at enhancing export competitiveness. KEBS should concentrate its efforts in the regulatory and accrediting activities, while proceeding with delegating its certification and consultancy activities to the private sector.
- *Launch campaign to raise awareness and recognition of the importance of SPS management capacity to enhance competitiveness for agricultural and food industries and to exploit potential opportunities.* This might be important in the small and medium scale producers of fresh produce, and in other sectors in general, like the dairy and meat analyzed.
- *Effective export inspection and monitoring of border detentions by the Kenyan authorities is an important tool to reduce risk and potentially be a further source of competitive advantage.* Kenya has attained a status of preferred supplier. Maintaining that consideration requires considerable investment, but suggests also higher benefits, especially as buyers in industrialized countries shift toward longer-term relationships with their suppliers. Being a first mover in the region gives Kenya the advantage to cope with sunk costs, reputation effects, and the needed flexibility to pursue compliance over longer periods.
- *There is scope for different speeds on the highway of standards compliance. Determination of markets to serve requires a strategic orientation by both the private sector and the government.* Some markets are less onerous and still offer business opportunities for producers and exporters with lower capacities. Kenya does not face an all-or-nothing decision with regards to the new stringent requirements in their exports. In many cases, upgrading domestic markets, servicing regional markets and looking for middle-income and some low-income markets are the best option, before investing highly to attain the requirements that the stricter markets demand. Switching strategies (or even exit strategies) do not have to be seen as a loser's strategy. Government approach has to be more strategic and oriented to trade facilitation, something that is not always that clear in food-safety and agricultural-health public bodies.
- *Diversification and export promotion strategies need to take into account the complex global value chain structure that dominates the industry.* A correct diagnosis of the value chain linkages (different according to products and the agents involved) is essential for export promotion strategies. They should also be reflected in programs for trade capacity

building. Partnerships along the value chain are also essential, with retailers, importers, as well as with the countries where they are located. Some have argued that a strategic approach is to support potential winners within supply chains. Despite this being controversial, leaders can act as catalysts for wider efforts to enhance supply chains capacity and, through their learning processes, reduce the risk for others in their effort to upgrade.

- *Kenya must make concerted efforts to encourage and participate in the development of SPS management capacities and sharing of resources at the regional level.* The concept of “regional centers of excellence” could provide a very useful model in this regard. The government should identify areas where concerted management will be necessary and cost effective.
- *Additionally, Kenya and its neighboring countries should explore areas where recognition of acceptable level of protection can be achieved.* This could be an alternative to harmonization and would involve giving up the process of required certifications and import checking. This could be especially suitable for some manufactures. Countries of destination would have the capacity of supervision and refusal based on proportionate technical rules. This system requires probably a strong institutional and dispute resolution system.
- *The government and the private sector should build a consensus of views regarding the most immediate risks and opportunities which the country faces in relation to standards and trade, as well as medium-term priorities.* The study has highlighted a number of potential areas associated with: (i) smallholder production and good agricultural practices; (ii) improving landing sites of Nile Perch and environmental management in Lake Victoria; (iii) developing an updated pest map and a system for managing and controlling pest infestation; (iv) increasing quality and awareness in the meat and dairy sectors.

Box 7. Different level of ambition in several customs union initiatives

		EUROPEAN UNION	MERCOSUR	ANDEAN COMMUNITY
Institutional configuration		Supranational	Customs Union	Customs Union
Regional Standard bodies	Technical regulations	Council of Ministers (Internal Market)	Common Market Group	Secretariat
	Voluntary standards	CEN (general), CENELEC (electrotechnical), ETSI (telecom)	Mercosur Committee of Standardization	
Criteria in setting regional Standards		International, then national standards and recognition of equivalence	International standards, then regional standards	International standards, then national standards
Relationship between technical regulations and voluntary standards		Complementary: technical regulations tend to set minimum requirements and vol. standards are relied on specific needs	Competitive: no clear delimitation, technical regulations are more ambitious.	Competitive: no clear delimitation, technical regulations are more ambitious.
Involvement of private sector and consumers		High	Low (weak consumer participation, private sector dominated by foreign firms)	Low (weak consumer participation, private sector dominated by foreign firms)
Participation in international setting bodies		High. By private sector standards organizations. Common position represented by EU Commission.	Low. No common positions.	Low. Working on the establishment of common positions.
Voting structure to decide on standards		Majority (votes weighted to size)	Unanimity (no weighting of vote). Slower process.	Unanimity (no weighting of vote). Slower process.
Harmonization of national technical regulations		Generally harmonization of minimum requirements. Also cases of stronger harmonization when higher safety and health concerns.	Yes	Yes
Common standards rules		EC Regulations	Common regulations with no legal validity until transposed.	Common regulations with no legal validity until transposed.
Implementation		Compulsory, Effective dispute resolution system.	Non compulsory if no internalized. No supranational power to force countries to internalize.	Non compulsory if no internalized. Dispute resolution system embryonary
Information mechanism		Notification of technical regulations implying higher safety, health or environment standards. Right to challenge. Commission might propose harmonization.	No	No
Common brand		CE marketing brand of conformity and single pass	No	No
Harmonization strategy		Harmonization of technical regulations led by countries demand and Commission initiative.	Harmonization of technical regulations led by countries	Targeted harmonization led by private sector and governments.
Conformity assessment procedures		Aligned across countries and principle of equivalence and mutual recognition in effect	Just a goal	Regulation on mutual recognition drafted
Conformity assessments tests		At origin. Sporadic random post-market tests in destination	Double testing	Double testing.

Source: adapted from Aldaz-Carrol (World Bank forthcoming).

Table 8. Action matrix for enhancing trade-related SPS management capacity

Technical or Policy Issue	Actions Recommended	Requirements					Agencies/Actors Involved	Time Frame	Priority
		Define Strategy	Change Policy /Law	Promote Awareness	Reform Institutions	Seek Technical Assistance for Capacity Building			
Low level of awareness of SPS management demands	Raise awareness of the importance of SPS management, good agricultural practices and involvement of private sector, especially in the smallholder production base	X		X			KEBS, MOH, MOAGR, MOLF, KEPHIS	Short-term	High
Improve the organization of public sector functions in Kenya's standards architecture and support them through an adequate revenue structure	Reorganization of key functions in public sector, where regulation, training and accreditation should be the main functions. Facilitating the private sector in providing the testing, consultancy and conformity assessment services.	X			X	X	MTI, KEBS, KEPHIS, MOH, MOAGR	Short-term	High
Improve regional framework of standards related services and regulations so that to facilitate trade, both regionally and internationally.	<ul style="list-style-type: none"> Collaborate in control and management of pests and diseases; advance towards a regional accreditation system, through the Kenyan model share resources in the form of "regional centers of excellence" in areas, like pesticide regulation, registration and awareness, where the industry sees the market as a regional one and capacities are lacking, mainly in Uganda and Tanzania Advance in the regional context with the objective of achieving real mutual recognition of conformity assessment, combined with a less ambitious process of standards harmonization 	X			X	X	MTI, KEBS, KEPHIS, MOH, MOAGR	Med. to Long-term	High

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ANNEX: PRODUCT CASE STUDIES

1. Standards and Trade in Kenyan Horticulture Industry

Export-oriented horticulture and floriculture has been one of the most dynamic components of the Kenyan economy, at least over the past decade. Dating back to the 1950s, the trade in fresh fruit and vegetables and cut flowers reached \$100 million in 1987 and surpassed \$400 million in 2003. In contrast with the broader national trend, investments and employment in export-oriented horticulture continued to grow during the 1990s and on into the current decade. It provides direct or indirect employment to hundreds of thousands of people. Some 90% of this trade is directed to Europe, where Kenya is the single largest non-EU supplier of flowers and a very important source of a broad range of higher value and specialty vegetables. Given Kenya's accumulated investment, experience, know-how, and other forms of competitive advantage, this trade and employment is expected to continue to grow in the future. Export-oriented horticulture is also a relative 'success story' from the perspective of standards and trade.

Jaffee (2004) provides an analysis of Kenya's fresh vegetable export sub-sector with emphasis on the evolving European standards for quality, food safety, and plant health, and the strategies and investments undertaken by the Kenyan industry (and government) to comply with these standards and otherwise maintain competitiveness in segments of the EU market. Notable points in that analysis include the following:

Emerging Competitive Challenge: Although long-standing, Kenya's fresh produce export companies found themselves in a vulnerable competitive position by the late 1980s and early 1990s. Market consolidation was occurring rapidly in food retailing in parts of Europe and major changes were also taking place in fresh produce importing and wholesaling. Thus, there were fewer 'gatekeepers' into the more remunerative segments of the European fresh produce market. Kenya was also facing increased competition, especially from North Africa, which could truck or sea-ship produce to Europe at much lower cost than Kenya's air-freighted vegetables. Rising air-freight costs, together with stagnant or declining real prices for certain items further squeezed margins. Some firms responded by exiting the business altogether; others diversified into flowers.

Strategy of Leading Firms: The leading exporters determined that their viability in this trade depended upon their servicing the 'upper end' supermarkets for which competition was centered more on service and quality than on price. They began to experiment with and develop new product lines, including value-added, semi-prepared vegetable items (i.e. salads, mixes). Commodity products (in bulk for wholesale markets) would help fill air-freight pallets but actual profits would be made on these other products and marketing channels.

Supply Chain and System Restructuring: But this 'ride the tail of the supermarkets' strategy required an overhaul of existing production and packing operations. Most of the companies had previously relied upon large numbers of small and larger farmers to deliver produce. There was commercial yet little technical record-keeping. There was some awareness of pesticide-related concerns yet little oversight of farmers. Relatively little attention had been given to hygienic or similar practices at the pack house level. Such arrangements and systems were incompatible with emerging 'codes of practice' which the focal UK retailers were then developing—in response to legal and consumer requirements. Such codes became more complex and demanding over time, and by the mid-1990s efforts began to amalgamate codes into industry-level protocols. Basic requirements for 'good agricultural practices' and food safety risk management were sometimes supplemented by environmental, social, or other concerns. In parallel, official standards in Europe

(i.e. for produce quality, pesticide residue limits, and permissible pesticides for use) were also being tightened and more vigorously enforced.

The Kenyan firms responded to these requirements. Some invested in their own farms in order to gain more control over production practices and actually produce. These and others also moved to tighten their oversight of outgrowers, with more detailed specifications of (non-)allowable and direct supervision. Various initiatives were launched to promote ‘good agricultural practices’ in horticultural production areas. Large investments were made to upgrade and expand pack house facilities and to train and upgrade management and line staff on quality assurance and food safety management. In government, efforts were made to improve regulatory and inspection oversight related to pesticide residues and plant health risks.

Overall Results: Through the early 2000’s these efforts were notably successful. Between 1990 and 2003, Kenya’s fresh vegetable exports had increased in value from \$25 million to \$150 million. A large and growing proportion of the Kenyan trade was in pre-packaged and other value-added products, the profit margins on which are higher than the commodity produce. Kenya had experienced very few official interceptions or rejections of fresh produce on food safety or plant health grounds. Ironically, the rising official and private standards in Europe had provided the Kenyan industry with a ‘life line’ in the face of rising competition from lower cost (due to freight) suppliers. The rising standards (and consumer trends) provided a catalyst for product and systems innovations within Kenya and considerable improvements in the hygienic, social, and environmental dimensions of the industry. Parallel developments also took place within Kenya’s cut flower industry—in the face of demands for better working conditions and environmental management measures. The demands of standards also stimulated much enhanced collaboration between private industry and the Kenyan Government to deal with the underlying technical, regulatory, and other requirements.

For individual stakeholders, the capacities to address the challenges and opportunities associated with rising standards have varied. The challenges associated with standards have been one set of factors (among others) which have resulted in the consolidation of the vegetable trade over time. In 2001, only six companies accounted for 84% of the vegetable export trade and ten companies for 95% of the total. Many smaller companies have been caught between the reduced profitability of the fresh produce commodities trade and their inability to invest in or manage a larger, more sophisticated operation centered on supplying the leading supermarkets. Some of these firms have dropped out of this business or re-directed their attention to other market outlets where standards compliance is less of an issue.

At the primary production level, larger scale farms now account for a sizeable majority of export-oriented vegetable production, due to the backward integration of the leading companies into farm ownership or leasing. In an era of more stringent, quality, safety, and product traceability requirements, the transaction costs of dealing with smallholder farmers have increased. Additional factors—including new product introduction—have also played a role, yet the share of smallholders in the supply of vegetables for fresh export has probably fallen below 30%, compared with about 50% in the mid-to-late 1980s. Still, probably more than 10,000 smallholders continue to make a good supplemental income producing vegetables for fresh export. A larger number are involved in supplying fruit to the export trade, although individual farm incomes from these sales are comparatively much lower. The overall expansion in the trade, together with the shift toward pre-packaged and other value-added products, has generated considerable demand for permanent and semi-permanent workers, both in rural areas and in Nairobi-area pack houses. Since the mid-90s

there has also been a boost in demand for trained and educated technical workers to run and supervise enhanced quality assurance and food safety management systems.

Response to ongoing regulatory and private sector developments in standards. Over the past few years the industry has continued to expand its trade and employment. The applicable external market standards continue to evolve as do the institutional and technical responses taken by the Kenyan industry and government. With regard to the standards themselves, the following developments have occurred or are occurring:

- EU Directives were introduced to amend existing legislation related to plant health, including the requirements for phytosanitary certificates, and the responsibilities of Member States to carry out appropriate border inspections to prevent the entry of plant pests;
- EU approval of updated and consolidated food and feed controls which once implemented (from 1/1/06) could generalize the system of pre-approval of countries and enterprises that has been applied by the EU in the fish and meat sectors for the past decade;
- EU approval and entering into force of a General Food Law Regulation, one provision of which relates to the traceability of food products up to external sources of supply;
- Continued movement in the EU's efforts to harmonize pesticide-related regulations, and the on-going removal from approved use of a broad array of agro-chemicals whose proprietary owners have chosen not to re-register (for commercial and financial reasons);
- Continued moves to modify and/or apply private standards. Some retail companies have set specific deadlines for their suppliers to obtain EUREPGAP compliance, while some others have merely stepped up pressure on suppliers to initiate compliance plans. The EUREPGAP fruit and vegetable protocol has been revised and certification arrangements formalized. A new EUREPGAP protocol for cut flowers has been adopted to join a multitude of other private protocols required by flower distributors in various European countries.
- There has been an increased attention to social and environmental dimensions, translated into company and industry 'codes of practice' for primary suppliers and traders.

In Kenya, some of these on-going regulatory and private governance developments have been sources of concern, either within the industry itself, among policy makers, or in the local media. In general, those most directly involved—including exporters, farmers, and officials in pertinent technical agencies—are far less concerned about the changing conditions than are persons more removed from the industry. Various articles in the local media have been alarmist in tone, warning of the imminent collapse of Kenyan horticulture and floriculture in the face of this or that modification in regulatory policy or private action. Apparently, bad news is newsworthy and news of disaster warrants front or business page headlines.¹⁵

Particular concerns are raised about two issues. One relates to the amended plant health regulations. Technically, the regulation could result in a Member State subjecting 100% of imported flower or produce consignments to physical inspection. Such a scenario would result in logistical delays, increased product wastage and overall reduced shelf-life for the perishable products. Yet, Member States have limited resources and staffing for produce inspection and will certainly apply a risk-based approach, focusing their physical inspections on products and sources for which there have been past problems or recent pest outbreaks. The Kenyan Plant Health Inspectorate Service (KEPHIS) has been in active discussions with EU and Member State authorities regarding

¹⁵ Several misleading reports in the Kenya media triggered a letter of clarification from the EU's _____ Commissioner to the Kenyan Minister of Trade and Industry on December 8, 2004.

appropriate levels of inspection for Kenyan produce and risk mitigation measures that KEPHIS and the industry itself will take.

A second area of media and other concern centers upon the traceability requirements for exported produce. Here the confusion has been between official and private measures. The official requirements are only for EU importers to trace back produce to the level of foreign (i.e. Kenyan) exporters. This is of no real consequence since commercial relations already govern and provide paperwork for this link. Some private importers/distributors, including EUREP members, want there to be product traceability (and related record-keeping) back to the primary producer. Each of the leading Kenyan exporters is in the process of doing this. This is much more problematic for smaller exporters who do not buy produce from organized farmers under contract or through some other continuous relationship. Nevertheless, those smaller exporters are generally not supplying the larger importer/distributors who require such full chain traceability.

Neither the Kenyan industry nor the pertinent government agencies are standing still. A broad range of individual company (agency) or collective activities are being pursued to address the continuous challenges and opportunities posed by SPS and other standards. For example, in the past two to three years:

- KEPHIS' has moved into a more modern administrative and training facility, upgraded its laboratory (soon to be accredited by SANAS), increased its cost recovery through fees and services, and applied for being recognized by the EU as a 'competent authority' for quality conformity assessment (expected soon)
- An initiative (supported by COLEACP) has been implemented to identify and fill any pest management 'gaps' that will occur due to the withdrawal from (EU) approved use of certain agro-chemicals
- A multi-stakeholder (public-private) Horticultural Task Force has been formed and has acted to address emerging and outstanding technical issues
- Various private and NGO/donor-supported programs have been launched to promote integrated pest management and more general aspects of 'good agricultural practice' as well as assist in smallholder farm organization
- There has been initial development of local (private/NGO) capacities to perform internationally recognized certification for GAP, HACCP, and other management practices. Otherwise, exporting firms have increasingly economized on auditing costs by collaborating with one another when planning audit missions from external consultants.
- Most of the leading companies have had their own farms EUREPGAP certified and most are in advanced planning to have their outgrower farmers also so certified. The costs for the latter have been partly subsidized by donor agencies.
- The 6th edition of the KFC Code of Practice has been finalized and will soon go into effect. This will be benchmarked to EUREPGAP and other systems

There are also outstanding issues related to standards and horticultural trade relations with certain countries. In relation to the EU, formal recognition will be needed on Kenya's so-called 'competent authority' for quality conformity assessment, plant health inspection, and fresh produce food safety. KEPHIS is the logical candidate for the former two, but what about the latter? Would this function be taken by a government or would it be delegated, say from the MOAGR to the Fresh Produce Exporters Association of Kenya (FPEAK)? There are many specific technical issues which will also

need to be addressed with EU or Member State authorities.¹⁶ In relation to Japan, South Africa, and the United States, there are outstanding issues pertaining to pest risk assessments and the needed phytosanitary mitigation measures that Kenya would need to take to obtain direct access for horticultural products into these markets.

At present and looking to the future, there remain ample challenges. The industry occupies a peculiar status. It still enjoys preferential market access to the EU and hopes that this will continue on into the future after the EU negotiates its Economic Partnership Agreements with different blocs of developing countries. Yet, this successful industry is a relative powerhouse, which has gained international investment and market share at the expense of others. In recent years, the industry has attracted a plethora of donor support projects, most geared toward enhancing the social impact of its growth and/or mitigating adverse environmental impacts. Some of this effort appears to be valuable, yet with nearly three dozen different initiatives there is a probability of overlapping effort, farmer confusion, ‘double-dipping’ of subsidies, and some misallocation of resources. This has been recognized and there are moves afoot to better coordinate on-going donor activity.

Small farmers in the export sector. It is debatable whether incremental donor resources should be channeled to supporting export horticulture versus helping to modernize production and marketing systems for the domestic or regional markets¹⁷. The above-mentioned tendency to vertical integration, the increasing sophistication of the market, the required continuity of supply, the need for innovation, and the economies of scale and specialist competences requires for compliance with standards favor early large exporters over smaller. The more that exporters are expected to innovate with the products, varieties and methods, as standards compliance requires, the more they will take direct control of agricultural production, even within outgrower schemes where small producers may be incorporated. Nowadays, most of Kenya’s small and medium size firms that remain in the trade are largely dependent of arms-length marketing relationship, and exporting bulk produce to shrinking wholesale markets, or looking at other market destinations. Recent interviews with the larger Kenyan exporters (November 2004) indicated that none were expanding smallholders supply, whereas some were still reducing it.

There are more than half a million Kenyan farmers who grow vegetables for consumption or domestic sale and more than 90% of local vegetable production is for domestic consumption/sale. In contrast, there are probably only about 10,000 smallholder farmers regularly supplying the vegetable export trade and a somewhat larger number periodically supplying fruit for fruit export. Those farmers supplying the fresh vegetable export trade are generally not among the poorest people in rural Kenya.

There do indeed remain challenges related to the effective organization of smallholder farmers, their adoption of production and post-harvest practices compatible with downstream buyer requirements,

¹⁶ For example, two issues being addressed in current discussions relate to the phytosanitary treatment of beneficial insects (i.e. ladybugs), used to protect plants from harmful insects, and the fee structure to apply for inspections of organic products entering the EU.

¹⁷ A recent simulation exercise done by Humphrey, McCulloch and Ota (2004) confirms that export horticulture, in particular export of fresh vegetables to the UK market dominated by a few large Kenyan producers, has a poverty-reducing effect. They find that the positive impact on employment of continued export growth and increased post-harvest processing is much greater than any likely reduction in employment resulting from the shift away from smallholder production. Based in their propositions, smallholder production can be supported through modernization of domestic and regional production and marketing systems for the national and regional markets, and development of programs targeting markets whose demand conditions are more suitable, including fruit (rather than vegetable) and Middle East and Asian market.

and the related paper trail to signify and certify their conformity with these requirements. The scope of the challenge is either exaggerated or underplayed depending upon the context of discussion and the interests of the different parties. In public, many stakeholders complain about the financial and administrative burdens and the tens of thousands of farmers which still need to be reached. Privately, many of the same stakeholders acknowledge that the main challenges are being successfully managed and that a considerable part of the associated costs are being borne by external donors. The mist and fog surrounding this issue seems to serve everyone's interest, as buyer demands can be delayed, consultants employed, and donors tapped for resources to do 'valuable and socially useful' things. Overall, the donor support will have a small (socially beneficial) impact on how the industry and its supply chains continue to evolve in response to commercial opportunities and technical and financial pressures.

There are additional outstanding issues. One relates to whether the KEBS Code of Practice for the Horticultural Industry will remain voluntary or become a mandatory standard. And, if the latter, who will be responsible for enforcing it? There is apparently some on-going debate on these matters. The code ostensibly applies to all horticultural production and marketing in Kenya, although its most immediate relevance is for export-oriented supply systems. Some of the larger exporters and some government officials have argued that the Code should become mandatory. Yet, the majority of the existing small-scale exporters lack the management systems to comply with and document many of the planks of the Code. And, in relation to their sales to the Middle East and to the domestic and regional markets there is not yet demand for many of the plans and procedures included within the national code. In the near term, it might be better to retain the voluntary status of the national code. Enforcement of more strict requirements will be occurring within the coordinated supply chains of the larger companies, while other efforts would focus on promoting the voluntary adoption of GAP among farmers and improved quality assurance and food safety management systems among small and medium horticultural trading enterprises¹⁸

Conclusions

In sum, the Kenyan horticultural/floricultural industry has largely been successful in meeting the challenges posed by the evolving commercial and regulatory environment within Europe, its primary export market destination. Official and private food safety, plant health, and other standards continue to evolve, yet much of the Kenyan industry has been able to adapt, with the more stringent standards effectively spurring a process of modernization, improved coordination, and increased application of technical and social 'good practices' within the industry. In fact, this industry has become something of a model that many other developing countries would like to emulate.

Specific challenges remain; especially in strengthening the organization of the industry's smallholder production base and in moving toward more complete traceability of exported products, as will inevitably be required. Considerable efforts are now being made to address these and other challenges and there is every reason to believe that the industry will continue to maintain its competitiveness and meet the emerging standards requirements. An implicit sharing of compliance-related costs--among exporters, farmers, the GOK, and external (donor and other) agencies--has occurred and would be expected to continue on into the future given the combined commercial and socio-economic goals associated with this industry's continued growth.

¹⁸ In this regard, there are questions pertaining to the future role of the Horticultural Crops Development Authority. Historically, most of its activity has been in relation to export-oriented horticulture. More significant market facilitation work may now be needed at the domestic and regional levels.

2. Standards and Trade in Kenyan Fish Industry: The Case of Kenyan Nile Perch

The Nile perch fishery developed rapidly through the 1980s and 1990s, transforming an artisanal and locally-oriented sector into a global commodity chain. Both the scale of the fishery and the nature of the processing sector changed dramatically, although the basic characteristics of the fishing communities themselves largely remained unchanged and there was very limited investment in the up-grading of food safety capacity. During the late 1990s, the supply chain began to face constraints associated with the sustainability of the fishery as the landed catch stabilized, whilst the processing sector was characterized by significant levels of over-capacity.

Pressure to up-grade hygiene standards within the Nile perch supply chain, most notably to maintain access to EU markets, started in the mid-1990s. However, the need to enhance hygiene controls was exacerbated through the period 1997 to 2000 when specific restrictions on exports were imposed by the EU. To this time only limited investment had been made in food safety controls, despite the progressive export-orientation of the supply chain. Rather, much of the concerted effort to comply with EU requirements was stimulated by the loss of market access as a result of the specific measures implemented by the EU that prohibited exports from Kenya, as well as Tanzania and Uganda.

These restrictions had a significant impact at both the macro and micro levels. Exports initially declined, reflecting the loss of Kenya's most significant export market, although exporters soon began to exploit alternative markets and by the 2001 the overall volume of exports had recovered. Many fish processing facilities were forced to close, at least in the short term, or operated at low levels of capacity. The resultant drop in demand for Nile perch led to a reduction in the landed price to fishers and a fall in the aggregate income to local fishing communities. However, this soon recovered, at least in part, as processors competed to secure supplies of fish in order to boost production.

Prevailing standards of hygiene in the fish and fishery products sector were significantly below those required by EU legislation at the time the first restrictions were applied to exports in 1996-97. The Competent Authority was unable to implement an effective regime of inspections of processing facilities and certification of export consignments. Laboratory facilities were not of the required standard to provide tests that could be generally regarded as valid and reliable. Standards of hygiene in parts of the fish processing sector and at landing beaches did not conform to EU requirements. To a large extent this reflected a more general lack of food safety capacity in both the public and private sectors.

The Government of Kenya invested heavily in changes to legislation and administrative structures, reinforcement of inspection and certification procedures, up grading of laboratory facilities and training of personnel. Some companies were forced to invest heavily in up-grading the fabric of their factories, implementing HACCP and/or other procedures, enhancing laboratory testing facilities etc. Further, there has been some increase in production costs, albeit limited, associated with the need to undertake enhanced testing regimes, temperature recording, record-keeping, staff training etc. Yet significant benefits came in terms of the regaining and maintenance of market access and better and more effective control of the supply chain.

Although efforts have been made to enhance standards of hygiene at landing beaches, basic infrastructures are still lacking. Indeed, many beaches do not possess even basic sanitary amenities such as running potable water and washing facilities. To a large extent this reflects the fact that, until restrictions were applied on exports to the EU, little investment had been made within local

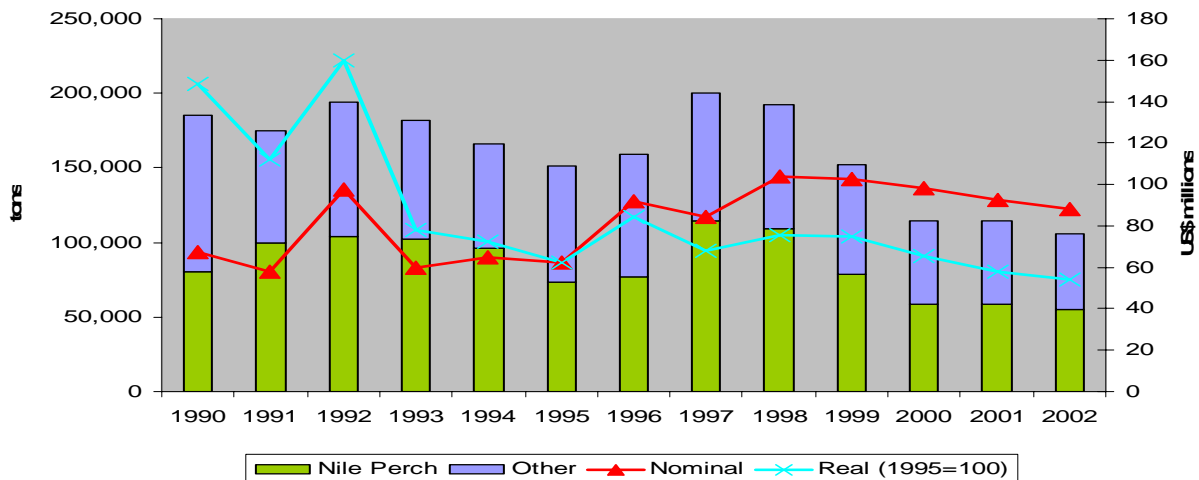
fishing communities despite the economic success of Nile perch exports. Further, management of the fishery has been in disarray for many years, with local communities frequently disempowered to take charge of the development of the beaches where they live and work. It is evident that the resources required to make the necessary improvements to the infrastructure and hygiene standards of landing beaches are considerable and this remains the key challenge for the Government of Kenya, fish processors and fisher-folk.

The application of more strict hygiene requirements on exports of Nile perch to the EU and, more specifically, the imposition of restrictions on exports through the period 1997-2000 have had more profound effects on the sector and its course of evolution. Whereas the export supply chain for Nile perch developed with a central focus on EU markets, today most exporters have diversified their export base and have major markets in, amongst others, Australia, Japan and the United States. However, ironically, compliance with EU requirements has better enabled Kenyan exporters to access and maintain these markets. Indeed, a number of exporters highlight the fact that they are asked if they are approved for export to the EU when approaching new customers throughout the world.

Landings of Nile perch:

One of the predominant challenges for the Nile perch fishery of Lake Victoria, not only in Kenya but also Tanzania and Uganda, is the decline in landed catch. After the first period of restriction in 1997-98, when fishing activities were curtailed because of a decline in demand from industrial fish processors, landings initially increased; indeed the landed catch in 1999 was the highest ever recorded at 115,000 tons (Figure 4). Since that time, however, the landed catch has declined significantly to a low of 55,000 tons in 2003. Likewise the value of the landed catch declined through the period 1999 to 2003, despite an increase in the landed price of Nile perch.

**Figure 4. Landed volume and value of fish in Kenyan waters of Lake Victoria
1990-2003**



Source: Fisheries Department and CBS

Note: Real values using IMF GDP deflator for Kenya (1995=100)

The factors explaining the landed catch remain controversial and there is an on-going debate regarding the sustainability of the fishery and the extent to which the supply of fish has been exhausted. Historically, there were significant landings in Kenya of fish from Tanzanian and/or Ugandan waters, reflecting the relatively well-developed processing sector. Recently, there has been more rigorous enforcement of restrictions on cross-border landings of fish, both by the

governments of the three countries and the fishers themselves. Although illegal border crossings still occur, and probably remain significant, they are much diminished compared to the 1990s. Further, more effective controls have been put in place on the use of illegal gear and landing of juvenile Nile perch. In 2000, regulatory restrictions imposing slot sizes on gill nets of 50 to 85cm were promulgated, which were implemented in 2001-02. Beach seines have also been banned. At the same time, however, many commentators are of the view that the Lake has been exploited at a rate that is unsustainable in the long term and that more effective management needs to be instituted. This is not a view, however, held by the industrial fish processing sector that points to the fact that the interior of the Lake remains largely unexploited.

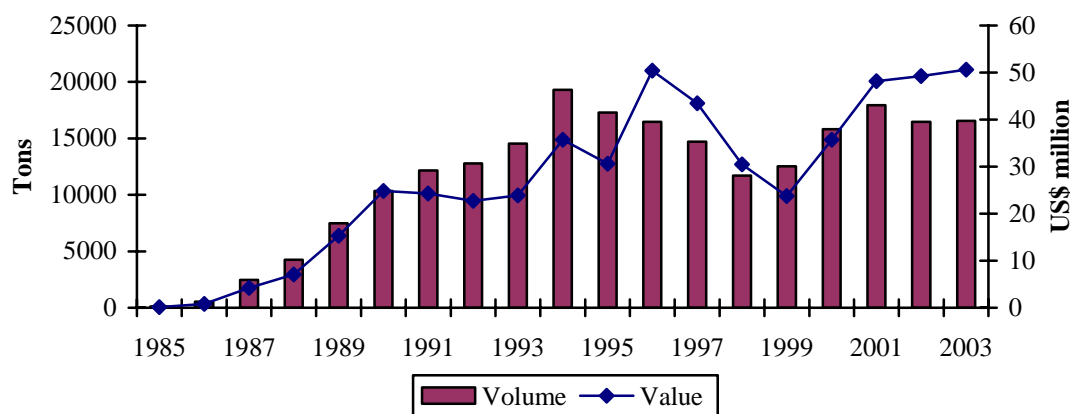
The recent decline in landings of Nile perch is posing very great challenges for the industrial fish processing sector and, alongside the need to recoup the investments made to comply with the stricter food safety controls required by the EU, has brought about significant changes to the structure of the industrial processing sector (see below). At the same time, however, it has brought about more proactive intervention by the industry itself, through the Association of Fish Processors and Exporters of Kenya (AFIPEK) (see below).

The decline in landings also has had a major impact on the local fishing communities. According to the 2004 Frame Survey, there are 37,348 registered fishers and 12,284 boats on the Kenyan shores of Lake Victoria, most of which have come to be dependent on the export supply chain. Although the increase in landed price of Nile perch has offset, at least in part, the decline in the catch, it is also evident that the unit effort by fishers has been enhanced as they spend longer on the Lake and move further from the shore in search of fish. Indeed, serious questions will need to be asked about the long-term sustainability of the fishery given the current population of the communities surrounding the Lake.

Exports of Nile perch:

The imposition of restrictions on exports of Nile perch to the EU had a significant impact on the volume and value of exports, which declined to a low of 10,881 tons and US\$29 million in 1998 (Figure 5). The processing sector responded by shifting to a variety of other markets including Israel, Singapore, Japan and Australia (Table 6) that had 'lesser' (or at least different) food safety requirements and exports recovered through the remaining period of restrictions and immediately after their relaxation in December 2000. The volume of Nile perch exports reached a peak of 17,947 tons in 2001 as processors regained their EU markets.

Figure 5. Volume and value of Nile perch exports from Kenya, 1985-2003:



Source: CBS

Since 2001, however, the volume of Nile perch exports declined to around 16,500 tons in 2002 and 2003. We are yet to see if this is a long-term trend or a ‘blip’ reflecting market conditions. This has been more than offset by increases in export prices such that the value of exports reached a high of US\$50.6 million in 2003, exceeding the peak in exports of US\$50.4 million in 1996, immediately prior to the imposition of restrictions on exports to the EU.

Although Nile perch exports to the EU have recovered since restrictions were lifted, most exporters have maintained the markets they established in other countries during the period that exports were prohibited. Thus, the EU only accounted for 35.6 percent of the value of exports in 2003, compared to a high of 62.8 percent in 1996 (Figure). In part this reflects the reluctance of many exporters to become over-reliant on the EU after their experiences through the mid to late-1990s, preferring to maintain a more diversified exports base as a means to spread risk. However, a number of exporters have also faced problems re-accessing EU markets given that Tanzania and Uganda had a ‘head start’ because the restrictions on their exports were lifted in January 2000 and August 2000 respectively.

Table 6. Exports of fresh, chilled and frozen fish fillets by destination, 1997-2002 (Tons):

Country	1997	1998	1999	2000	2001	2002	2003
Israel	4244	5252	4550	7160	3984	4799	5341
Netherlands	3033	856	3208	26	4126	2287	3305
Singapore	1669	745	532	910	346	236	297
Germany	1550	175	298	0	1449	678	393
Greece	789	1002	183	0	103	491	384
Japan	387	1221	1951	2183	1234	2171	870
Malaysia	318	36	87	360	399	261	282
France	309	19	0	0	0	0	40
USA	288	134	167	415	1491	798	604
Portugal	244	25	124	0	166	647	310
United Arab Emirates	222	352	233	449	440	135	246
Belgium	208	27	7	1	822	626	393
Hong Kong	175	173	235	1226	211	356	349
Australia	174	772	1829	1439	2083	1596	2073
Italy	1	0	0	0	402	672	896
Other	452	200	547	1359	649	255	1121
Total	14064	10989	13949	15528	17906	16456	16261

Source: CBS; Fisheries Department

A new emerging threat facing the Nile perch sector from across East Africa is competition from basa, a low price variety of catfish, predominantly from Vietnam. This created particular challenges for Nile perch exporters in EU markets during 2003. Thus, whilst the average unit value for Nile perch fillets in EU Markets grew strongly between 1997 and 2002, reaching Euro 5.00/kg in 2002, in 2003 they collapsed to Euro 3.80/kg (Eurofish, 2004).¹⁹

Industrial processing sector:

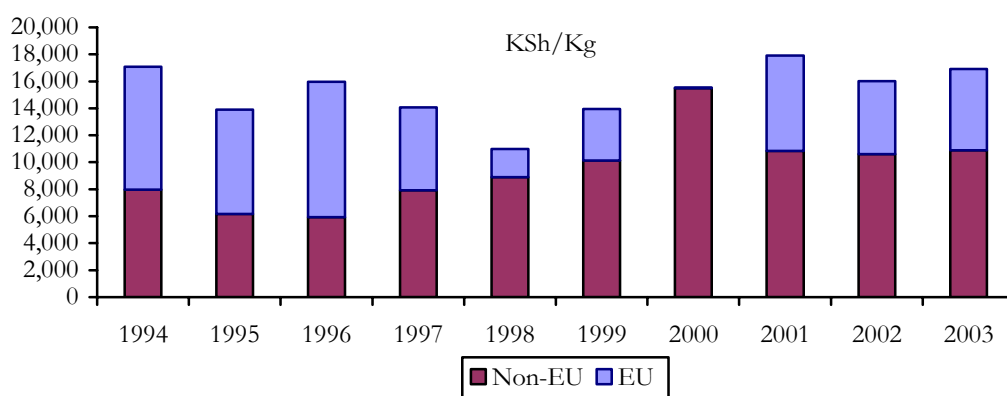
Whilst many of the industrial fish processors were able to offset the loss of access to the EU through diversion to alternative markets and more recently have regained a number of their EU customers, the sector is facing immense challenges that are likely to bring about further

¹⁹ An additional factor explaining the decline in price of Nile perch fillets is the appreciation of the Euro against the US dollar.

rationalization. Thus, of the 16 fish processing facilities in Kenya, only nine are currently operational, and a number of these facilities are a long way from full capacity. Six companies account of all of the currently operational capacity.

The major challenge facing the sector relates to the decline in landed catch of Nile perch. Not only has this meant that processing facilities have been operating well below capacity, making it difficult for many to recoup the investments made in upgrading food safety controls, but the price of their key input has increased significantly in recent years. The profit margin on Nile perch exports was already low, whilst the increase in Nile perch for processing has meant that many of these operations are operating at a loss. Thus, the major operators have made significant investments in Tanzania and/or Uganda where supplies of fish are more plentiful. Further, the impression is that these operators are waiting for things to improve, as more marginal companies leave the sector. Within the next five years it is not unlikely that only five processing facilities will remain.

Figure 6. Volume of Nile perch exports to EU and non-EU markets, 1994-2003:



Source: Fisheries Department.

Perhaps the one ‘hope on the horizon’ for the Nile perch processing sector in Kenya is the coming into force of the East African Community in January 2005. If, as is expected, this enables the free movement of fish across the three countries bordering Lake Victoria, the potential supply of fish should increase. The view of the industry is that, under such conditions, processing of Nile perch will ‘logically’ occur in Kenya given the historical dominance of the sector around the Lake. However, this ignores that fact that the processing sector in both Tanzania and Uganda has expanded rapidly in recent years. Whilst Kenya does benefit from superior and less costly transport infrastructure, there are questions over the extent to which this will act to disadvantage facilities in Tanzania and Uganda in a world of free movement of Nile perch.

One of the most important changes brought about by the restrictions on exports to the EU is the level and nature of cooperation within the industrial fish processing sector in Kenya. Historically, there was little or no cooperation between individual operators except in times of crisis. However, in 2000 AFIPEK emerged as a viable mechanism through which the collective interests of the sector could be and individual operators could cooperate in the pursuit of collective interests. Recently, the role of AFIPEK has risen to a much higher level with the signing in April 2004 of a Memorandum of Understanding (MoU) with the Fisheries Department. This covers issues such as:

- Overall development of fishery private sector in Kenya as a vital engine to the overall sector.

- Future development of fisheries industry, such as product development and value-addition.
- Joint marketing strategies.
- Environmental management of fisheries eco-system.
- Sustainable management of fish stocks.
- Production under internationally-approved hygiene and safety standards.
- Welfare of fisher-folk, processors and exporters.

The MoU is managed by a steering committee that meets very two months and constitutes the director/head of AFIPEK and the Fisheries Department. Thus, it formally institutionalises the linkages and working relations between the two institutions.

In particular, the MoU gives an enhanced status to AFIPEK's Code of practice on hygiene standards and practices in processing facilities. In the annual approval of facilities for export, the Code of Practice is to be used as the reference standard. In practice this means that the Code, which is voluntary on the part of AFIPEK, has become a required element of the compliance process and, at the same time, augments the enforcement systems of the Fisheries Department with those of AFIPEK and the efforts towards voluntary action on the part of the processing sector itself.

The MoU also implies a more active role for AFIPEK in the regulation of fish catches, in particular the regulation of the Nile perch catch, provision of extension services, collection of information etc. For example, fish processing facilities have become the predominant point at which the landing of juvenile Nile perch is controlled. The MoU also aims to facilitate the sharing of resources and equipment between AFIPEK and the Fisheries Department, for example in the development and control of landing beaches (see below).

Whilst the signing of the MoU has undoubtedly enhanced the role of AFIPEK within the Nile perch fishery, the on-going structural change in the Nile perch processing sector has had profound impacts on its own structure. Today, the majority of its members are involved in the processing of marine products and are based in Mombasa. This suggests, perhaps, that the dominant focus of the fish and fishery products sector in Kenya is shifting away from the historical preoccupation with Lake Victoria and towards the increasing role of the marine products sector?

Landing beaches:

The one area in which significant further improvement is required is landing beaches. Whilst the Fisheries Department has identified 13 export beaches that will be gazetted as approved for export. These beaches have good road access and are already major landing sites for Nile perch, thus preventing major disruption of existing marketing patterns. The catch from these beaches will be health certified and sealed at the point of landing to facilitate traceability. The aim is that all of these beaches will be gazetted when the improvements have been made and at this point in time, exporters will not be able to purchase fish from other landing sites.

However, the progress of improvements at these beaches has been slow. Indeed, many are still in need of fundamental improvements to meet even the minimum hygiene standards, for example fencing, potable water and toilets. Key constraints limiting progress in this respect are finance and uncertainty over the ownership and designated use of the land (and the structures that would be erected) at landing sites. The Fisheries Department sees an important role for AFIPEK in the upgrading of landing sites, indeed this was a major driving force behind the MoU, but the processing sector is reluctant to make significant investments when there is the lack of effective

management at landing sites and they have a formal role in decision-making. AFIPEK would like to see a Beach management Unit (BMU) structure involving formal representatives of fishers, the fish processing sector and government. The Fisheries Department, and many of the fishing communities, however, are reluctant to implement this, fearing over-domination by the processing sector.

In addition to the development of more effective management of the fishery and landing beaches, both the Fisheries Department and AFIPEK would like to see better organisation of fish trading. Thus, the intention is to create a national organisation of fish traders, involving four separate sub-committees that would represent the interests of the industrial fish processors (AFIPK), and traders of tilapia, omena and marine products. The estimated cost of establishing this structure is around US\$12,000. AFIPEK has agreed to house this organization for the initial period of five years at zero cost.

Conclusions:

Whilst the Nile perch sector in Kenya has made the necessary adjustments in order to meet emerging food safety requirements, most notably in the EU, it has struggled to turn the process of compliance into a source of competitive advantage in the international markets it serves. Further, new challenges are emerging that will bring about continued restructuring and changes in modes of operation over the foreseeable future. Whilst the ‘fittest’ will undoubtedly survive, it is likely that the processing sector will become more consolidated over the medium term, with increasing integration with the Nile perch sector in Tanzania and Uganda.

One of the key challenges for the sector is the effective management of the Lake Victoria fishery and beaches at which fish are landed. It is evident that no clear consensus has been reached on the way forward in this respect and that this is hampering the upgrade of hygiene controls, on the one hand, and more effective management of fish catches on the other. The future evolution of the entire supply chain, and the welfare of the local fishing communities, is dependent on finding a way forward that meets the needs of all that are involved in the supply chain.

An interesting and very recent evolution that, perhaps, provides a model for Tanzania and Uganda is the establishment of a MoU between AFIPEK and the Fisheries Department, marking a new and enhanced level of cooperation between the processing sector and government. Whilst this must not serve as a vehicle through which the interests of the industrial processors are served over and above those of the local fishing communities, it does present interesting opportunities for the sharing of resources and collaboration in finding effective management strategies for the future.

3. Trade in Meat Products: Major competitive challenges

Kenya has a relatively large cattle herd, but it is not a major trader of meat in Africa. The country features a relatively low per capita consumption of meat and dairy products. Kenya’s livestock is used predominantly for supporting subsistence of rural households²⁰. Commercial activity is largely underdeveloped. Meat exports constitute less than 1% of total exports from Kenya, and its participation has been declining since 1990. The EAC region is now Kenya’s most important destination for meat exports in Africa. Eritrea, Bahrain, and the United Arab Emirates are also

²⁰ Cattle herd is estimated to be 13.5 million heads (23% of them are dairy grade cattle and the rest indigenous bred). Tanzania’s cattle herd includes 17.7 million head and goat and sheep population is much larger than Kenya’s. 60% of cattle is bred by small scale producers (85 percent in the case of milk).

important markets. Trade mainly takes place on an informal basis, especially bringing in cattle from Kenya's "porous" frontiers with neighboring countries.

The main prospects for Kenya's livestock industry lie in the production and marketing of cut meat (fresh, chilled, or frozen) and offal markets. There are opportunities for targeting exports that will cater to the deficits in regional consumption of livestock products²¹. To do so, Kenya would have to transform its livestock industry into a globally competitive one and overcome a series of fundamental constraints:

Animal health and disease management.

Disease is one of the major threats to livestock production, consumption, marketing and exports in Kenya. Like most countries in Africa, Kenya has struggled with the eradication of List A diseases like rinderpests, and others endemic diseases like trypanosomiasis, tick-bone disease, and helminthosis, for years. Significant advancement in this area is needed before Kenya can contemplate diversification into large scale meat exports. According to the EU Livestock Study (2003) the existing quarantine against CBPP has not been effective in combating the spread of the disease. Response to FMD disease is also poor; and the DVS lacks resources to support transportation and application of vaccines. Farmers have to pay KSh 60 per animal for FMD vaccine – and many cannot afford it. There is a breakdown of the quarantine and treatment measures for marketed livestock. Now pastoralists and traders have little regard for the quarantine lines since they are largely non-functional. Because of this, and to reduce the danger of transmitting diseases such as CBPP to the southern Districts, the Kenyan government permits animals to move without being quarantined on condition that they are trucked and slaughtered immediately on arrival at the destination. This system is highly susceptible to outbreaks of infectious diseases in the south of the country.

Livestock surveillance.

Surveillance can help to improve and monitor risks associated with residue levels (e.g. anti-microbials) in meat products. Different studies have shown very high presence of different residue levels showing misuse of animal drugs and other farm inputs²². DVS is involved with animal disease surveillance especially at the Kenyan borders to prevent spread of diseases from the neighboring countries. However, the development of appropriate remedial programs from the results of these surveillance activities has been slow.

Underdeveloped livestock management services.

Provision of livestock services and the development of effective breeding programs are inevitably shared between the public and private sector. There have been efforts to develop the necessary infrastructure and privatize parastatal operations in livestock management (Tambi and Maina 2004)²³.

Testing and certification of animal products is done at the DVS laboratories. Tests on antibiotics, hormones, vaccines and presence of other chemicals are occasionally undertaken through the Department of Veterinary Medicine, University of Nairobi. The department is also working closely with other organizations such as Inter-African Bureau for Animal Diseases (IBAR), who is

²¹ FAO has identified considerable deficits in various livestock products for the region in the future "Assuring Food and Nutrition Security in Africa by 2020" (April 2004).

²² Several studies have highlighted the presence of antibiotic, trypanocides and tetracycline.

²³ Tambi, N. E. and Maina, W.O. (2004). Delivery of Livestock Services: Some experiences from Sub-Saharan Africa.

implementing programs to control and eliminate livestock diseases. Some important new activities of the DVS include establishing of disease free zones, and engagement of communities through sensitization and education to actively participate in disease reporting and livestock movement control. There are also initiatives to introduce mobile screening units (2 or 3 at major markets) for CBPP where blood tests would be carried out so that animals found to be free of the disease can be cleared for marketing anywhere in the country. Staff from livestock and veterinary departments have already been trained operate these devices. Yet, despite the fact that testing and certification of livestock exports by Kenya competent authorities is recognized and accepted within the EAC region, the potential for exports is still limited by SPS and other constraints. Uganda, for example, has banned meat imports from Kenya for public health reasons that could not be ascertained by the authors. Similarly, Kenya can not export live animals to the Middle East because of concerns about Rift Valley fever.

On the infrastructure side, transportation is a big problem that significantly adds to the cost of doing business. Many animals have to be trekked rather than transported. And the few that are transported undergo very difficult conditions and road terrains that sometime result in animal deaths. A move to trade in cut and chilled meat (rather than live animals) may help reduce these constraints if animals are slaughtered closer to their breeding locations. There is also an elaborate meat transportation regulation, but these have not been properly enforced in the country. DVS officers randomly undertake inspections of trucks and other transport devices. These inspections have mainly been to respond to public concern on the quality of the meat consumed especially in the city. Yet they have shown that many hygiene requirements are not complied with. Just a few local abattoirs have adopted high standards, most of which belong to large domestic meat companies (e.g. Hurlingham abattoir at Njiru, Farmers' Choice abattoir, and the new Halal Meats slaughter house at Mombassa)²⁴. Many other local abattoirs are unregulated and operate under very poor hygienic standards.

There is significant need for encouraging unregulated abattoirs to comply with the guidelines of the Meat Control Act 1977 – particularly those related to public health, environment, and waste management. Enforcement and surveillance activities of inspectors also need tightening to ensure that quality of abattoirs are maintained. To achieve this, inspectors need to be better trained and aware of the importance of quality and food safety rules in the sector. Some proposed modifications to abattoirs have been identified in the EU Livestock study (2003). The prevalence of sub-standard and unhygienic abattoirs in the country not only poses serious health and food safety risks, it also undermines the credibility of the meat supply chain for export purposes.

Revamping current meat distribution systems (especially informal chains) is also very important for Kenya to reposition itself as a meat exporter. Here again, the effectiveness of the standardization architecture is important – especially to ensure appropriate meat handling practices along the supply chain. Wholesale markets servicing the domestic markets (e.g. Burma market) need to be revamped to cater for basic public health and sanitary requirements, environment and meat handling, transportation and packaging requirements. There is need for training and awareness building on meat handling processes. Likewise, regulations and guidelines need to be developed and enforced for domestic retail markets. Developing and enforcing minimum standards for meat handling, cooling and packaging in the domestic market is important not only to protect public health, but also to ensure that informal and substandard retailers are not crowding out formal outlets because of the cost savings they get from avoiding investments in compliance with regulatory requirements.

²⁴ EU Report 2003

With regards to meat processing, the challenges facing the industry are related to general costs of doing business rather than standards requirements. There are currently only two meat processing firms in the industry (Farmers Choice and Alpha Fine Foods), and both claim to have implemented SPS requirements as well as HACCP requirements. In each of the processing firms, there is a DVS officer whose function is to carry out inspections and monitoring to ensure that the SPS and HACCP requirements are met and maintained.

Already Kenyan government has some things in place to control the handling and movement of meat and meat products. The Meat Control Act Cap 356 of the laws of Kenya provides regulations for: export slaughter houses, local slaughter houses, meat inspection, and meat transport regulation. Meat inspection is normally carried out at the local slaughterhouses for every slaughtered animal before it can be sold to the public. DVS is also in the process of establishing disease free zones. An animal feeds bill on production and feeding of animals is also being developed. But much more than standards setting, the enforcement and monitoring of compliance with meat regulations need to be amplified.

Box 8: Meat developments from the view of the formal private sector

Farmer's Choice (FC), an exporter of livestock products such as cattle, shoats, and camels sheds some light on the challenges facing exporters of these products. FC owns an export slaughter house for pork meat and beef, and practices integrated meat management. Its biggest export market is the UAE, followed by Tanzania, Uganda, and Ethiopia. It also supplies the British army in Kenya and the American Army in the Middle East.

FC acknowledges that there are existing veterinary controls like movement permits, no objection permits, visual farm and post slaughter inspections, and so on in Kenya. However enforcement is somewhat weak, especially in the domestic industry. FC focuses its beef supply on the domestic market because it has found it difficult to export beef because of technical requirements (mainly associated with the endemic foot and mouth disease in Kenya). For example, although Kenyan standards²⁵ are acceptable to its EAC partners, Uganda still has a ban on Kenya's meat exports into the country. FC used to export sausages to Uganda, can no longer do so because of the ban. FC believes that the procedures for implementing a ban should allow for appropriate response from affected parties, before such a ban is fully imposed. FC's complaints however have much more to do with the tough competition it gets from informal "road side" meat sellers who neither invest in addressing meat quality and safety concerns, nor comply with domestic requirements.

FC has an internal quality management system, and it is in the process of securing HACCP certification with the help of funding of about 20,000 Euros from CDE. Accredited auditors for HACCP include KEBS and Bureau Veritas. FC also participates in KEBS technical committees on related issues. Personnel in FC however believe the technical committees have a "too casual" approach to standards, and the technical competence and effectiveness of members in these committees are questionable, hence they have very limited impact. The marketing of meat products is also a challenge for FC because it is very difficult to prove credence and meat quality to the unsuspecting and uninformed domestic consumer. The domestic beef industry is largely informal, and only 20% of the meat slaughter is exportable.

If Kenya is to be successful in exporting meat, it will have to position itself as a net importer or producer of high quality disease-free livestock animals and net exporter of cut meat products (especially beef). The promotion animal slaughter closer to breeding points, and the adoption of HACCP systems and appropriate meat handling, transportation, and packaging systems is critical. Foreign direct investment in large companies that are capable ascertaining consumer preferences

²⁵ Some of KEBS standards on labeling of meat products are said to be stricter than some EU standards.

across differentiated international markets and delivering consistent meat quality for exports, under better managed and controlled environments will be necessary. Similarly, uncertainties surrounding the KMC also need to be addressed in a manner that will create better incentives for the private sector to invest in improvements to the existing system. A set of workable measures should be identified and negotiated between Kenya and its neighbors to balance and pursue considerations of animal disease control, trade facilitation and the welfare of supply chain stakeholders.

4. Standards architecture and promotion of trade in Dairy products

Local production of milk have increased significantly over time to substitute for milk imports, perhaps due mainly to increased production and consumption of domestic raw milk. FAO data suggests that not only did per capita milk production increase, milk yields also increased by about 23% from 1980 to 2000. However these production increases are mostly associated with raw milk because the volume and value of imports of dry milk powder has increased four fold (Karanja 2003)²⁶. Currently, a total of 3.1 billion liters of raw milk is produced annually in Kenya. Out of this, 70% is marketed, while 30% is consumed at the household level. Of the 70% marketed, majority (60-80%) is marketed through the informal outlets (e.g. hawkers, unregistered brokers, and so on), while (20-30%) passes through the formal channels (e.g. cooperatives, registered shops, supermarkets and so on).

Simplistically, there are at least two concurrent changes observed in the Kenya's domestic market for milk. First, domestic demand for milk appears to be in favor of raw milk that is predominantly supplied unregulated by producers and traders that evade investments in food safety standards and other technical requirements (e.g. quality assurance, packaging, licensing and other requirements) and regulations, at the expense of processed milk supplied by registered processors. Anecdotal evidence suggests that about 70-80% of raw milk is marketed through informal channels. These networks of unregulated marketers have become very efficient and effective in capturing domestic market for raw milk. The milk processing industry has found it difficult to compete with the informal raw milk producing sector, and is now experiencing significant rationalization and consolidation. Karanja (2003), reports that of the 42 milk processors licensed by the KDB in 1992, only 34 were operational in 1999. Similarly, production declined from about 350 million liters in 1992 to about 152 million liters in 2001 (22% of installed capacity).

There are also concerns that production and handling processes in unregulated milk markets are very poor. As a result some analysts believe they pose a significant danger to public health. In response, government's efforts have been geared towards balancing the playing field by imposing more regulatory controls and stepping up enforcement activities against the informal sector. The notion that the unregulated dairy producers and traders lack quality assurance regimes, however, has been often challenged. Other analysts suggest that national authorities are adopting the implementation of foreign or international process standards and technical requirements that ignore local realities and practices for ensuring milk safety. These standards are believed to be biased towards formal supply chains, at the expense of the informal sector. From this premise, an alternative view has emerged that suggests that unregulated agents have ingenious (but inadequate) quality assurance mechanisms that have successfully facilitated trade without significantly undermining public health. These mechanisms are based on trust, which derives from the consumer's experience of quality of good after purchase. To further protect this trust, some segments of the informal market (e.g. brokers and milk bars) also perform basic tests (e.g.

²⁶ Karanja points out that this is partly due to the loss in domestic production of milk powder associated with problems facing the KCC, and the effects of the 1999/00 drought

organoleptic tests to detect spoilage, use of lactometers to detect adulteration, alcohol control tests, and clot boiling tests) especially for consumers (e.g. in Nairobi area) who are willing to renegotiate a higher price for the additional information of milk quality. These practices help reduce transaction costs associated with investments in processing, packaging and certification systems and associated inefficiencies in formal licensing and registration processes. Food handling practices of consumers (e.g. boiling raw milk before consumption) have also helped to reduce the risk of bacterial related food borne illnesses that may result from consumption of mishandled milk.

More recent research however shows that public health concerns about unregulated raw milk marketing have some legitimacy. Omore et al (2004) for example recently concluded a sample assessment of the raw milk market in Kenya. The presence of anti-microbial residues was the main public health concern associated with consumption of raw milk marketed through the informal market. This result has implications for long term public health and prospects for large scale exports of raw or pasteurized milk and milk products in Kenya. The prevalence of anti-microbial residues in Kenya's raw milk is evidence of inappropriate use of antimicrobials by the producers, and this may pose significant constraints to exports of Kenya's raw or pasteurized milk to other countries with stringent disease control requirements. Presence of anti-microbial residues suggests that there are more fundamental problems with livestock management, disease control and treatment, and animal feed practices in the country as a whole, and a national program needs to be developed to address this problem.

Thus, further gains in domestic milk production, food safety, and prospects for exports are constrained by a wide range of challenges outside the purview of informal marketing channels per se. While poor hygienic practices in milk handling and poor milk collection, and transport methods can be addressed through increased awareness building and training, programs that increase access to credit for unregulated marketing agents, and improvements in rural transport infrastructure; the control of anti-microbials will require a more thorough framework for augmenting livestock development and management practices in both formal and informal livestock supply chains (e.g. disease management, inadequacies in procurement and use of animal feeds, inadequate access to animal health services in rural areas because of limited private sector activity there, slow development of breeding services associated with inefficiencies in the A.I market and so on). In particular, seasonal fluctuations in feed quality and quantity; inadequate technical and human resources among standardization organizations to educate farmers on feed conversion and disease control, and weak monitoring of compliance with various requirements for feed standards. Also, not only are the inputs (e.g. fertilizer) used to promote feed production expensive, there are concerns about adulteration and sub-standard quality of animal feeds largely due to weakness in the regulatory and surveillance systems. These unethical practices are not only costly to the farmers; they also undermine the yield quality of livestock, and may pose health hazards to the animals themselves. Ultimately, the Kenyan government will need to balance the possible benefits to livestock production against the medical risk and public health consequences of using antimicrobials in a manner that will ensure that animals are healthy and are not a reservoir for antimicrobial-resistant bacteria.

With respect to informal marketing channels for raw milk, the question facing government policy makers is not whether milk standards are compromised. Evidence suggests that they are. Rather, policy makers now need to find appropriate mechanisms that can help informal traders augment milk handling and distribution practices from a public health protection perspective. The answer to this lies in defining practical codes of practice for informal milk producers and marketers, improving public awareness, extension and training programs. These programs have to drive

towards some set standards. However, the basis for these standards should be scientific assessment and cost benefit analysis in order to avoid “overregulation”. Excessive regulation may be difficult and impractical to implement within the local context, and may push more economic activities into the informal sector. Moreover, where enforcement of stricter regulations is successful, the impact on domestic trade and welfare may be negative, if it increases the cost of trade without significantly reducing the risk of associated food borne diseases.

Furthermore, weak public-sector implementation of regulations may result in other inefficiencies that can encourage more informal activities. For example, Karanja (2003) reports that small farmers, milk bars, and cottages licensed under the KDB complained of delays associated with the cumbersome process of the issuance of licenses. This bottleneck has inspired the development of a “retailer franchise system”²⁷ targeted at evading lowering cost of doing business by avoiding licensing fees and other charges.

Interviews with officials of the KDB confirm that the agency is intensifying its awareness building campaign. It has established mechanisms of working with milk hawkers to implement the code of hygienic practice for production, handling and distribution of milk and milk products. It is also advising them on how to handle the milk, how to move it and how to handle the related equipment. The board is also training the informal sector on some dairy techniques, proper handling, basic milk handling and value addition procedures. However, for education and awareness building to work, and for informal markets to have long term positive growth impact on the economy without posing significant threats to public health, better integration into policy making is necessary. Complementary programs that help build up social pressure that will induce self regulation among informal milk traders is also essential.

Consumer education is perhaps one other area where investments in awareness building can induce the highest levels of social pressure on informal milk suppliers. Such pressure will create stronger incentives for the informal market to respond more quickly, efficiently, and effectively to consumers’ concerns about product quality. Audit, market monitoring, and surveillance activities of the government (e.g. increase germ count and cell count tests) also need to be beefed up to provide better information to consumers, and to act as deterrence against unscrupulous players in the market. Streamlining the regulatory burden and reducing red tape is also essential (especially in licensing) so that less informal marketers willing to formalize their activities will be deterred from doing so as a result of significantly higher transaction costs. All these initiatives should be underpinned by a coherent domestic trade promotion policy specifically developed for the informal sector²⁸.

Developing a domestic trade promotion policy for the informal sector can be very helpful for addressing food safety concerns that may emerge from unregulated trade in milk products within the Eastern Africa region. Informal marketing channels also account for up to 80% of trade in raw milk in Tanzania and Uganda. With the opening up of trade through the EAC Customs Union arrangements, majority of the regional trade in milk products within the region will most likely be conducted through informal channels. The threat of regional transmission of milk-borne diseases will be more likely. Emerging evidence points to occurrences of adulteration of raw milk with

²⁷ Karanja’s description of this system corresponds to a form of self regulation where a licensed trader allows others to use his franchise informally, but ensures that they meet required standards so that he does not lose trust and credibility in the market place.

²⁸ This should augment current efforts in the Dairy Industry Bill, which has still not yet passed through parliament since 1997.

water, hydrogen peroxide, and sodium bicarbonate in Uganda and weak handling practices as well. Kenya's standardization architecture for milk products is currently more developed than others countries in Eastern and Southern African (ESA) region. If left unchecked, natural weaknesses in cross border enforcement capacity, may most likely result in a race to the bottom within the informal traders across the region.

Basic cross border certification arrangements, monitoring and surveillance systems, and enforcement procedures need to be defined with Kenya's neighbors. Already, harmonization of dairy standards are about to start and Kenya Standards are the standards likely to be adopted. There is also a suggestion of establishing a regional dairy board. If this is adopted, then it will hasten the process of the regional dairy standards harmonization. In all these processes, informal marketers should be included as major stakeholders in the standardization process.

With respect to the milk processing industry, the notion that the "unfair" competition from informal marketers (because they invest less in quality management) undermines competitiveness processing firms is not entirely correct. Research shows that milk processors in Kenya face three main competitive challenges, which are unrelated to food safety compliance costs. First, the decline in domestic demand for processed milk (in favor of raw milk) is driven more by price, consumer taste, income level, and other preferences (e.g. unlike many processing plants, informal markets have been able to create delivery channels that reach the remotest parts of Kenya to supply raw milk). Consumers do not make chemical or physical analysis of the milk they buy. Rather they use the product, and react to its ability to satisfy their wants. Research shows that based on this judgment, consumers in Kenya currently have a preference for raw milk over pasteurized or powdered milk, irrespective of the source of supply. Second, more than the costs of cooling and quality assurance, the cost of processing and packaging milk is higher, and this resulted in higher consumer prices for processed milk relative to raw milk. High packaging costs are attributed to monopolistic structure of the packaging industry. Third, conversion of processed milk into powder and other milk byproducts is still embryonic in Kenya, partly because processors have been inward looking, and have not explored large scale product development for export markets. Except for KCC whose 9000mt capacity is underutilized by about 50%, local capacity for producing milk powder or other dairy products is almost non-existent in the milk processing industry (Karanja 2003). Inefficiencies in pricing and marketing, institutional and governance problems associated with reforms of the KCC, and the low investments in dairy processing technology have undermined productivity in this sector.

The question facing policy makers in the processed milk sub-sector therefore is not that of domestic food safety concerns, but of product and market development, production efficiency and competitiveness, and export promotion. Potential export markets include countries in Middle East, North and Sub-Saharan Africa who are net importers of dairy products. In promoting exports however, standards and technical regulations linked to targeted export markets will become an important issue because of public health concerns in these markets. Currently, domestic production of milk in Kenya is slightly at par with local demand. Studies also show that the most competitive milk producers are large scale farmers. They produce higher yields per cow per land use, make more effective use of breeding technologies (e.g. artificial insemination) and apply more robust use of animal feeds and supplements. In terms of competitiveness, research also shows that current production costs in Kenya are 27% more than in New Zealand, and comparable to those in Australia. Thus, with the reduction in domestic costs of doing business (e.g. cost of inputs, transportation, packaging and so on) Kenya can become globally competitive in the production of raw milk.

A good quality regime that will support export of dairy products will require deeper integration of informal dairy production sector and the formal dairy processing firms – particularly in the control of residue levels in milk. The promotion of HACCP based systems along milk export supply chains will also be necessary for firms interested in servicing the export market. The size and economies of scale necessary to support heavy investments in HACCP processes, distribution and other technology improvements in milk production and processing for export markets suggests that exporting activity will be better suited to large vertically integrated firms, backed by a lot of foreign direct investment. In this regard, the current consolidation of the Kenya dairy processing sub-sector may turn out positively to enhance export potential. Targeted compliance with the requirements of major customers' vendor assurance systems (e.g. ISO standards) in specific markets may also be necessary, where these differ from Codex standards. Currently only one company is said to have ISO certification in the industry.

Lastly, the national standardization architecture should also be comprehensive enough to monitor and control the standards for animal feeds industry to ensure that producers (and traders) comply adequately with international technical requirements for feed production, distribution, and use. To address all these constraints, the development of an export strategy for the dairy processing sector is a necessary first step.

5. Improving quality and reducing costs of agricultural inputs: the case of seeds.

Scrutiny of farm inputs is becoming a core aspect of food safety. There is now increasing prominence of product standards like maximum residue levels (e.g. in fresh fruits and vegetable, meat, pyrethrum and so on) that monitor chemical content in food linked to use of agrochemicals (particularly pesticides and fertilizers). Labeling standards that address the use of genetically modified seeds, and so on, are also becoming prominent. Furthermore, in many developing countries, unfair domestic trade practices like adulteration and counterfeiting of packaged farm inputs are increasingly becoming an area of concern for regulators and food producers alike. Put together, these issues significantly affect the yield and quality of production, and may pose a threat to food security if left unchecked.

Cost of purchasing and application of inputs can be very high for specific products in Kenya because of certain constraints or bottlenecks associated with SQMT-related controls in the supply chain. For example, research shows that the cost of spraying is the highest of all other coffee production activities of small growers in Kenya (World Bank PSD study 2004) despite the fact that farmers use less than adequate amounts of pesticides. This is partly because costs of pesticides are very high. Imperfections in the domestic pesticide market, constraints on imports and effective distribution, and bottlenecks in SQMT procedures (e.g. pesticide registration requirements, poor surveillance of adulterated products, and so on) drive up prices and induce informal markets. Any attempt to diversify or intensify exports therefore should include a focus on the availability, quality and price of agro-inputs.

Seeds are particularly important for agricultural exports because they are the first important ingredient in the supply chain of any agro-product. There are strong linkages between the availability and quality of seeds, and the yield, safety and value of food products. The use of sub-standard seeds will almost inevitably result in poor output, quality and product yield that will affect the output, quality and yield of any value added that may occur in the food value chain. Therefore the availability of good quality and affordable seeds on a timely basis to farmers is a critical component of Kenya's export promotion and diversification strategy.

The Seeds and Plant Varieties Act (Cap 326) is the main legal instrument governing the seed industry. However other Acts enforced by other institutions are also applicable to the industry (e.g. the Plant Protection Act (Cap 324), the Pest Control Products Act (Cap 346), and Commodity Acts). Since full liberalization in 1996 more private companies have entered the seed market. From about 31 companies in 1999, there are now about 46 registered seed companies involved in the cereals and oil crops (Draft Seed Policy 2004). Yet, according to this report, the seed industry still faces a number of challenges: (1) private sector has concentrated only on commercially viable crops at the expense of needs of the ASAL areas, and availability and pricing of seeds is still problematic (2) Infiltration of adulterated seed in the market causes losses to farmers. The issue of adulterated seed trade is amplified during seed drought when devious traders take advantage of small growers, or unsuspecting NGOs supply contaminated seed destined for relief programs (3) land tenure and division issues have caused seed growers difficulty, in certain cases, in complying with stipulated isolation distances. This has resulted in compromising seed quality (Press Release by Minister MAARD, October 2004). There is also huge informal production and marketing of seeds in Kenya. The Draft Kenya Seed Policy estimates about 80% of seeds comes from the informal sector

The Kenya seed industry has well functioning business associations. There is the Seed Trade Association of Kenya (STAK) established in 1982 to act as a forum for interaction and exchange of seed information; represent the interests of the seed sector; promote formal seed trade; and act as “watchdog” for registered seed companies. STAK is also involved in promoting activities that facilitate regional harmonization for the movement of seeds. There is also a Plant Breeders Association of Kenya which supports plant breeders with securing intellectual property rights, information training, research and publications that help them improve production. It also advises government on policies related to quality control, and other related issues including control, exchange and use of plant genetic resources and biodiversity. Lastly, a number of registered agents and stockists officially registered with the national regulatory agency help distribute seeds and disseminate related information.

Among the main challenges, mostly highlighted in the Draft Seed Policy Paper, are:

- The need to improve coordination and promote better integration among public and private institutions involved in seed quality management. Clarification of roles and capacity building among these institutions will also be necessary especially in the area of information management, enforcement, and operationalization of arbitration mechanisms.
- The need to reduce the involvement of government in seed management affairs, and to revise the legal framework to accommodate for dynamic changes in the society. Acquiring seed production and processing certifications is a cumbersome task (see table below for a description of certification process). For example, the reports points out that it takes a long time to evaluate, release, and register new varieties because compliance to procedural requirements is very time consuming. Similarly, the Seed and Plant Varieties Act requires that the National Regulatory Agency inspect machinery before harvest, supervise the delivery of crop, seed processing, labeling, and monitoring at distribution points. These requirements cause delays in seed processing and distribution, and add to costs of compliance.
- The need to refocus the direction of crop research on ASAL areas rather than rain-fed agriculture, and to improve research-extension-farmer linkages to support better adoption of new technologies and seed varieties by farmers. Particular attention should be placed in encouraging better coordination among research institutes (e.g. CRF, TRFK, KESREF, KEFRI), and between them and other agents along the seed supply chain and farmers. The creation of

appropriate financing mechanisms that will support seed farmers, processors and users to invest in new varieties and technologies is also important.

- The need to strengthen seed quality control, testing, monitoring and surveillance capacity from a public-private enforcement perspective to ensure the purity of seeds, germination capacity, genetic integrity and freedom from disease (especially for vegetable, flowers, and tree seeds).
- The need to pursue harmonization of policies, procedures and standards within EAC and COMESA to facilitate availability of high quality farming materials to farmers through a wider regional production and distribution chain. There is also a need to harmonize the interpretations of procedures for variety testing, description, release, certification and requirements for DUS among various institutions within Kenya, as well as the region.
- The need to clearly define certification procedures and standards for crops and trees that do not have any variety maintenance programs, in order to reduce conflict between the National Regulatory Agency and seed dealers in the production and processing of seeds under this category.
- The need to address the opacity and elusiveness of certification in the informal seed market which is the source of about 80% of the seeds used in the country. Closely linked to this is the need to address adulteration, counterfeiting, and fake seed products. This requires increased attention to surveillance and enforcement of quality management along the seed distribution, storage, and marketing chain.
- The need to improve the competition, information and functioning of the seed market to prevent monopolistic practices that lead to high seed prices
- The need to review the Seeds and Plant Varieties Act to accommodate the above recommendations, and to allow National Regulatory Agency improve service delivery by involving the private sector in the provision of relevant SQMT services (e.g. seed testing, certification, supervision of machinery, seed sampling, inspection, and so on)

A number of initiatives are already on the way to address some of these concerns. For example, there is a Technical Committee already reviewing the seed laws (i.e. Seeds and Plant Varieties Act Cap 326, Plant Breeders Rights Bill 2002, and the Plant Protection Act Cap 324). A Draft Seed Bill 2003 was produced, and now provides for private seed enterprises to undertake some aspects of seed certification services. A Plant Variety Bill was also produced in 2003 in compliance with UPOV 1991 Convention with new inclusions (e.g. powers of arrest by seed inspectors, and excessive fines for offences). The process for Seed evaluation and registration has also been streamlined in the following areas: (1) Release committees have been reduced from 3 to 2 – the National Performance Trials Committee in charge of technical details, and the National Variety Release Committee (NVRC) in charge of policy issues. (2) National Variety Performance Trials now take 1 or 2 seasons instead of 3 years. (3) NVRC now meets more regularly to facilitate more speedy variety release. These reviews have helped to increase the number of releases by private companies. There is now a draft National Seed Variety List that is under ongoing review by KEPHIS. This information is helpful for investors interested in prospects in the seed industry. The list will also help surveillance and inspection activities of the regulatory agency. However, the lack of clear procedures on access by seed companies to publicly held varieties remains an unresolved bottleneck (STAK 2004).