

## **Standards and Agro-Food Exports (SAFE): Identifying Challenges and Outcomes for Developing Countries**

- Joint research programme application to FFU embodying:**
- **a research capacity building (ENRECA) component in Tanzania**
  - **research and outreach activities linked to Danida's BSPS in Tanzania**
    - **research sub-projects based at DIIS**

*NB: this is the original project proposal developed in 2004; current activities may differ*

### **Introduction**

Standards are replacing tariffs as the main trade barriers facing developing country agro-food exports. They derive from public and private sources. Public standards are set at the international, regional and national levels – ultimately with reference to the Codex Alimentarius.<sup>i</sup> Private standards are set by firms, industry organisations, and by NGOs. The project focuses upon new standards that are emerging from both sources, and the challenges they present to developing country producers and exporters. Specifically, it examines:

- The setting and implementation of new health and safety-related standards for agro-food products, as well as new welfare-related standards – with a focus on public and private standards in the EU;
- The levels of compliance with new standards by producers and exporters in developing countries, costs and benefits, and pre-conditions and consequences (including distributional ones) of compliance and non-compliance.

The objectives of the project are to:

- Identify the main challenges in the realm of agro-food standards facing developing country producers, and – via comparative work – the best practices for meeting them;
- Build a resource base in Denmark and in Danida-partner countries that better understands these challenges;
- Develop links between this resource base and the stakeholders of Danida's BSPS programmes and strengthen the capacity of these stakeholders to contribute to business sector development;
- Build links between researchers directly working on these issues in the countries of focus, and others working on them elsewhere in the EU, USA and South Asia.

The project's four main activities comprise:

1. Research activities and capacity building at Sokoine University of Agriculture<sup>ii</sup> (SUA), Tanzania: training of Tanzanian PhD candidates, upgrading research capacity of more senior academic staff;
2. Research activities and capacity building at DIIS: training of Danish PhD and post-doc;
3. Developing outputs in Tanzania in the form of training materials and local consultancy expertise that can strengthen standards awareness, engagement in certification, and more effective participation in international public standard-setting fora.<sup>iii</sup>
4. International research and policy networking (related to Activities 1 and 2).

Total length of project: December 2004 – November 2008 (some PhD activities in Tanzania to continue until February 2010)

## **Background**

### Trade, non-traditional agro-food exports and developing countries

In the global economy in the last two decades, exports have been growing much faster than gross domestic product (GDP), and trade has been playing an increasing role in global income generation and distribution. But world trade is highly concentrated and becoming more so. While least developed countries (LDCs) account for 40% of world population, they account for less than 3% of world trade. Increasing their capacity to trade would reduce their aid dependence. Trade can also increase the levels of income in the hands of their poor – especially where exports are based on labour-intensive activities such as cash-crop cultivation. In these cases, trade directly generates income, employment and household-level investment resources. Trade also widens access to markets for capital and new technologies, which can promote economic growth and increased levels of employment. Finally, it can support social sector investment.

Export levels in African LDCs are particularly worrying, not only because they are low, but also because they are declining. For the 20 African non-oil exporting LDCs, average annual rates of export growth were 2.4% for 1990-2000 and only 0.3% between 1995 and 2002 (WTO 2003).<sup>iv</sup> This data reflects a failure of African LDCs to diversify their exports, including diversifying its agricultural exports away from commodities toward higher-value agro-food (henceforth simply ‘agro-food’) products. The latter differ from the former in two main respects. Firstly, their prices are far more stable. Unit prices of shrimp and fresh fruit rose over the period between 1993-95 and 2000-02, while those for fresh meats fell by just under 2%. Over the same period, unit prices for cocoa fell by 6%, those for cotton fell by over a third and those for coffee by over half (WTO op. cit.). This reflects another difference between the two, namely that demand for higher-value agro-food products is more elastic and less subject to substitution.

Agro-food exports represent a rising share of international food trade, but their production and export is dominated by Asian and Latin American countries. In only a handful of cases (e.g., horticultural products and cut flowers in Kenya) have African countries established a meaningful presence in the global market. A key barrier to market entry has been standards. Standards for these categories of product are high and escalating, largely as a result of the greater sensitivity of Northern consumers – who represent their main end markets – to food safety and ethical questions.

### Changes in standards and in their salience

‘Standards are agreed criteria . . . by which a product or a service’s performance, its technical and physical characteristics, and/or the process, and conditions, under which it has been produced or delivered, can be assessed’ (Nadvi and Wältring 2002: 6). In the EU, public standards emanate from national governments, the EU Commission and Parliament and from international standard-setting bodies. Private standards emanate from firms, NGOs and industry-supported organisations such as the International Standards Organisation (ISO). In economics, standards are regarded as codified statements about quality, and are thus classified according to what kind of quality attribute they measure (Tirole 1988). The most simple refer to ‘search’ attributes, which can be verified at the time of transaction (the colour of an apple). Somewhat more demanding standards apply to ‘experience’ attributes, which are verifiable only after purchase (the taste of an apple). The most demanding standards apply to ‘credence’ attributes, that cannot be directly measured at all (whether the apple has been produced organically), but have to be taken on trust. The increasing prevalence of more demanding standards – and heightened problems associated with reconciling standards of different levels of complexity – is not merely a feature of trade between developing countries and developed ones for fresh agricultural products, but reflects a number of wider social and especially

economic changes. Socially, Northern consumers are demanding higher levels of food safety in the wake of broadened awareness of risks ranging from salmonella to BSE. Many are also seeking ways to consume that reflect their ethical preferences, in terms of environmental and/or labour conditions. This is reflected by the emergence of standards that require more complex and comprehensive assurance of conformity than was the case even in the recent past.

Alongside consumer concerns, two inter-related economic sources of new and more demanding standards can be identified. Firstly, product differentiation has become a key competitive advantage, especially in sectors where aggregate demand tends to be stagnant. Development of or conformity to new generations of standards represents an important resource for large firms to stimulate and manage demand in this context. Secondly, structural changes in retail sectors (including in some Southern markets, see Riordan & Berdegué 2002) have led to the emergence of supply chains 'dedicated' to leading supermarkets who are able, as a result, to directly determine and monitor their own requirements.

As a result of these trends, developing countries face: (1) standards from a wider range of (sometimes inconsistent) sources; (2) a larger number of standards; and (3) more standards encompassing 'credence' attributes. Conformity to these is associated with verification of processes or systems, rather than product testing. Associated with this has been a rise in the importance given to comprehensive record keeping, in so-called 'third-party certification' and in certification organisations. These developments raise questions concerning not only the trade capacity of developing countries, but also their capacity to influence standard-setting processes. A growing gap is appearing between the nature of standards and standard-setting in the North and the South. This is demonstrated, *inter alia*, by the highly uneven participation of developing countries in the Codex Alimentarius.

### Tanzania

The main developing country case study chosen for this project is Tanzania. Typically for an African LDC, Tanzania's exports remain highly dependent on traditional export crop exports (cashew nuts, coffee, cotton, tobacco, and tea). Aside from fish, it has little or no involvement in higher-value agro-food exports. Meanwhile, its experience with fish demonstrates both the opportunities and challenges represented by standards. Tanzania's exports of Nile Perch from Lake Victoria rose from €25 mn. in 1995-96 to €127 mn. in 2000-01 (Eurostat Comext database), after achieving full conformity with EU health standards. But this trend conceals a collapse of exports during 1998 and 1999/2000 as a result of two health-related EU import bans. Moreover, conformity with EU standards was achieved largely through local private initiatives and the use of foreign testing facilities. The national trade- and standards-facilitating institutional environment remains weak. However, the latter is currently subject to concerted interventions by Danida, through its BSPS, and by other donors. A significant challenge is to understand the specificity of the standards-related agro-food export challenge in Tanzania, and the lessons that can be imparted by the generally more successful experience of countries like India, Kenya, Vietnam and Uganda.

### **Theoretical framework**

Standards first received theoretical attention with the emergence of an economics of information. While orthodox neo-classical models of market equilibrium assumed that products exchanged had homogenous quality attributes and that therefore all consumers had perfect information about them, Akerlof (1970) introduced the notion that product quality could be good or defective. Therefore, he argued, information about product quality was inherently asymmetrical between buyers and sellers. The market failure which might follow from this (as a result of buyer uncertainty) could be removed only by sellers signalling quality by means such as standards. This perspective was taken further by

Williamson (1989), for whom standards are one of a series of institutional arrangements which have evolved to minimise transaction costs arising from actors' searching for information. By implication, standards are always institutionally 'efficient', by virtue of overcoming market failure. Within New Institutional Economics (NIE), this position has been challenged by Barzel (1997). He observes that, under certain circumstances, standards allow markets to 'get by', while simultaneously allowing appropriation of the value of a part of the product exchanged whose characteristics are not measurable by all actors. Arguably, the more that experience and especially credence standards dominate, the more likely it is that value appropriation will occur – since these standards are potentially associated with high levels of information asymmetry. In addition, as North (1990) suggests, 'inefficient institutions' may persist for long periods of time, when they fit the interests of powerful groups. For this reasons, and also because standard-setting involves a larger range of actors than those participating in related economic transactions, it is useful to combine NIE with analyses of public policy processes, so that standards are seen not only in terms of overcoming market failure, but also as outcomes of public concerns, policy proposals, and of regulatory configurations.

Analysis of public policy in the realm of health and safety standards has followed a similar evolution to that of public policy generally, from a focus on identifying 'decision-makers', through public choice theories, to growing attention to the role of policy networks/communities and of normative discourses concerning regulation (Parsons 1995; Fischer 1999). Policy networks comprise formal/informal contacts and relationships between groups and individuals, which shape policy agendas and decision-making. They may be more or less well-organised and 'entrepreneurial', and be focused on broader or narrower ranges of concern. Haas (1990) draws particular attention to the role of what he calls 'epistemic communities' of professionals who 'share a commitment to a common causal model and a common set of political values', and seek to broker alliances with decision-makers in order to translate these into public policies. Haas argues that natural scientists as a 'community' have played an increasingly influential role since 1945. In contrast, Bernstein (2001) and Power (1997) note the pervasive recent influence of economists – expressed however less in specific policies than in terms of a new generation of public regulatory principles (indirect and audit-based). It is worth noting that all the authors discussed here confine themselves to the 'agenda setting' and policy formulation stages of the policy cycle. In regard to 'implementation', a convergence has occurred around the proposition that policy may be comprehensively re-made at this stage, where those trying to adjust organisations to the needs of a policy are typically only a minority of relevant actors (Hjern & Porter 1981).

The main empirical context examined here, namely trade between the South and the North, suggests the usefulness of a third departure point. Standards are only one institutional means of trade coordination and their implementation is always tied to others. NIE suggests that these include different types of contractual relation (e.g., vertical coordination and spot market transactions) and combinations of them. While this vocabulary is useful, it is limited in the sense that it excludes links between the prevalence of given contractual forms (e.g., Arrighi's [1994: 343] 'multi-layered contractual systems'), the specificities of specific types of product, and changes in the real economy. Global Value Chain (GVC) analysis, by contrast, examines trade coordination institutions in terms of whether products are capital- or labour-intensive, and the economic characteristics of those groups of private actors who command *market power* in relation to given products. The latter use this power to purposefully set quality/standards, price and contractual parameters for how these goods are to be produced, bought and sold. This perspective rests on the insight that global trade, in the present period, is characterised increasingly by tiered layers of arms' length, but repeated, contractual relations between independent firms, coordinated by large retailers and branded marketers (Gereffi 1994, Raikes, Jensen & Ponte 2000).

## Research questions and their theoretical rationales

1. *To what extent and in what ways are agro-food standards and standard-setting processes changing, and in what ways are these standards being practically implemented in the North?*

- What are the salient public and private standards in the EU, are these changing and - if so – in what direction? In what broader policy-making and regulative context is this occurring? What roles in this context are played by changing consumer concerns, by different public bodies, by international standard-setting organisations, and by specific ‘policy communities’?
- How are these standards being publicly implemented in different EU end-markets?
- What changes have occurred in the supply-chains for the products examined as a result of the adoption of new standards?

*Rationale:* As noted, the policy process literature has become increasingly preoccupied with the emergence of broad regulative paradigms. Such paradigms may imply specific roles for particular institutions, groups of experts and fields of expert knowledge (Miller & Rose 1992). As a result, they tend to favour (for example) standards that take a particular form. Given widespread claims that, both in the EU and in many member states, there is a trend toward a market-based paradigm entailing ‘governing at a distance’<sup>v</sup> (Power op. cit., Strathern 2000), it is worth examining whether standards and standard-setting for the products concerned are converging, and if so in which ways and with what implications.

While emphasising convergence in (types of) public rules, the literature described also stresses the heightened role of private organisations in implementation. In relation to rules set at EU-level, a complementary literature (From & Stava 1993) explores uneven interpretation and implementation between member states.<sup>vi</sup> As for private implementation, Gibbon & Ponte (forthcoming) suggest that changes in standards and developments in the ‘governance’ of retailer-led value-chains inter-relate in two ways. Firstly, differentiating products in respect of their degree of conformity to new standards has become a key resource for gaining consumer market share. Secondly, escalation in standards is associated with restructuring of value-chains. Because new generations of standards cost more to monitor and enforce than earlier ones, lead actors outsource chain management to so-called first-tier suppliers. The latter then try to reduce their own costs by favouring more codified versions of standards, using third parties to certify second-tier supplier conformity, and relying on fewer second-tier suppliers whose conformity with a range of standards they are certain of. Hence escalation of standards may be associated with supply-base concentration.

2. *To what extent have enterprises in Tanzania and other developing countries achieved conformity with these standards, what barriers have they overcome to do so, and what costs and benefits are associated with conformity?*

- What levels of participation in exports have been achieved, in which markets and market segments, through which market channels, and by which categories of enterprise?
- What micro- and meso-level factors are most salient for firm-level conformity/non-conformity?
- What are the micro-level costs and benefits of conformity? In what ways do these vary by standard, market channel, type of enterprise organisation and local agro-ecological conditions?

*Rationale:* Conventional trade economics tends to study trade performance mainly in terms of export growth, trade integration, export diversification, and the macro-economic conditions favouring their achievement. By contrast, GVC analysis enables more meso- and micro-level types of questions about trade performance to be asked. Value-chains, according to this tradition, are made up by a series of individual filaments linking producers in (e.g.) developing countries to those

in developed ones. A systematic relation is posited between the nature and level of rewards that producers obtain from participation in GVCs, and the precise characteristics of these filaments (Gibbon 2003a). These can be analysed in terms of the national end-market supplied, the segment served in this market and how many and what kind of intermediaries are present between producer and lead firm.

NIE addresses the factors relevant to firm-level conformity with standards, in terms of the concept of entry barriers. In doing so, it modifies the assumptions implicit in orthodox discussions of entry barriers (Bain 1956), which see these in terms of short-term competitive advantages arising from firm-level innovation. For NIE, entry barriers are closely associated with regulation (including new standards), and have a more structural basis. Jensen (2003) and Chan & King (2000) identify three standard-related barriers. Firstly, economies of scale will increase if conforming to standards entails needs for lumpy investments and increased measurement costs. Secondly, markets for inputs (new or in higher demand as a result of standards) may be revealed as imperfect. Thirdly, transaction costs of investment may increase, as a result of information asymmetry about what conformity entails. All schools of economic analysis highlight the centrality to supply response of micro-level cost and benefits. As GVC analysis and NIE suggest, however, systematic variations may exist in costs and benefits depending upon (respectively) market channel and type of standard.

*3. What are the local institutional pre-conditions for improved conformity with – and for influencing the content of – international standards, and what are the distributional consequences of improved conformity?*

- What sector-level organisation/efficiency factors is improved conformity associated with?
- What role do local standards institutions and other public policy initiatives play in achieving improved conformity, and under what conditions do they have international impacts?
- What are the consequences for distribution and (where applicable) worker rights of achieving improving conformity?

*Rationale:* Critical NIE discussion of radical market liberalisation argues that, while a variety of so-called public goods (e.g., quality assurance and agricultural research) are vital to the long-run success of export crop systems, such reforms inadvertently undermine their provision (Dorward, Kydd & Poulton 1998). Without them there is unlikely to be investment by individual actors in assets specific to producing the crops in question, or successful adjustment to new standards. Traditionally, public goods have been supplied by the state but, in post-liberalisation situations – where they are supplied at all – this is usually the result of private coordination, with or without the involvement of public institutions. This perspective suggests the importance of a focus on the conditions under which effective coordination arises (e.g., domination of a sector by a few private actors known to each other, external shocks, new opportunities, etc), as well as on what types of coordination for public goods provision are associated with the highest returns (e.g., standards awareness training, testing and certification programmes, investments in agricultural research, etc.).

The likely relation between standard proliferation/escalation and supply base rationalisation on the one hand, and new entry barriers on the other, suggests that the distributional impacts of new standards are likely to be mixed. Under certain circumstances, public regulation may mitigate these impacts (Gibbon 2001; 2003b). But most recent attention has focused on use of ('ethical trade'-related) 'counter-standards' such as enterprise codes of conduct and Fairtrade certification to meet these objectives. Work on the (re-)distributional effects of these standards is in its infancy.

## Project design

### General research design

- *A focus on a range of agro-food products*, selected to reflect a spread of the products for which developing countries (and Tanzania particularly) are likely to have a comparative advantage, as well as to reflect a cross-section of standards.
- *Coverage in both the North and the South of product supply-chains and of standards institutions*, in order to cover the main sources of decisions concerning standards and global supply-chain structures on the one hand, and the main sources of the products in question on the other
- *South-South national comparison*, in order to grasp the diversity of experiences in engaging with new generations of standards, and identify best practice scenarios that underlay successful engagement with them – in relation to sectoral organisation and policy/institutional environments; firm-level strategies; and distributional outcomes.
- *North-North standard-setting comparison*, in order to determine the extent to which common processes of institutionalisation are present across standards, and the extent to which this is mirrored (or not) in common processes of implementation.

### Research project structure, showing institutional responsibility for specific questions

Product	Public Standards	Private Standards	Institutional Responsibility for Northern Component	Institutional Responsibility for Tanzanian Studies	Location and Institutional Responsibility for Comparative Studies
Fish/shrimp	SPS*, HACCP** traceability	ISO 9000***	DIIS (Question 1)	SUA (Q. 2) SUA & DIIS (Q. 3)	Vietnam: DIIS (Qs. 2 & 3)
Horticulture/ Floriculture	SPS, esp. min. pesticide residues (MPRs)	Organic; EUREP-GAP; Labour standards	DIIS (Question 1)	SUA (Q. 2) SUA & DIIS (Q. 3)	Kenya, Uganda: DIIS (Qs. 2 & 3)
Spices	SPS, organics	'Cleanliness'	DIIS (Question 1)	SUA (Q. 2) SUA & DIIS (Q. 3)	India: DIIS (Qs 2 & 3)

Notes: \* SPS= Sanitary and Phytosanitary Standards; \*\* HACCP = Hazard Analysis and Critical Control Point, a preventive method aimed at reducing the risk of microbial, chemical and physical contamination in food; \*\*\* Standard on Quality Management Systems.

### Overview of research sub-projects in terms of proposed and actual funding sources

Product	Sub-projects for which RUF support is sought	Sub-projects for which funding being sought or already obtained elsewhere
Fish/shrimp	- SUA Sub-project (including a PhD*): Mdoe et al. (see Appendix 4a) - DIIS Sub-project, Post-Doc: Jensen (see Appendix 4d)	
Horticulture and Floriculture	- SUA Sub-project: Nyange et al. (see Appendix 4b) - DIIS Sub-project, PhD: Riisgaard (see Appendix 4e)	- SUA PhD: D. Shio (financed by Mzumbe University, Tanzania) (see Nyange et al, Appendix 4b) - DIIS Senior Researcher Project: P. Gibbon (financed from DIIS core funding)
Spices	- SUA Sub-project (including a PhD*): Lazaro et al (see Appendix 4c)	- DIIS Post-Doc (finance sought from SSF)
General agro-foods, standards and developing country exports		- DIIS Senior Researcher Project: S. Ponte (financed by SSF) - KVL Project: Prof. K Karantininis (fin by KVL)

\* PhDs will be registered at SUA; DIIS Senior Researchers will be providing co-supervision in order to strengthen an inter-disciplinary perspective (see Project Document, Section 2.2).

## Methodologies

The central research objectives include comparing the way that standards are experienced and adjusted to in different Southern countries (Questions 2 & 3). Another comparative dimension is different EU experiences of standard-setting/implementation. While each case study will have some unique methodological characteristics (described in the sub-project descriptions), broadly common approaches will be taken to measurement of costs and benefits of conformity to standards (Question 2), and to description of the basic elements of the standard-setting process (Question 1).

For measurement of costs and benefits, the six basic principles of cost estimation identified by MacDonald & Crutchfield (1996) will be used as a framework. These are:

1. *Universality*: all real costs and benefits have to be counted, whether private or public (national government-, donor- or NGO-financed);
2. *Recognition of transfers*: transfers between actors occur, for example, when market conditions change; no changes occur in the product and no extra costs are committed, yet some actors may earn more and others less;
3. *Recognition of substitution*: substitution occurs when the adoption of a standard makes a product more expensive and leads to consumers substituting another for it – the effects of which are transmitted to other sectors;
4. *Distinguishing the costs/benefits induced by standards from those present for other reasons*: a traceability standard, for example, will create new smallholder monitoring costs for an out-grower scheme; but if extension advice is also provided to smallholders, not all the new costs incurred will be the result of the standard;
5. *Recognition of alternatives*: the costs of meeting a given standard are not intrinsic, but depend on the method chosen to meet it; if only one method is currently available, this should still be acknowledged, since a cheaper method may be found later;
6. Given the degree of *uncertainty* typically involved in measuring costs and benefits, it is preferable to try to indicate a range within which costs and benefits might fall.

In order to guard against the tendency in many existing standards studies to focus exclusively on costs to the neglect of benefits, a list of potential benefits will be drawn up for use in the various sub-projects. These will include (e.g.) higher prices to exporters, spill-over effects of successful coordination around standards on other types of coordination, and spill-over effects of improved export food safety standards on domestic food standards.

The standard-setting process will be described in terms of the categories used in Callon's (1986) work on 'translation'. This states that institutionalisation of claims, justifications and regulatory solutions cannot be explained in terms of internal impetuses (their logical force or the political/economic influence of their sponsors). Rather, standard-setting is the outcome of a series of negotiated modifications, which at the same time are sequences in the emergence of an increasingly institutionalised context. The outlines of this context are likely to conform to the broad framework of a given regulatory paradigm, but in some cases may not. In any event, the purposeful nature of such sequences, in which three steps recur, is emphasised:

- 'problematization' (a group of actors gain acceptance from others for their 'take' on an issue);
- 'interessement' (definitions/redefinitions of roles for different groups of actors are sketched out in relation to this 'take');
- 'enrolment' (these roles are refined, new roles are added and their inter-relations are defined).

This process may be short-circuited or intersected by the purposeful actions of third parties, in which cases there is a return to the first stage or a modification to the course taken by later stages.

### Other activities for which FFU funding is sought

In addition to the research sub-projects listed, funding is sought for:

- Four annual SUA-DIIS workshops, one of which will be part of participation in an international policy research network on standards and developing country trade (START network). The network will be based on four ‘hubs’: in the US (based at MSU), the UK (based at IDS-Sussex), Tanzania/Denmark (SUA/DIIS ENRECA component) and India (based at RIS, Delhi).
- Study visit exchanges between SUA and DIIS.
- Capacity-building and related activities with Danida’s BSPS in Tanzania

### Notes

<sup>i</sup> The Codex Alimentarius is a commission created by FAO and WHO in 1963 to develop universal food standards and guidelines.

<sup>ii</sup> Department of Agricultural Economics and Agribusiness.

<sup>iii</sup> These activities will take place in consultation with the BSPS management committee and Dansk Standard.

<sup>iv</sup> Global trade grew by 6% and 3% respectively over the same periods. The data for African LDCs excludes Lesotho, the only African non-oil producing LDC not classified by WTO as a commodity exporter (WTO op. cit.).

<sup>v</sup> Reinforced, in the case of the EU, by member countries’ retention of law-making powers.

<sup>vi</sup> This refers to differences in institutional structures, spaces for conflict and bargaining, and legal traditions. For example, Napoleonic-based rule-making systems interpret compliance in terms of following an embodied principle, whereas common-law traditions tend to elaborate EU directives into inflexible regulations.

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