Standard bearers

Horticultural exports and private standards in Africa

Edited by Adeline Borot de Battisti,
James MacGregor and Andrew Graffham

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Background: This book is an output of the project small-scale producers and standards in agrifood supply chains

The project explored ways to create opportunities and identify favourable outcomes for small-scale producers in developing countries to participate in international horticultural supply chains – in particular those in the UK.

The increase of private standards, as well as the current and changing public standards impacting the horticultural sector, bring concerns that the way these supply chains are managed are also a potential barrier to entry for smaller producers and enterprises.

Over a three-year period, the project worked with food retailers, importers, standard-setting bodies, traders and producers to ensure that supply chain standards and other procurement practices do not discriminate against small-scale producers, with a focus on African export horticulture.

The project was led by the International Institute for Environment and Development (IIED) and the Natural Resources Institute (NRI) with funding support from the Department for International Development (DFID) and the Swiss Agency for Development and Cooperation (SDC).

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This book is a final output of a three-year project. All publications included in this book are downloadable at no charge from http://www.agrifoodstandards.net.

Every effort has been made by the authors to identify the sources of references cited in this book. We would be grateful to receive any information relating to incorrect or incomplete references in order that we can provide accurate information wherever possible in the future.

Abbreviations and acronyms

ACP	African, Caribbean and Pacific Group of States
AMA	Agribusiness Management Associates
ASEAN	Association of South East Asian Nations
BBC	British Broadcasting Corporation
CABI	Commonwealth Agricultural Bureau International
CAIT	Climate Analysis Indicators Tool
CCICED	China Council for International Cooperation on Environment and Development
CIPS	Chartered Institute of Purchasing and Supply
COLEACP	Comité de Liaison Europe-Afrique-Caraïbes-Pacifique
CPM	Commission on Phytosanitary Measures
CSR	Corporate Social Responsibility
CTF	Consultative Task Force
DEFRA	Department for Environment, Food and Rural Affairs
DFID	Department for International Development
ETI	Ethical Trading Initiative
EU	European Union
EUREP	Euro-Retailer Produce Working Group
FAO	Food and Agriculture Organization of the United Nations
FFV	Fresh fruit and vegetables
FPEAK	Fresh Produce Exporters Association in Kenya
g	Gram
GAP	Good agricultural practice(s)
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
Ha	Hectare
HCDA	Horticultural Crops Development Authority
IDS	Institute of Development Studies
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
IPPC	International Plant Protection Convention
IPS	Inter Press News Service
Kg	Kilogram
KHDP	Kenya Horticultural Development Program
KHE	Kenya Horticultural Exporters
LACCU	Lubulima Commercial Cooperatives Unions
LSG	Large-scale grower
MRL	Maximum residue level
NALEP	National Agricultural and Livestock Extension Programme
NGO	Non-governmental organisation
NRDC-ZEGA	Natural Resources Development College-Zambia Export Grower's Association
NRI	Natural Resources Institute

NZTT	NRDC-ZEGA Training Trust
OIE	The World Organisation for Animal Health
PIP	Pesticides Initiative Program
PVS	Private voluntary standard(s)
SDC	Swiss Agency for Development and Cooperation
SPS	Sanitary and phytosanitary
SSG	Small-scale grower
STDF	Standards and Trade Development Facility
TIPCEE	Trade and Investment Programme for Competitive Export Economy
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	UN Framework Convention on Climate Change
USAID	United States Agency for International Development
VAT	Value added tax
WHO	World Health Organization
WRI	World Resources Institute
WTO	World Trade Organization
WWF	World Wide Fund for Nature

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Foreword

Private voluntary standards (PVS) are set by the food-producing industry and retailers. There are now nearly 400 private standards governing food industry activities in operation in Europe and this recent proliferation is a major concern for industry participants struggling to comply. These standards are also proliferating globally and are increasingly defining trade with non-European suppliers to the food industry. Many of these countries and farmers are poor and operate in very different political and economic circumstances to European farmers. Indeed, some developing countries argue that the trade-restrictive impact of private standards set by powerful actors in global value chains is often greater than that of legal requirements set by governments.

A critical problem associated with the growth of private standards in developing countries is the potential exclusion of small producers from the export markets, with subsequent negative effects on household incomes. In particular, the GLOBALGAP standard is regarded as too expensive to be run by smallholders – in contrast to organic farming where a price premium for certified produce compensates for compliance costs incurred. For this reason GLOBALGAP operates Option 2, a specific certification scheme that enables farmers' groups to attain compliance.

But is there really no benefit for small producers from private standards? Several studies that have been conducted in sub-Saharan Africa and are reported in this volume offer contradictory observations – from wide exclusion of smallholders to significant growth of business for smallholders.

This book collates state-of-the-art research and analysis to explore the issues surrounding smallholders, private standards, and exports from Africa. It is built on a three-year research project conducted by the International Institute for Environment and Development (IIED) and the Natural Resources Institute (NRI), which culminated in a final workshop held in London on 27/28 March 2008. It looks at actual evidence of smallholder exclusion and the costs and benefits of inclusion in demanding export markets. It also explores opportunities to adapt requirements and develops approaches with lower costs for smallholders.

My job, as the Africa Observer in the GLOBALGAP Sector Committees and as GLOBALGAP Smallholder Ambassador for Developing Countries, is to champion the interests of smallholders in the development and implementation of the GLOBALGAP standard. Given appropriate improvements to the standard, African small-scale producers should be able to make the best rational decision about participating in the highly demanding export standard-framed market (and therefore building commercially orientated skills) or supplying less demanding markets. The fact that the voice of poorer producers is now heard in the development of the standard is a genuine breakthrough in guiding efficient decisions within the food industry that are accountable to wider global concerns over sustained contributions to Africa's rural economic development and poverty alleviation. The research, case studies and opinions in this book are the kind of material that my stakeholders and I require to make decisions informed by evidence, so that our markets can support the inclusion of good farmers.

Dr Johannes Kern, August 2008.
GLOBALGAP Sector Committees

Introduction

Trade between developed and developing countries is at once curious and alluring. In agrifood, the matched incentives for relatively rich consumers and relatively poor growers in sustaining this trade appear to provide the foundations for genuine global win–wins. At first sight, a downgraded risk of poverty through upgraded access to quality produce markets appears to be a sustainable solution, but there are considerable caveats to note. This book provides research that presents a first attempt at an in-depth, focused analysis of how new private standards are affecting the potential to realise this win–win, and reports on potential solutions.

International trade of high-value crops from sub-Saharan Africa to the European Union (EU), especially fresh fruits and vegetables that fulfil a demand for exotic and out-of-season products, provides a lucrative marketing opening for growers in sub-Saharan Africa. At a micro level, this trade offers upgraded opportunities for small-scale producers' market access and rural economic development. At a macro level, this trade offers foreign exchange earnings, balance-of-trade support and cross-subsidisation of other forms of less valuable but significant trades, and stimulates improvement in both rural transport infrastructure and services provision.

Export horticulture from Africa has grown significantly during the past 20 years. To date it has been dominated by small-scale growers, with exporters providing an important link to the UK retail and wholesale markets. Today, the production and marketing systems are intimately linked with Kenyan farmers planting to a schedule that means UK supermarket shelves are stocked with green beans every week of the year.

To growers, the market opportunities offered by the EU are some of the most financially attractive but most exacting, with access requiring compliance with a strict regulatory framework of measures designed to ensure human and plant health. Today, the measures go beyond the international requirements set under the sanitary, phytosanitary and technical barriers to trade agreements administered by the World Trade Organization.

Although European legislation represents the minimum requirement for market access, many of the larger retailers – and some wholesalers and food service companies – also require suppliers to demonstrate compliance with independently verifiable private standards such as the European retailers' protocol for good agricultural practice (GAP) for farms, GLOBALGAP.[1] The British Retail Consortium Global Technical Standard applies to processors and the rest of the food supply chain. These so-called 'private voluntary standards' (PVS) have extended the level of control by European retailers back along their supply chains to farmers worldwide.

1. In late 2007, EUREPGAP changed its title to GLOBALGAP to reflect the farm assurance standard's expanding international role. To make reading easier, the GLOBALGAP name will be used systematically here, irrespective of whether reported findings and experiences have taken place under the former EUREPGAP standard or later on. For further information visit www.globalgap.org

Such PVS both verify that producers and suppliers have the necessary management and control systems in place to ensure food safety, and stipulate a range of extra criteria relating to ethics and environmental issues.

Apart from helping to demonstrate good agricultural practice and chain of custody, and ultimately minimising risk, PVS provide a framework for improved food trade access into high-value markets. By upgrading and governing controls during production, processing and transportation, buyer confidence is increased and market access enhanced. Often, PVS also yield a range of benefits along the supply chain, helping to maintain quality, improve farm management, and increase business efficiency.

There are significant costs to be borne for such market access and these are usually paid by the supply chain participants rather than the retail organisations. PVS costs are per certification and the unit is usually the individual farm, regardless of size. African farmers, owing to their small average farm size (typically less than two hectares), find it difficult to afford the costs and fees associated with PVS compliance. These high per-farm costs reflect the fact that the standards were originally developed for much larger farms in Europe. The risks of smallholder market exclusion are well recognised, but there was little empirical evidence about the degree of rates of exclusion, the costs and benefits of compliance, and the opportunities to adapt PVS to the realities of smallholder production without compromising the standard. Neither was there much information on the importance of standards such as GLOBALGAP within the overall flow of horticulture trade from Africa to the UK.

Filling these gaps has been the primary rationale for the International Institute for Environment and Development (IIED) and the Natural Resources Institute (NRI) to undertake an extensive study over the past three years, supported by the UK Department for International Development (DFID). The aim was to analyse the impacts of PVS on smallholders in developing countries and explore opportunities for more favourable outcomes from participation in international horticultural supply chains, given the rise of private standards.[2] The project achieved this through dialogue with the various stakeholders along the supply chain, including private sector players and support partners in Europe and in sub-Saharan Africa. The project team aimed to understand agendas and priorities for each agent and work out best practices for improving trading relationships. During the course of the work, the project also encountered other major challenges to the wider sustainable development context of horticultural trade, especially the growing critique of air freight as an emblem of unsustainable consumption. A final workshop attended by stakeholder groups allowed the findings and outcomes to be summarised and shared.

2. The project outputs can be found in source papers in two series: the two-page summary 'Fresh Perspectives' briefing papers and the full length 'Fresh Insights' technical working papers, all available at www.agrifoodstandards.net.

This book is primarily a broad collection of personal voices from sub-Saharan African producers, food retailers and manufacturers, buyers and exporters, public policymakers, donors, service providers and researchers, giving a nuanced and realistic flavour of private standard experiences. These are presented here in the form of the briefing paper case studies named 'Fresh Perspectives'. Key findings are summarised for each section.

Section 1 presents a brief overview of the recent trends in PVS in the agrifood supply chain. Section 2 documents the market features and opportunities for fresh fruit and vegetables exports from Africa. Section 3 analyses the learning from the GLOBALGAP experience, notably the costs and benefits of compliance for smallholders as well as alternative strategies. Section 4 discusses the costs and risks originating from the wider sustainable development context. Finally, Section 5 suggests a set of recommendations for all involved public and private actors.

Building an extensive picture of factors influencing smallholder involvement in horticulture export markets requires analysis beyond PVS. Although some wider factors have been sketched out (e.g., the impacts of air freight and 'virtual water'), this ambition largely exceeds the scope and timeframe of the project research. Therefore the findings and tentatively drafted recommendations should be understood within this remit, in which PVS are the dominant feature of the analysis.

Trends in private voluntary standards in the agrifood supply chain

The expansion of private voluntary standards (PVS) into the developing world's agrifood sectors has been matched by research, review and analysis of its impact. Our three-year project builds on this earlier work and examines the effect that PVS evolution is having on producers and rural development trends. International trade accounts for a small proportion of production and farms. The majority of African growers supply the domestic markets in their own countries. PVS directly affect the export chain but also indirectly influence the domestic market.[3]

1.1 Who's who in private standards?

A number of standards have emerged in the agrifood sector, some collective (e.g., the 'Global Food Safety Initiative') and others company-owned (e.g., Tesco's 'Nature's Choice'). They can be limited to pre-farm-gate and business-to-business schemes such as 'good agricultural practices' (GAP), or may also display a label for final consumers as a competitive point of difference (e.g., Fairtrade certification). They cover food safety, but can also include animal welfare, labour, or environmental criteria. They are applied to a wide range of agricultural produce and most importantly they affect all participants in the supply chain, from sub-Saharan producers to industrialised country customers.

PVS have been developed and are expanding rapidly in agrifood supply chains. The main socio-economic factors supporting this trend are i) the increasing consumer and retailer concerns and expectations for higher levels of food safety, environmental best practice, and ethical trading, and ii) the related set of public minimum requirement regulations, including making brand owners legally responsible for compliance with the European food safety legislation. These have resulted in a double incentive for own-brand retailers to develop private standards: the wish to satisfy consumer demand and the imperative to demonstrate 'due diligence'.

GLOBALGAP, the first widespread private voluntary standard for pre-farm-gate food safety, is the result of a European retailers' alliance and was designed primarily for European farms. Increasingly, PVS are imposed on exporting developing country suppliers such as small-scale farmers in Africa exporting high-value horticulture to the European market. Consideration of the impacts on these smallholders of ever more stringent standards and methods prescribed to comply with them is often overlooked.

3. Source papers for this section are the 'Fresh Perspectives' briefing papers that all follow as case studies (Stanton and Wolff 2008; MacGregor 2008; Homer 2008; Garcia Martinez and Poole 2008; Cooper and Graffham 2008; Owuor 2008; Kinyua 2008; and Adu-Gyamfi 2008) as well as a full length 'Fresh Insights' technical working paper (Cooper and Graffham 2007). All are available at www.agrifoodstandards.net.

Fresh Perspectives 1

Private voluntary standards and the World Trade Organization Committee on Sanitary and Phytosanitary Measures

Gretchen H. Stanton and Christiane Wolff

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Checking chemical records

Key messages

- **In the WTO SPS Committee, developing countries have expressed concerns that private standards can act as barriers to market access, although in other cases they may facilitate access to high-quality markets.**
- **High financial costs of compliance and certification can be problematic for smallholders.**
- **It is unclear to what extent WTO agreements apply to private standards.**

The World Trade Organization (WTO) Committee on Sanitary and Phytosanitary Measures (the SPS Committee) deals with government regulations in the areas of food safety and animal and plant health. At its meetings, WTO member countries have the opportunity to raise specific trade concerns, e.g., if they believe that another country's sanitary and phytosanitary measures are more trade-restrictive than necessary for health protection. In June 2005, St. Vincent and the Grenadines raised concerns about GLOBALGAP pesticide requirements for banana importation, and the relationship between GLOBALGAP and official European Union (EU) requirements. Other developing countries shared this concern, wondering what alternatives were available to affected developing countries. The EU's response was that GLOBALGAP standards were not official EU requirements and, even if they went beyond official EU regulations, they were not in conflict with EU legislation. This briefing paper seeks to explain how private standards have been debated at the WTO and what the concerns are.

The private standard debate within the WTO SPS Committee

The private standards discussions in the WTO SPS Committee have focused on three themes:

- **Market access:** some say that standards set by the private sector can help suppliers improve the quality of their products and gain access to high-quality markets. Others argue that private standards can be more restrictive (e.g., requiring lower levels of pesticide residues) and more prescriptive (e.g., accepting only one way of achieving a desired food safety outcome) than government import requirements, thus acting as additional barriers to market access.
- **Development:** the costs of complying with private standards and the additional cost of certification, sometimes for multiple sets of standards for different buyers, can be a problem – especially for small-scale producers in developing countries.
- **WTO law:** while some are of the view that setting standards for the products they purchase is a legitimate private sector activity and not a government one, others insist that the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) makes governments in importing countries responsible for the standards set by their private sectors. The latter group are concerned that these standards do not meet WTO requirements such as transparency and scientific justification of food safety measures and are more trade restrictive than is necessary to protect health.

Health protection and requirements from the government

The concerns of governmental trade officials (particularly in developing countries) about the proliferation of private standards have to be seen in the context of the SPS Agreement. The SPS Agreement was negotiated by governmental food safety, plant and animal health regulators to impose significant health protection requirements on products moving in international trade. The basic requirement under the SPS Agreement is that measures can be taken only if necessary for health protection, with scientific evidence required to demonstrate this 'necessity' (except for emergency situations, when temporary actions may be taken).

Under the SPS Agreement, the preferred way of meeting the justification requirement is through the use of internationally developed food safety, plant and animal health protection standards – that is, those adopted by the Codex Alimentarius Commission (Codex), the International Plant Protection Convention (IPPC) Commission on Phytosanitary Measures (CPM), and the World Organisation for

Animal Health (OIE). The harmonisation of national requirements with these international standards facilitates trade through the reduction of the number of distinct national requirements.

Alternatively, governments can justify national standards if they are based on an appropriate risk assessment, but the measures imposed must be no more trade restrictive than required to achieve the country's desired level of health protection. The level of health protection sought by governments cannot be arbitrary and should be consistent in the face of similar health risks.

Importantly, the SPS Agreement contains a number of provisions to ensure the transparency of sanitary and phytosanitary requirements. Not only must governments give advance notice of their intention to modify sanitary and phytosanitary measures, but they must take into consideration any comments submitted by trading partners, provide associated documents upon request (including risk assessments and the scientific evidence underpinning measures), and ensure that all measures are published promptly.

Food safety requirements are subjected to a different set of WTO legal obligations than those applied to quality and environmental measures, or measures adopted to avoid misleading consumers. This, in addition to the notification requirements, pushes governments to identify objectives and to clearly separate and distinguish between requirements imposed for health protection and those imposed for other purposes.

Finally, the SPS Agreement ensures that sanitary and phytosanitary requirements can be challenged by other trading partners, through the use of the WTO's unified dispute settlement procedures.

Government sanitary and phytosanitary requirements versus private standards objectives

In contrast to these globally negotiated disciplines on governmental actions, private standards are seen by many developing countries as going in exactly the opposite direction. The private standards address a mix of health protection and other objectives – including social and environmental concerns that are not related to food safety or plant/animal health protection. These private requirements may have no scientific justification, but may address consumer perceptions of what is safe or unsafe, or may reflect production practices common in developed countries but unknown and/or perhaps unsuitable for developing country producers.

There is a proliferation of distinct private requirements, with little harmonisation. Some of the private standard bodies have recognised this problem and certain efforts to 'benchmark' or accept other private standard schemes as equivalent are underway. Certification is implemented by private companies, at much greater expense than governmental schemes, which – at most – seek to recover costs. Certification must also be renewed regularly, whether or not production conditions have changed.

Developing countries' concerns

The SPS Agreement encourages the participation of developing countries in the preparation and adoption of international standards, through the creation of trust funds and various assistance programmes. Other provisions of the SPS Agreement require consideration of the special needs of developing countries, through the provision of special and differential treatment. The SPS

Agreement also requires that there be no unjustified costs in testing, certification or approval procedures, to ensure that these do not become barriers to trade.

In contrast, private standard bodies have apparently not considered the effects of their standards on developing countries, or the degree of their trade restrictiveness. Suppliers in developing countries who produce for the export market in industrialised countries face difficulties in complying with private standards, such as those required by global retailers, and several studies show that many smaller exporters have dropped out of the market.

Many developing countries find it difficult to produce goods that meet the internationally agreed food safety standards. However, meeting these standards is often insufficient to gain access to many markets, as the private standards set requirements well in excess of those of the Codex, IPPC or OIE.

Private retailers have often imposed and modified their requirements without any advance notice, and with no opportunity for producers in other countries to comment or complain. Some recent efforts, including the smallholder taskforce at GLOBALGAP, have begun to move in a different direction. However, compared to the disciplines that the SPS Agreement places on government regulations, there is little transparency in the development of private standards, and there is no forum for challenging private standards comparable to the SPS Committee or the dispute settlement mechanism of the WTO.

A global forum to discuss standards

One may question whether an inter-governmental forum such as the SPS Committee is the most appropriate place to address the issue of private standards, but it is apparent from the concerns of developing countries that a forum for discussion is needed. Private standards have become a regular feature on the agenda of meetings of the SPS Committee. In addition, several information sessions have been held in the margins of the Committee meetings. These have provided the opportunity for two-way education and awareness-raising, increasing the knowledge and understanding of government regulatory officials about the operation of various private standard schemes and their objectives while at the same time making the operators of the private schemes aware of the concerns and effects of standards on developing countries.

Going beyond discussions

Apart from a forum, there is clearly a need for capacity-building to help developing country exporters meet both official and private sanitary and phytosanitary requirements. The Standards and Trade Development Facility (STDF) is a mechanism to coordinate the activities of bilateral and multilateral donors who provide technical assistance or capacity-building in the sanitary and phytosanitary area. It also provides funding for a small number of projects and project preparation grants. The Food and Agriculture Organization of the United Nations (FAO), the OIE, the World Bank, the World Health Organization (WHO) and the WTO jointly established the STDF. Activities focus upon assisting developing countries to enhance their expertise and capacity to analyse and to implement international sanitary and phytosanitary standards. It is one example of the current 'Aid for Trade' initiative aimed at helping developing countries overcome supply-side constraints. The STDF has taken a pragmatic approach to private standards as prerequisites to market access in many cases. Several projects, especially in Africa, include a component aimed at achieving compliance with a relevant private standard in conjunction with international standards.

Fresh Perspectives 2

Understanding stakeholder drivers for introducing and complying with private voluntary standards – a fresh produce example

James MacGregor

James MacGregor is an economist and senior researcher at the International Institute for Environment and Development (IIED). He is a specialist on international trade in natural resources, the economics of wildlife, industrial organisation and natural resources, economics of standards, responsible trade and smallholders, and sustainable tourism.

Key messages

- **PVS have provided industry leadership on the crucial food safety issue.**
- **PVS have distinct economic advantages for the whole industry but only for those participants who can comply.**
- **The financial and economic drivers underlying PVS are efficiency, willingness to pay, and public legislation compliance.**
- **PVS in agrifood are helping accelerate a slow transformation of the industry from abiding by minimum public standards to one striving for maximum private standards.**
- **Developing PVS that recognise the nuances of sustainable development in Africa will require new mechanisms of information sharing and knowledge generation.**

Today the range of PVS is extensive, covering all stages of the food supply chain: production, inputs, transport, trade, marketing, etc. They meet all kinds of concerns, from food safety to animal welfare, from the environment to quality or taste. With the globalisation of procurement networks, PVS are increasingly common in agrifood supply chains worldwide as supplier networks expand. This paper discusses the drivers of compliance with PVS, from the perspectives of both the food retailing industry and developing countries' producers. The export horticulture trade linking the poorest continent with the richest consumers provides a good laboratory for examining these incentives. It also frames a considerable challenge: how to produce food safely and efficiently and simultaneously and equitably deliver sustainable development benefits to rural Africa.

Public standards in the food industry have a specific public good objective – food safety. Standards are also the typical way of conducting efficient business in all industrial production processes. In food supply chains, quality has been regulated for over 500 years. Greater prominence during the twentieth century included massive publicity concerning food-borne public health crises in the 1990s (e.g., BSE), which raised consumers' concerns and reinforced the trend towards third-party certification and labelling.

Legal responsibility for 'due diligence' (doing all that is reasonably possible to ensure safety) has been increasingly imposed on the private sector through successive EU food safety legislation. In

order to achieve this efficiently, the industry has employed PVS to leverage private incentives within the supply chains and transform its trading systems. There are further motivators at work, including the trend for supermarkets to become both manufacturers and processors as they seek to increase profit through their own labels.

Some of these private incentives are highly apparent, for example financial gain for the retailers and mitigation of their risks. Others are more subtle and relate to the slow transformation of the industry from one abiding by minimum public standards to one striving for maximum private standards.

Niche market suppliers are better placed to adapt to the more complex requirements of a PVS than those supplying bulk commodities, since the former are quality and high-value orientated whereas the latter are governed by price and cost issues. With quality programmes already in place, there are elements of vertical coordination that can be leveraged. For bulk products, implementation of PVS requires network-wide coordination and the reorganisation from anonymous bulk products to more differentiated goods.

What drives the development of private standards?

There are three key incentives for PVS development and implementation – sometimes operating at the same time:

1. **Efficiency:** PVS are a means for lowering a range of transactions costs and upgrading efficiency in supply chains. Key trade process efficiencies include harmonisation, and outcomes can include consolidation. Successful participants will see savings from adapting existing practice in line with PVS stipulations. Yet friction can occur where imbalances exist between sectors, with one participant's efficiency saving being another's costly investment (e.g., GLOBALGAP has been shown to have increased on-farm costs). Developing a standard is driven by economic efficiency concerns throughout a supply chain, but implementing a standard is often motivated by maximising financial efficiency for a particular participant or sector.
2. **Willingness to pay:** PVS can be a means for increasing consumers' willingness to pay for products, through a combination of methods including product differentiation, higher average prices and increased sales. Complementary strategies of retailers include increasing consumer loyalty and growing market share.
3. **Privatisation of food safety legislation:** the responsibility for safety of food imported to the EU is placed on the seller – for instance by Article 11 of the *General Food Law Regulation (EC) 178/2002* which applies to food business operators. This alters the incentives facing the food industry and shifts the designation of risk.

The choice of PVS will depend on which driver is considered foremost and on the nature of the product and the sector.

What drives development of private standards in the food retailing industry?

Driven by the need to ensure legal compliance and communicate this efficiently to consumers, core retailer industry incentives for PVS derive from the need to manage risks and guarantee food safety through reliable information within the supply chain. The food industry was once considered a pioneer in quality assurance and quality management but this changed towards the end of the

twentieth century. Problems generated by the fragmented nature of the industry were compounded by differing consumer perceptions of food safety between countries and segments. In sum, there was no industry leadership until retailers became powerful players in the early 1990s and filled this vacuum. The food retailers now collectively lead the setting of PVS within the food sector and have become the 'standard-setters'.

For private standard-setters, there is a financial and economic impetus to guaranteeing food safety. PVS can be wielded as broader instruments of supply chain management and control. Specifically, PVS can create an entry to the hidden information within a supply chain that not only unlocks guarantees of food safety and denotes responsibility along the supply chain but can also be exploited for either private or supply chain-wide benefits through lower risks, higher margins, greater flexibility and sharpened competitive edge.

What drives compliance with private standards by producers in developing countries?

Developing countries are recipients of PVS in the food industry and export a small proportion of their total production as fresh produce in compliance with these standards. Export horticulture offers benefits at a macro level including foreign exchange earnings, balance of trade, cross-subsidisation of

Table 1. Drivers for PVS development for standard-setters – the food retailers

Profit	Export horticulture tends to be high-value and niche and as such has a demand profile that is somewhat price inelastic. Consumers tend to be loyal and wealthier. All are ingredients to make sustainable profits.
Outsource	Successful firms seek to outsource non-core activities – PVS enables outsourcing of food safety to suppliers, which frees valuable in-house resources to concentrate on core business.
Risk management	PVS helps distribute risks efficiently throughout the supply chain to those most able to both deal with and communicate food safety.
Harmonisation	PVS enables simplified, less risky decision-making and lower transactions costs owing to search and screening (less research on who you can rely on in new countries or regions is necessary), a smaller group of possible sellers, and enhanced compatibility between products by reducing variety.
Communication	PVS upgrades the potential to message accurately to consumers (communicating quality management), suppliers (ensuring they supply appropriate and relevant information as well as product), and competitors (credibility as the originator of a successful industry standard).
Business tools	PVS are flexible, fully operationalised, hands-free, supply chain management tools that provide incentives to other participants to comply with conditions stipulated by the setter. These participants remain independent, eradicating the need for expensive ownership of the firms involved to achieve these goals. Furthermore, PVS are tools that can be flexibly enforced depending on market circumstances.
Information management	For information generation, PVS are rich sources of information on the supply chain that facilitate decision-making (e.g., on who to buy from, when, and at what price).
Preferred buyer	PVS can generate dependency for suppliers on the buyers by restricting exit for suppliers who have invested in sunk costs of compliance; these investments are often amortised over long periods.
Legal requirements for due diligence	PVS ensures compliance with baseline legislation – specifically the main provisions of the General Food Law Regulation (EC) 178/2002 – that applies to food business operators. This includes Article 11 on imports and Article 18 on traceability.

other forms of less-valuable but important trades, and local economic development opportunities. It can also be a trade catalyst since internationally recognised standards provide a common language for trade, helping to harmonise national standards, remove invisible barriers to trade, and generate multipliers of higher-quality trade: better transport infrastructure and better services provision.

At an industry level, while structures will exist for compliance with public standards, no consensual decision will be taken at an industry level to attempt compliance with a particular PVS. A range of agencies are involved including local and national government, relevant authorities, donors, and industry lobbies. The production unit complying with the PVS might be an individual smallholder, a collective of smallholders, a cooperative, an outgrower scheme, or a larger farm.

For producers, incentives are mostly related to access to markets and the cascade of perceived benefits they will receive. In the export horticulture industry, rural smallholders were the traditional suppliers. Indeed, most smallholders get certified or comply with PVS not because of the perceived technical efficiencies, but because their buyer demands it. Thus it is primarily an issue of survival in the market, though several other motivations exist.

PVS challenge smallholders in developing countries. Farmers are constrained by their exposure to regulations on production owing to (often) less stringent domestic public food safety regulation, and less experience of trading products that have formal PVS compliance requirements. Hence, the quality might be high, but communicating this remains a challenge. To be truly efficient sustainable development champions, PVS that include producers in developing countries must be designed in ways that incorporate information on the significance that the impact of this trade and compliance with these standards have on livelihoods, communities, and opportunities in rural areas.

Table 2. Drivers for PVS compliance for producers in developing countries

Financial	As with any new market opportunity, investment is necessary to comply. Higher income/larger margins (or opportunities for these) are significant drivers.
Technical efficiencies	Improved organisational performance and better chances of organisational survival. Benefits from implementing and running compliant systems result in less fraud, higher yields, and more efficient farms.
Upgraded benefits of trade	Benefits such as training help to support and upgrade organisational performance.
Signalling	Compliance signals to all buyers of quality produce the production skills of the farm. Crucially these signals are important in accessing finance, training, information, etc.
Reduced risk	More durable trading relationships than available on alternative markets. e.g., local markets.
Alternatives	For farmers with few alternatives to cash crops, this might be their only option to sell these products.

Fresh Perspectives 3

The GAP is getting wider: how private standards are filling the void between dynamic public opinion and food safety legislation

Steve Homer

Steve Homer is experienced in writing, managing and implementing private standards for actors who supply supermarkets with fresh produce. After seven years as Group Corporate Social Responsibility Manager with Flamingo Holdings, he is currently involved with various projects (including the Ethical Trading Initiative Smallholders Project and the GLOBALGAP Africa Observer Project) to measure the impact of standards on livelihoods – particularly in respect of smallholder farmers in sub-Saharan Africa. He is a former member of the GLOBALGAP Board of Directors and is a CMi Certification Governing Board Member.

Key messages

- **Public legislation cannot keep up with fast-moving consumer concerns – private standards fill the gap.**
- **Food safety private standards have entered a competitive position with the enhancement of social, ethical and environmental attributes in brand strategy.**
- **Under-resourced farmers from developing countries have to meet increasingly subjective and diverse customer demand if they want to sustain participation in certified chains.**

Differential void between public opinion and food law

The majority of the public are caring, interested observers but their busy lives do not allow them to become overly inquisitive. A trusted single source of information, such as their chosen newspaper or the British Broadcasting Corporation (BBC), will often be the main benchmark against which they will form their opinion. From this standpoint it is often assumed by the consumer that this is the majority civil society position and then it is only a short step to a single source opinion becoming a mainstream 'food fact'.

Brand owners and supermarkets recognise the need to satisfy the views, and sometimes fears, of their consumers. Many of the supermarkets can demonstrate empathy with opinion-leading consumers, and can convert the 'don't knows' through informative labelling. Moreover, on reaching a healthy 66 per cent of their customers converted to the 'new brand', they can go on to ignore the remainder because the retail prices rarely change in these cases – so sales are not impacted.

Retailers create the space, private standards fill it

Moving a supermarket brand to a position that either recognises or leads the consumer position on an issue creates a void between that retail market entry criterion and current legislation that is

UNCTAD: Private sector standards

This is an issue that has never been discussed in the SPS Committee although it has been raised in the Technical Barriers to Trade (TBT) Committee. St. Vincent and the Grenadines complained about requirements for exporting bananas and other products to European supermarkets.

St. Vincent and the Grenadines, supported by Jamaica, Peru, Ecuador and Argentina, complained that GLOBALGAP's SPS and TBT requirements are tougher than the governments' requirements – *government rules should apply,* they said.

based on proven scientific fact. The differential gap between public opinion and food law has always been there, and over time has expanded and contracted in reaction to food safety scares, farmers' lobbies, trade talks, and national and international alliances. However, the rising demands of the supermarkets and brands combined with an increase in the number and diversity of influence vectors have accelerated the frequency of the change events and stretched still further the void between current legislation and PVS.

By contrast to the PVS entities, the food safety legislators during this period have been surrounded by the growing constraints of international treaties, political union enlargement, and increasingly combative trade negotiations. During these lengthy political processes any momentum and valuable common ground appear to be lost in the uncertainty of the negotiated political outcomes. As a consequence, the food safety legislative cycle becomes slower, and might in some cases be negotiated down to a lowest common denominator in order to reach a quicker conclusion. When finally agreed and adopted nationally, the legislation is often perceived as out of date. If a PVS has been in place in the industry for a number of years and the industry has already adapted to those market entry changes, then the legislation can be seen as irrelevant and just a rubber stamp to the PVS. A power imbalance between private and public actors can appear to develop.

Over time, international legislation that can be understood and acted upon by developing countries and smaller farmers will fill the differential void, but in the interim period the PVS moves into the newly created space and provides a quick fix, but an imperfect and unbalanced solution for many.

Marks & Spencer Fairtrade boost for farmers

The entire Marks & Spencer range of coffee and tea, totalling 38 lines, is switching to Fairtrade over the next few weeks. The prices will remain the same because Marks & Spencer has been working with its suppliers for years to help them achieve Fairtrade status.
Daily Mail, 6 March 2006

For a PVS to be developed there must be a space between public opinion and legislation, because mainstream PVS initiatives are costly to initiate from zero. If it were as simple as proving compliance with legislation to a sceptical consumer, then there would not be a need for the brand owners to incur substantial PVS development and initial implementation costs – because the mechanisms of international accreditation and certification of food safety are already well established. Later in the process the business-to-business costs of adaptation to the new PVS, and continuing proof of compliance to that standard, are passed down the supply chain, but the decision to initially commit substantial brand resources to a project has to be backed by a strongly proven commercial need.

INTER PRESS NEWS SERVICE (IPS) July 07 MRLs are a nightmare

'The EU has effectively ducked harmonisation and is waiting for member states or transnational retailers to unilaterally declare the 0.01 (theoretical zero) level,' the exporter told IPS on condition of anonymity. 'In a few years' time, the EU can wade in and "harmonise" after the blood has been shed by the retailers.' He said that German retailers' 'knee-jerk' reaction had an immediate impact on rural poverty in third countries. 'It's a mess and no one comes out well.'
(MRL stands for pesticide maximum residue level)

Private standards as a fast-moving commercial tool

It often seems ironic to observers of PVS activities that it is the actions of those who seek to highlight the failures of supermarkets that cause some of the biggest and unexpected spaces to appear between PVS and legislation. Quite often, single-issue campaign groups using big brand names to highlight a generic single food issue or campaign can cause the brand or retailer to react unexpectedly. A recent non-governmental organisation (NGO) 'name-and-shame' campaign in Germany to highlight pesticide residues in fresh fruit and vegetables resulted in sweeping changes to the certification requirements almost overnight. The costs associated with this action, and the possible exclusion of vulnerable groups in the supply chain, appear to have been wholly disregarded by both parties. The knee-jerk reaction to bad publicity has created a chain reaction in other supermarkets, and there is now a strong movement to consider setting residue limits within the PVS environment, while the EU continues to promise harmonisation some time soon.

Invariably, those brands with a need to react quickly have the personnel resources and access to the technical expertise to develop a PVS quickly. Consultation, impact assessment, and regard for legislation are considered as unnecessary because the brand owners are able to cite public demand. When a space exists or is created, an entity that has invested enormous sums of money into a brand trust agenda will not hesitate to spend money and commit seemingly unlimited resources on measures that protect that investment. Unconstrained by legislation and any need for multilateral or multi-stakeholder consensus, the brand is free to move quickly and decisively to implement measures that will satisfy perceived – or recently generated – consumer demand.

Bringing subjectivity into scientific criteria

In the past, food safety has generally been pre-competitive, and to date the brands and supermarkets have not ostensibly fought each other in this specific scientific area. Saying one type of food is 'safer' than another by default makes the other food appear 'unsafe', and no retailer would want to be accused of selling unsafe food. Food quality and the health benefits of certain types of food production have often been used as brand enhancement tools, but have never formed the main strands of a competitive strategy. It has only been recently, when food safety has been woven into other issues such as social and ethical values or climate change, that the market has come close to food safety PVS entering a competitive position.

This blurring of the edges between these newly competitive (as well as subjective) topics – such as the environment – and established pre-competitive food safety issues has caused the most recent proliferation and diversification of PVS. This comes at a time when otherwise pragmatic harmonisation had seemed a real (if remote) possibility. Business equity aspirations through

Fairtrade schemes and potential price premiums for growers from organic production systems are often eroded or completely lost when these types of voluntary niche schemes are forced into mainstream categories, and are compelled to fulfil mandatory measures for entry into a particular mainstream category. What were once seen as PVS that were positive for change are simply a different barrier when used in the wrong way and the outcomes are coming under increased investigative media scrutiny.

If this use of the subjective and objective measurement is to continue, then the outlook for the future is mixed. There is no doubt that the speed of the Internet, increasing access to 24-hour news, and the media-driven public agenda are creating an even more subjective mixture of recurring, single-issue campaigns. We have already seen the proliferation of sub-brands that are, in effect, de facto standards ('Nature's Choice' at Tesco; 'Fair Partner' at Marks & Spencer) and the rise of labels like Fairtrade in a mainstream context (Sainsbury's), which enhance the supermarket brand but rarely scale up to significant levels of percentage of business.

Unbearable costs of adaptation required from developing country farmers

In the farmers' field this increasing subjectivity and diversity of demands brings uncertainty and waste of limited resources. Spending two years trying to attain a certain social or ethical certification, only to be faced with the notice that the market has moved on and now climate change reduction methods are required, is not an uncommon occurrence for developing countries supplying the European retailers. If PVS continue to fragment, then the farmer will need to decide which single, tighter market channel to supply. The market access requirements will be based not on scientific facts but on proof of compliance with a loosely connected amalgam of mixed subjective and scientific criteria. Whether this is to be the 'GLOBALGAP decade', when harmonisation breaks through, or the time when retailers finally begin to use PVS as fully competitive business-to-consumer weapons, remains unclear.

There will undoubtedly be increased and unsustainable costs associated with the complexity of auditing the scope of the horizontally extended PVS that are emerging. The traditional methods of annual certification of small-scale farmers through an accredited audit body are already subject to challenge on both economic and audit integrity grounds. Utilising the professional coalitions, partnerships, and experiences forged during the last business-to-business GLOBALGAP decade, farmers may be better able to deal with the challenges ahead. Whether they will be able to prosper and achieve the enormous scaling-up of participation that we need to achieve sustainable rural poverty reduction remains questionable given these new and diverse constraints.

Fresh Perspectives 4

Ethical consumerism: development of a global trend and its impact on development

Marian Garcia Martinez and Nigel Poole

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Key messages

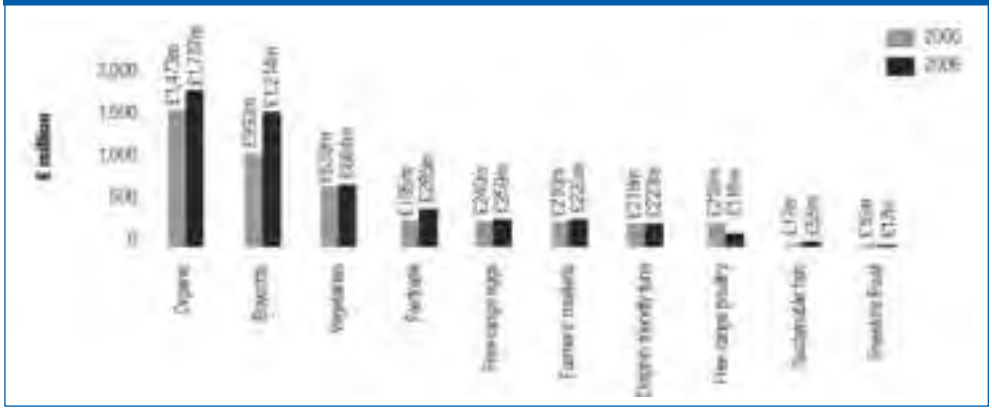
- **Consumers increasingly wish to shop ethically, but require clearer navigation of the ethical categories.**
- **Third-party accreditation systems are proving an effective mechanism to formulate and communicate ethical attributes to consumers.**
- **Ethical issues are entering the mainstream, offering increased opportunities for developing countries.**
- **Domestic and regional markets in developing countries for value-added and quality products are growing.**

Consumers are showing an increasing interest in ethical aspects of agrifood production and trade, including fair trade, safe working conditions for producers and employees, and sustainable and environmentally-friendly natural resources management. Ethical consumerism seeks to reaffirm the moral dimension of consumer choice by emphasising the links between production and consumption, locally and globally (Gabriel and Lang 1995). Ethical consumers have at the core of their agenda the desire to enhance their wellbeing through purchasing behaviour that avoids harming or exploiting humans, animals or the environment (*Ethical Consumer* 2003). "Consumption has become a means by which people's non-material views about the nature of society and the future of the environment can be manifested in a tangible and measurable way". (Howard 2005).

What is driving ethical consumerism?

Consumer pull (guilt and social pressure): increasing public awareness of ethical issues and increases in disposable income are giving consumers the opportunity to exercise an ethical conscience. The UK ethical food market was valued at £4.8 billion in 2006 (+17 per cent over 2005) (Figure 1). This represents just 5.1 per cent of the total grocery market but is becoming increasingly important, growing at 7.5 per cent per annum (or 50 per cent above the rate for the conventional grocery market). Consumer research shows that a significant proportion of UK shoppers already associate many ethically sourced products as premium products, and that they are willing to pay a premium for ethical attributes (IGD Consumer Research 2008).

Figure 1. Ethical food and drink in the UK, 2005-2006



Source: *The Ethical Consumerism Report 2007,* The Cooperative Bank.

Retailer push on supply chains: there are higher retail margins on ethical lines; some retailers see a strong ethical stance as providing them with an advantage in a highly competitive business environment (e.g., Marks & Spencer's 'Eco Plan A': £288m to be spent on becoming carbon neutral by 2012; sourcing more clothing and food from Fairtrade suppliers); shareholders and others exert pressure to deliver on the 'triple-bottom line'; and an increasing ethical retailing stance may be compatible with a particular retailer's stated values (e.g., a commitment to 'fairness' in its treatment of staff, suppliers, etc.).

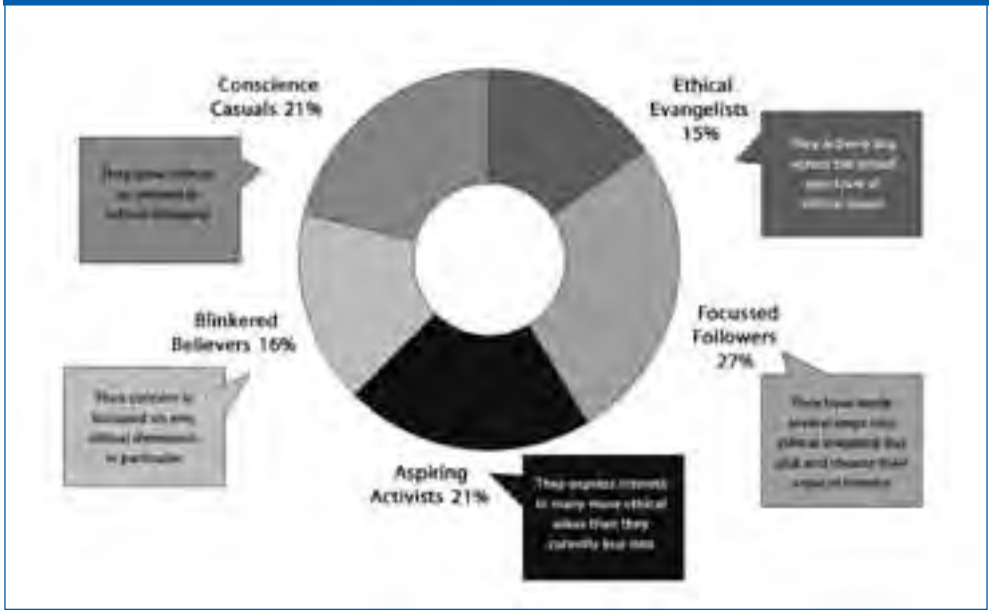
Government policy: the role of government is two-fold. First, through the development of policies/initiatives aimed at positively influencing consumer behaviour. This is pivotal in determining how the 'confused but willing' group of consumers will polarise. However, consumer education is often seen as a weak instrument and is unlikely to be effective compared with the impact on choice of commercial pricing policies. Second, by stimulating the creation of 'green' goods: consumers would purchase more ethical products if they were available. For instance, there are potential synergies between public standards for healthy eating and private ethical consumption patterns.

The hierarchy of 'ethicalness'

Ethical shopping plays a differing role in consumers' experience, based on their attitude towards ethics and their behaviour in general. Consumer research shows that consumers appear to be polarised: one in seven consumers claim to be 'ethical evangelists' who translate their principles into actions and buy products that support their beliefs; one in five are 'conscience casual' consumers who do not consider ethics when shopping and simply purchase products that fulfil their needs (Figure 2).

However, research shows that consumers may overstate their propensity to purchase ethically. Reconciling claimed behaviour with actual behaviour is a pertinent subject – especially when it comes to moral issues, and ethical consumption is one of these. Even 'ethical evangelist' consumers may not buy all ethical products, but simply state that they will purchase some based on individual beliefs. The organic dairy mission is yet to be realised, with only 5 per cent of shoppers buying across organic cheese, fats and milk (compared to 21 per cent buying organic cheese only). Interestingly, shoppers are far more likely to be 'eco warriors' when purchasing household cleaning products.

Figure 2. Ethical segmentation of the food market



Source: IGD Consumer Research, 2008.

4

Consumers' ethical conscience: what are the implications for development?

Ethical consumerism is moving deeper into our behaviours and value systems. Taste and price still dominate the evaluation criteria but ethical considerations are becoming the driving brand choice. Propensity to buy ethical products is growing but poor in-store merchandising and lack of choice (rather than price) seem to be slowing further adoption. There is still an imbalance between positive attitudes and purchasing behaviour, to a large extent due to consumers being confused about the end benefit (e.g., which is more ethical, 'organic' or 'Fairtrade'?). There is little leadership taking the message about organics forward – providing clarity in order that more consumers can make informed decisions, rather than taking blind decisions out of a sense of guilt or duty (Fearne 2008). Hence the challenge for all involved is to induce a positive predisposition prior to the point of purchase. Appropriate information about ethical attributes is part of the augmented product that ethical consumers are seeking. Suppliers must assume their responsibility to deliver quality products with added information attributes.

The consumer is paramount and understanding his/her needs and wants, actions and motives is a collective responsibility. Producers often fail to invest in understanding what consumers want, what they do, and why (Poole, Martínez-Carrasco Martínez, and Vidal Giménez 2007; Fearne 2008). This will inevitably result in their commercial destiny lying in the hands of others. Opportunities to increase penetration, purchasing frequency and repeat purchase rates amongst the under-performing segments will be lost. Suppliers must address the challenge to research deeply and target the preferences of their final consumers.

'Eco crunch'? Towards a more selective purchasing behaviour. Early evidence from analysis of the current downturn in UK retail spending and rising food, fuel and finance costs suggests that consumers are trading down to lower-value products. All consumer segments are unlikely to be affected in the same way and to the same extent. Sales of organic products, for instance, have not seen a dip in volume or value; in fact they grew 13.4 per cent in the past year across Europe, up from 9.3 per cent in 2007 (IGD Consumer Research 2008). However, there are early indicators of shifts within purchasing behaviour: demand for Sainsbury's 'Basic' range is growing while 'upmarket' shoppers are now to be found in discount grocery retailers such as Lidl, rather than just Waitrose. Even so, consumers are buying more selectively rather than cutting back on 'green' goods (Vallely 2008). Consumers are finding alternative, less guilt-inducing ways to economise. While the pace of development may be slow, the range and availability of ethical products will continue to expand as companies differentiate and build closer engagement with consumers, offering increasing trade opportunities for producers and workers in developing countries engaged in the production of ethical products.

Increasing importance of credence attributes as a source of differentiation: in a highly competitive retail environment, private standards are very likely to increase in severity as firms attempt to 'out-compete' each other on social/credence attributes associated with their food lines. One outcome of this is that it becomes increasingly challenging for producers, and particularly low-resourced small-scale producers from emerging/developing countries, to be able to meet the increasingly exacting standards (Garcia Martinez and Poole 2004).

Organic and fairly traded produce has considerable potential for improving the welfare of communities (Browne *et al*. 2000). Nevertheless, it is an important empirical question whether, and to what extent, the price premiums paid by consumers are transmitted to primary producers and their communities. While improved prices are an important opportunity for smallholders, the costs of meeting accreditation standards are also considerable, such that the net benefits must be analysed. It may be that the primary benefit for smallholders is access to valuable export markets rather than better prices and that these benefits, according to a growing body of evidence, accrue mainly to better-off producers.

Conclusion

Knowledge of credence attributes is complex in itself and information generated by producers and public action is abundant and complex too. Consumers often find it difficult to understand the differences between various certifications or how to properly judge the reliability of a brand or a certification; no single label covers all 'green' areas. This complexity is to be regarded not only as a matter of education: consumers are confused because of bounded rationality and time constraints where there are lots of alternative products and a superabundance of information.

Ethical consumers want plausible guarantees about ethical attributes. Suppliers must address the quality challenges concerning certification and branding to promote their quality-assured products. Third-party accreditation and assurance systems may be a more efficient and effective mechanism to formulate and communicate ethical attributes to consumers than through retailer labelling.

1.2 The rise of GLOBALGAP and the African horticulture export story

We recognise that the GLOBALGAP scheme (or another PVS) is not the sole reason for structural change and does not fully explain the changing status and profile of smallholders or developing countries in fresh fruit and vegetable export supply chains. Other industry-wide factors such as innovation, fuel prices, wage rates, consumer preferences, and the quantity reaching the market from elsewhere also have attributable influence. Yet for successful, widely-applied PVS, impact and change are inevitable. GLOBALGAP provides an example which is explored by the four briefing papers that follow.

Prior to 2003, the majority of African horticultural exports to the European market relied on spot purchases of vegetables from large numbers of small-scale growers via a system of brokers. But since then, the compliance framework for exports to Europe has increasingly been enforced and compliance criteria have been tightened. GLOBALGAP was rolled out in Kenya from 2003 onwards and in other sub-Saharan African countries subsequently. There have been growing indications of smallholders' difficulties in obtaining and maintaining compliance.

GLOBALGAP has become the most widely implemented and required private voluntary standard for primary production of agricultural products, with over 80,000 certified producers in 80 countries. In January 2005, GLOBALGAP's European supermarket members made certification obligatory for suppliers, including all small-scale suppliers of fresh fruit and vegetables from developing countries.

The content of the Fruit and Vegetables Protocol in the GLOBALGAP standard (the 'All Farms Base', the 'Crops Base' and the 'Fruit and Vegetables Module') was initially designed for large-scale commercial growers – and may not be fit for purpose for smallholders. Compliance criteria are divided into control points: 'major musts' where 100 per cent compliance is required, and 'minor musts' where 95 per cent compliance is required. To avoid the need for small farms to comply separately and bear subsequent higher costs, there is a collective certification scheme (GLOBALGAP Option 2) that allows a group of farmers to comply as a unit.

Additionally, there are various national and regional standards in which the GLOBALGAP scheme has been adapted more specifically to the country in question. For example in Kenya, KenyaGAP has 'Option 3' and 'Option 4', which are locally tailored versions of GLOBALGAP Option 1 and Option 2 respectively.

PVS are not fixed but evolve to take into account technological and market developments. GLOBALGAP is updated every three years. In September 2005, GLOBALGAP Version 2 included a new feature for Option 2 of the protocol in the form of a quality management system checklist. Introduced two years later, Version 3 of GLOBALGAP sets the bar even higher and presents greater challenges to growers, with additional criteria detailing record-keeping, labelling, water testing, facilities, certificated training for workers, and more hygienic working conditions and more stringent product recall systems. The single list of compliance criteria that comprised earlier versions of GLOBALGAP has now been split into three parts: growers must comply with the 'All Farms Base', the 'Crops Base' and the 'Fruit and Vegetables Module'. There are now additional 'major musts' and 'minor musts' too. Compliance under Version 3 becomes significantly more technically complicated and financially demanding for smallholders to comply with.

Fresh Perspectives 5

GLOBALGAP Version 3: threat or opportunity for small-scale African growers?

Jerry Cooper and Andrew Graffham

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Collecting delivery information

Key messages

- **Private standards are not fixed but evolve to encompass additional areas of production.**
- **Version 3 of GLOBALGAP sets its standard higher. It has some good points but, with 11 new absolute control points and 21 new 95 per cent control points, there are new challenges.**
- **Some of the newly introduced control points are particularly difficult for smallholders to comply with, and more farmers are being excluded from compliance.**
- **The needs of smallholders must be addressed to prevent more farmers failing to obtain or maintain compliance.**

Private standards compliance is becoming increasingly important for all fresh commodities produced in developing countries and sold in overseas markets. GLOBALGAP is one of the most widely recognised international standards. The standard was originally developed by (and for) European retailers to provide guidelines and monitor on-farm production. A new version – Version 3 – was published in August 2007 to meet the increased expectations of consumers and retailers in Europe. This paper discusses the implications of Version 3 for smallholders in Africa. Compliance with Version 2 was demonstrably difficult for smallholders; Version 3 does not make compliance easier and could accelerate smallholders' departure from export markets. Of the 236 control points in Version 3, 40 are either new or require stricter compliance. For smallholders, some of these changes not only will mean increased costs but in fact may not be achievable at all – even when allowing for the cost savings associated with group membership under Option 2 (see below).

In the past, food safety requirements from the food industry to satisfy authorities and buyers were relatively relaxed and informal. However, demand for better control systems and management of food safety led to changes in legislation to reduce risk. In addition to these legal requirements, retailers in Europe have developed their own 'private' standards to manage risk during farm production, processing and transportation. One such private standard, GLOBALGAP, was developed specifically for, and by, European retailers to monitor on-farm production. GLOBALGAP has now become widely recognised and, although some supermarket chains have their own even more stringent standards, GLOBALGAP has established an international reputation and is being stipulated as a requirement by an increasing number of companies in more than 20 countries.

Large farms in both Kenya and Europe find it easier than smaller ones to comply with PVS. This is mainly because of their financial capacity to invest in certification, rather than the technical requirements of production. To reduce costs for small farms, a collective certification scheme (GLOBALGAP Option 2) was set up to allow groups of farmers to comply as a unit. Estimates by Graffham *et al*. (2006) put the total cost of compliance for a smallholder via this collective route at £636 for establishment and £175 per annum for maintenance. Although these figures do not include support from outside sources, such as donor-funded programmes to assist certification compliance, the investment remains unaffordable for some. As a result, the general trend is for fewer smallholders to comply with GLOBALGAP, and hence for fewer farmers to be able to meet European market requirements.

There are both strong incentives and considerable challenges for smallholders to comply with GLOBALGAP. Compliance is recognised by growers as having several practical advantages over and above the improvement of market access. It sets a management discipline that helps to focus business aims and enables growers to track many of the operational components more effectively. It clearly also gives farms a means of improving control of food safety. However, it presents significant financial and administrative challenges and these often preclude participation by smallholder farmers.

Version 3 of GLOBALGAP sets standards higher than Version 2 and presents added challenges for smallholders. First, it is more complex: the single list of compliance criteria that comprised earlier versions has now been split into three parts. Growers must now comply with the 'All Farms Base', the 'Crops Base' and the 'Fruit and Vegetables Module'. There may be advantages to having the three separate modules for mixed farms; for instance, the 'All Farms Base' will not need to be repeated for livestock certification. However, there are few obvious advantages for smallholders in developing countries engaged in single-crop cultivation, e.g., export horticulture. Version 3 is also

more demanding. Of a total of 256 control points, Version 3 includes 11 additional compulsory points and 21 new points requiring 95 per cent compliance. Significantly, many of the control points that in Version 2 were 'minor musts' (meaning points requiring 95 per cent compliance) have now been upgraded to 'major musts', i.e., they must all be met (100 per cent compliance). In addition, many 'recommendations' (formerly non-compulsory control points) have been upgraded to the category requiring 95 per cent compliance. In sum, to obtain a GLOBALGAP certificate, all farmers must comply 100 per cent with the 74 'major musts' and 95 per cent with the 125 'minor musts' in three separate modules (the remaining points are recommendations that will not fail the farm). The farmer can fail to comply with only six control points out of 199 in these two categories.

Table 1. Summary of added control points and compliance criteria

	Additional compulsory control points	Additional control points requiring 95% compliance	Additional recommendations	Total
All Farms Base	1	7	1	9
Crops Base	3	9	1	13
Fruit & Vegetables Module	7	5	4	16
Total	**11**	**21**	**6**	**38**

Moreover, the revised quality management system for Version 3 requires greater quality control from smallholders. Graffham *et al*. (2006) reported that the quality management system component was the most challenging part for smallholders in a previous version of the standard, the EUREPGAP Fruit and Vegetables Protocol 2.1, January 2004. In Version 3 the number of control points in the main quality management system checklist has increased from 94 to 141. A good example of this is the section on farmer/farm inspection (2.8.2), which had five control points in the old protocol but has 16 control points (QM9.2) in Version 3.

Finally, where it was already difficult for smallholders to meet the challenges of Version 2 (as of mid-2006 in Kenya, 60 per cent of the estimated 45,000 smallholders supplying exporters in 2003 had already been dropped by their export company or had withdrawn from compliance schemes as a direct result of their inability to comply, or maintain compliance, with GLOBALGAP), Version 3 may even exacerbate the situation. The increased requirements are accompanied by the need for additional record-keeping, labelling, water testing, facilities, certificated training for workers, and more hygienic working conditions and more stringent product recall systems. Transaction costs for farmers are therefore increased.

The way forward

Unless agreements can be reached between FoodPlus (the owners of the standard) on interpretation and auditing of the standard, significant numbers of smallholders may find it either too technically restrictive or too expensive to comply, effectively denying them access to European markets. While the authors accept this is not the intention of Version 3, analysis of the changes does not look positive for producers in Africa. The IIED/NRI team would like to try to broker agreements between all stakeholders so that smallholders are not prevented from accessing the benefits of GLOBALGAP.

The Kenya Horticultural Exporters Ltd experience of private voluntary standards

Apollo Owuor

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Checking data on protective clothing

Key messages

- **PVS – and GLOBALGAP in particular – have brought improvements in African farm management and practices (field hygiene practices, trust and long-term relationship-building).**
- **Higher costs for smallholders come from additional standards requirements – i.e., labour and environmental criteria – requested by European importers that are additional to GLOBALGAP.**
- **Quality management systems are generic and ownership often rests with the exporter, which puts at risk producer participation if the trading relationship between the producer and the exporter stops.**

Horticulture provides a key livelihood support to rural households in some parts of the Eastern and Rift Valley provinces of Kenya, and especially in the Central Province. PVS are now a basic requirement for entry into the export horticulture market. All importers require their suppliers to give them details of accreditation in order for them to export to the European Union. PVS had initially been viewed as a major barrier to trade in Kenya. However, the standards have also brought benefits – improving the mechanisms of small-scale supplier management and increasing good agricultural practice.

A typical smallholder runs a one acre farm and is a member of a self-help group. The self-help group plays a major part in the success that has been experienced in the country's horticultural industry, providing the basis for farmers to pool produce and resources together as well as facilitate access to markets and increase knowledge of market requirements. Operational costs that would have been beyond the reach of a single grower are also shared amongst members within the group, further enabling the probability of success for smallholders in export markets.

In Kenya, self-help groups are now used in the majority of green bean and pea export production. Considerable interest from various development partners has been extended to the self-help groups in order to strengthen their capacity to meet the requirements of PVS and to maintain their position in the export industry. As a major exporter, Kenya Horticultural Exporters values the role these organisations have played in keeping smallholders in business. The key to success is to understand the weak areas, risks and challenges faced by these producers, and to learn cost-effective ways of managing them. PVS should be viewed not as challenges but as stepping stones to general good agricultural practice, hence improving integrity.

6

Improvements in agricultural practices

PVS have contributed a great deal to bridging the technological gap through:

- Upgrading of technical skills. Through self-help groups, farmers are able to learn and develop the skills required for the implementation of the PVS. Training is now a regular occurrence; farmers are learning about major issues in food safety and hygiene, not just for export products but for the domestic market too.
- Environmental awareness, especially in areas of waste management and pollution control.
- A framework of traceability.
- Organisational improvements and managerial specialisation. Specialisation in the value chain in terms of quality management allows farmers to continue to concentrate on farming but also encourages them to develop other roles, such as pest and disease management. (Farmer groups had in the past hired staff in specialised areas such as documentation, or pest and disease management and control.)
- Field hygiene practices.
- Trust and long-term relationship-building. Export companies tend to have long-term relationships with groups that have taken a proactive approach to implementing standards.
- The tendency of other exporters to succeed through the work of another actor has drastically dropped, although the effects are still present ('free-riding').

It should be noted that labour and environmental standard requirements of importing countries – as well as their technical competence criteria – often vary, and are specified in addition to standard GLOBALGAP compliance. An example of this would be Tesco's 'Nature's Choice' – an additional PVS

required by Tesco on top of GLOBALGAP. In addition, most of the quality management systems are generic and owned by exporters, hence those systems are likely to fail in the event the relationship between the company and farmer group ceases.

Key lessons

- Smallholders can attain and sustain certification provided the major prohibitive costs such as residue, water and soil analyses are met or a system is put in place to monitor this from the risk assessment point of view.
- The central management system allows several producers to access key services and quality produce thereby reducing the per capita cost of production.
- All growers are able to access the required documentation, which should be centrally available.
- Even smallholders can achieve high production standards as prescribed in the PVS.

Solutions for improvement and sustainability

- Growers must learn the fundamental techniques to develop their own quality management system, thus creating good understanding and ownership of their sector.
- High-cost aspects such as residue monitoring or soil and water analyses should not be compulsory for every farmer – a risk-based assessment should instead be carried out whereby samples are taken from a selection of members' sites, rather than from the entire group. The frequency of sample-taking should also be addressed within the risk assessment.
- A framework for internal audits should be established so that a generic model with basic key points is considered, and not the whole standard.

1.3 Private standard spillovers into the domestic markets

Domestic high-value markets are growing in sub-Saharan Africa and may prove lucrative outlets for local suppliers. Notably, supermarkets are expanding both through regional partnerships (almost exclusively South African retailers such as the Shoprite Group of Companies, Africa's largest food retailer) and through development of national retailers (e.g., the Kenyan supermarket Nakumatt, which has 18 stores in Kenya and is set to become East Africa's most wide-reaching retailer).

In the current context of relatively high food prices and related concerns about the environment, developing country-based supermarkets are far more likely to look for domestic supplies of fresh produce, and will demand less exacting standards for this produce. Whether local small-scale producers are able to supply these high-value markets is unclear.

GLOBALGAP and the national good agricultural practices schemes are bringing improvements for producers, the agricultural sector and the environment regarding farm management practices, productivity, cost savings, and efficient application of pesticides and fertilisers. Those improvements made for export agricultural produce also result in improvements in local food, through alternative and additional crops grown by certified or formerly certified farmers.

National high-value markets may therefore yield positive benefits for small-scale producers. Wider subsequent impacts relate to an upgraded industry, infrastructure investments, business skills and capacity-building. Simultaneously, development of upgraded local food is to be expected and hence improved food quality and safety for consumers.

Fresh Perspectives 7

How private standards designed for export produce also influence Kenyan domestic markets

Henry Kinyua

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Taking produce to market

Key messages

- **Producing fresh crops for the domestic market can yield higher returns than supplying the export market.**
- **Growing African urbanisation offers a secure incentive for export farmers to diversify into domestic agrifood enterprises.**
- **Private standards of export chains have brought agricultural practice improvements that also benefit domestic market-bound crops.**

In the late 1990s, certification news on fresh exports from Kenya was received with apprehension across all of the horticulture industry. Some feared certification would exclude smallholders from the export market. In response the government, through the Ministry of Agriculture and the Horticultural Crops Development Authority (HCDA), launched an information campaign aimed at exporters and farmers – but a lot still remains to be done. Several studies have shown a decline in the number of smallholders participating in the fresh produce export market in Kenya since the introduction of the GLOBALGAP standard in 2003. Some studies have estimated up to a 60 per cent decline. This paper gives a personal view on the impacts of private standards such as GLOBALGAP on smallholders in Kenya, in both export and domestic markets.

Are standards such as GLOBALGAP denying smallholder farmers an income?

This briefing paper shows the positive impact PVS have upon the lives of growers. Complying with certification is an expensive venture, and for a farmer to participate s/he must be guaranteed a return. Following the introduction of PVS, smallholders have been forced to assess their participation in the industry and undertake a cost–benefit analysis. For a number of farmers, fresh produce production (specifically, green beans) was found not to be profitable so they voluntarily dropped out of the system and diversified into other agri-enterprises.

Production of fresh produce (such as watermelons, kales and bananas among others) for the domestic market actually became a higher income earner for some farmers compared to beans. This had two direct effects:

1. The government and other organisations also started to focus more on the domestic market. Currently there are more horticulture development projects focusing on the domestic market than five years ago.
2. Only farmers with sufficient resources (including financial resources) were left producing beans for export. This meant that they were more committed to quality and also guaranteed them a return. There is anecdotal evidence that cases where maximum residue levels were exceeded in produce from Kenya have fallen in the last three years.

One key benefit of diversification is that, in the event of one industry declining, the farmer is not left without a source of income. In the 1970s and 1980s most of the farmers in central Kenya relied heavily on coffee as a source of income. When prices plummeted, farmers were left very poor and it took them a long time to recover.

True diversification has its own challenges, yet smallholders are skilled at maintaining a diverse portfolio of crops on small plots of land. Official statistics report the average size of an agricultural plot to be 1.7 acres (approximately 0.7 hectares) (Government of Kenya 2007) and it is not uncommon to see smallholders producing a single crop on plots as small as 100 square metres (0.01 hectares). Therefore land and production challenges are not the chief limitation, marketing is.

Can the domestic market pay as well as the export market?

Domestic markets dwarf export markets in volume and value. With expected urbanisation growth in Africa, the trend is bound to be repeated. Over the last 30 years, sub-Saharan cities grew at the astonishing rate of over 5 per cent per year while the growth in North Africa was 3 per cent. Over the next 25 to 30 years, the urban population of Africa is projected to grow at an average of

4.3 per cent. In total, this will be an urban increase of some 440 million people. Simultaneously, the rural population will grow at less than 1 per cent (TechnoServe 2004).

This domestic market is yet to be regulated by standards like GLOBALGAP or KenyaGAP, but momentum built by GLOBALGAP in terms of information flow on good agricultural practices (GAP) is still sustainable. Farmers are more aware of the impact of their farming practices upon the environment than was the case before. Farmers such as those working with TechnoServe in central Kenya on banana production and marketing are now more conscious of the impact of chemicals, including inorganic fertilisers. This knowledge can, to some extent, be associated with the popularity of GLOBALGAP in the late 1990s and early 2000s.

Key lessons drawn from TechnoServe's experience

TechnoServe has been working with smallholder farmers growing bananas in central Kenya since 2003. Preliminary findings show that farmers who are, or were at one time, involved in horticultural production for export – and were thus exposed to PVS – are more likely to take up commercialisation of domestic horticulture than those who have never been exposed to PVS. Our study demonstrated that efficient value chains increased a farmer's earnings by up to 100 per cent. In particular, those farmers who took up banana production as a commercial activity in addition to other horticultural crops earn more than their counterparts pursuing the export route alone.

In summary, standards like GLOBALGAP have had a tremendous impact on smallholder farmers in Kenya. For farmers who could comply with GLOBALGAP, certification has ensured continued participation in the fresh produce export market. Additionally, several smallholders have diversified into other agricultural enterprises, thus securing their future farm-based income. Training (particularly on chemical usage and good agricultural practices), which is part of the standards, has also benefited domestic market-bound produce.

This briefing paper recommends that all actors (including government agencies, NGOs, the private sector, and even development organisations) consider using the basic requirements of the standards such as GLOBALGAP to develop training curricula for farmers. At the same time, development initiatives focusing on creating efficient domestic market agricultural value chains should be promoted, to benefit both the domestic and export market.

TechnoServe banana project brief

The horticulture industry in Kenya is responsible for more than 60 per cent of export earnings. However, except for flowers, agriculture in Kenya is mostly subsistence and dominated by smallholder farmers. Declining productivity gains and the gradual collapse of the traditional cash crop economy have left millions of smallholder farmers impoverished and unequipped to supply local and regional markets, let alone the export market. These farmers have the potential to play a major role in strengthening and diversifying Kenya's horticulture industry. TechnoServe has discovered that the local banana industry is largely untapped and has the potential to expand considerably in both local and export markets as a raw and value-added product. Bananas play a crucial role in food security and the local economy and they grow throughout the year, providing a steady source of additional income to smallholder farmers. The industry, however, consists of large numbers of small, disorganised farmers and subscale traders who lack the resources and commitment to service increasingly sophisticated urban, regional and export markets.

In 2003, TechnoServe embarked on a project in central and eastern Kenya that organises farmers into producer business groups – groups of approximately 30 farmers who bring their products together – and equips them with the business development skills necessary to run a formal business. The project works with the farmers to improve pre- and post-harvesting techniques to increase productivity and to improve market access. Marketing service centres, which constitute the collaboration of several producer business groups, have been set up to bring guaranteed high-quality produce to wholesalers and better prices for farmers at one central location, thus eliminating the middleman. The marketing service centres are run solely by the farmers in the producer business groups.

The project has been largely successful and has seen farmers' income raised by 50 to 100 per cent. The project has already reached or exceeded almost all of its targets: 6,616 farmers have been trained through the programme and 145 producer business groups have been formed, with two fully operational marketing service centres. The marketing service centres have also brought farmers together as one collective voice, empowering them to influence constituency-level policy. The centres have developed into hubs for other products and have initiated other investments by farmers such as a biogas plant and fruit pulping machines. Revenue from banana sales more than doubled in the first year.

Though the project has been largely successful, farmers still face some challenges in gaining access to credit facilities for farm inputs. The project also faces challenges including: buyers lacking a reliable transport infrastructure; the creation of new markets; and the lack of government support for the banana industry. The project will now focus on organising buyers, working with local authorities to develop infrastructure in markets and creating a national banana industry policy to attract private sector investment. Registration of producer business groups as legal business entities is ongoing.

TechnoServe would now like to deepen and broaden the existing project and to replicate the project in other areas in Kenya such as the Western and Coast provinces and throughout East Africa (Tanzania, Rwanda, Uganda and Burundi). The current project does not address issues along the whole value chain sufficiently to have maximum impact on the farmer and is not large enough to create a large-scale successful national banana industry. Expansion of the project in existing sites will look at addressing issues along the whole value chain such as access to a credit facility for farm inputs, soil testing, diversification of banana varieties, bulking, ripening, storage, packaging, branding, transportation, and private sector investment in value-added banana products to create a larger market for bananas all year round.

Fresh Perspectives 8

The impact of private standards on West African growers producing for domestic and regional markets: a personal view based on the Afrique Link Ltd experience

Kwabena Adu-Gyamfi

Kwabena Adu-Gyamfi co-founded and directs Afrique Link Ltd., a tomato production and processing company. Over the past five years the company has worked with five outgrowers (500 farmers) to supply fresh tomatoes and mangoes

Key messages

- **PVS do not adversely affect the participation of rural African farmers in global trade.**
- **A high percentage of rural African farmers are illiterate and do not have the knowledge or experience to appraise the impact of these standards on their businesses.**
- **The fundamental agricultural practices (farming technologies, access to good-quality hybrid seeds, irrigation, etc.) need to improve.**
- **Agriculture should be seen more as a commercial enterprise than as a subsistence activity. This makes it possible for farmers to look for opportunities (e.g., PVS for market access) and take advantage of them.**

8

Using a cutlass to control weeds

Afrique Link Ltd., in conjunction with GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit), Unilever (Ghana) Ltd. and Ghana's Ministry of Food and Agriculture, launched the Wenchi Tomato Processing Project in 2003 to train 500 farmers in the production of quality fresh tomatoes to enable Afrique Link Ltd. achieve the private specifications of Unilever.

- Out of the 500 farmers, only 80 per cent complied with the requirements of the production protocols. The remaining 20 per cent continued with old practices.
- Of the successful 80 per cent, only 5 per cent respected the supply agreements, most of them side-sold to the fresh market.

Drawing on the Afrique Link Ltd. experience, this paper gives a personal view on how private standards affect West African farmers producing for domestic and regional markets and it provides some key lessons for making the most of opportunities.

Globalisation and PVS in sub-Saharan Africa

Rural livelihood activity is mainly agricultural. According to the 2007 budget statement of the Government of Ghana, the agricultural sector employed 60 per cent of the labour force and contributed 40 per cent of Ghana's GDP. However, government investment in agriculture over the past 25 years has decreased, for reasons that are unclear. It formed less than 4 per cent of government expenditure in 2007.

Globalisation has resulted in an increase in competition. Many companies have developed private labels and standards in response, amongst other things, to marketing (e.g., herb tea manufacturers in Europe and the USA). The requirements set by some of the international agrifood standards such as GLOBALGAP are high.

This obviously creates opportunities and threats to the rural African farmers. A high percentage of rural African farmers are illiterate and do not have the knowledge or experience to appraise the impact of these standards on their businesses. Those who are outgrowers to the nucleus commercial farmers can only move up or down in line with the performance of the nucleus farmer. The stand-alone subsistence farmer looks only at the domestic market and is unaware of the competitive world marketplace, which could be accessed. For instance, Shoprite, a South African retailer, has opened up stores in Ghana. This creates opportunities for local rural farmers to supply fresh vegetables and fruits to the retailer and exposes them to competition from South African imports.

The issues raised above on the effect of globalisation are still relevant and applicable to the appraisal of the impact of private standards. However, the farmer in West Africa has not been (or will not be) affected by globalisation or private standards as such. For example, with the introduction of GLOBALGAP the main beneficiaries have been the big commercial farmers. Small-scale rural farmers are indifferent. Their supply does not meet the demand for the fresh market or the processing market. The small-scale farmer is generally not commercially structured in his/her production system. Until this issue is addressed, any other intervention will fail – as has been the experience of several donor support programmes in the sector in the past.

Current trends are not geared to private standards

Typical rural West African farmers are illiterate and oblivious to globalisation and private standards. They operate on a subsistence basis, with little or no managerial and commercial skills. Technology

transfer is carried out through the central government (although even government staff needs training in most aspects of the staple food production). Consequently quality and yields are poor. Currently yields are about 10 to 20 per cent of world standards.

A few international companies and local skilled entrepreneurs have established companies in Ghana and are working with farmers to take advantage of the opportunities. The relationship with the farmers is a typical supplier–customer business relationship and little technical assistance or support is provided to farmers.

It should be noted that there are quite a number of anti-globalisation and anti-private standard NGOs in Ghana and West Africa, which are running campaigns to inform farmers that private standards are attempts to introduce non-tariff restrictions to limit the African farmers' access to European markets.

There is assistance from donor agencies including the United States Agency for International Development (USAID) and the Trade and Investment Programme for Competitive Export Economy (TIPCEE) in Ghana, and GTZ and DFID in West Africa. Agencies provide technical assistance in farm production (e.g., irrigation, improved seed varieties, new technologies to control pests and diseases) and thereby help to increase yields. In addition, USAID and TIPCEE also assist in market linkages and increasing export market access. However, their support is not sufficient to make substantial or sustainable impact.

Major factors enabling the rural farmer to take advantage of the opportunities that private standards bring

- **Commercialisation of agriculture:** agriculture should move from being a subsistence activity to a commercial venture. For example, the few private agriculture-based companies should work with the few entrepreneurial rural farmers on a block land basis in order for the latter to appreciate how a commercial farming business is managed. Government financial support and market access through government agencies will also contribute to accelerated growth. Due to agricultural production inefficiencies already identified, farmers are not able to compete with imports, notably from Europe.
- **Establishment of good value chain support linkages:** a conscious effort to establish linkages between the value chain actors is vital.
- **Access to timely provision of finance:** for a commercial venture, access to capital in a creative and timely manner is vital.
- **Nucleus farmer/large block farming synergies:** nucleus farmers must be available to pass on their commercial business skills to rural farmers.
- **Introduction of modern technologies:** current manual cutlass and hoe agriculture, which is still commonplace, should give way to modern technologies, although these would only be economically viable on farms of 10 hectares or more.

Suggestions for improvement and sustainability

- **Buyers teaming up with brokers to link farmers to market access.** Working hard to achieve expensive certifications does not guarantee market access; hence there is a need for commercially minded brokers to link farmers to buyers. Individual farmers do not have the knowledge or experience to market their products in-country, let alone in the export market.

- **Concept of nucleus farmers (who have skills in management, etc.) to work with farmers on a block land basis.** Services such as field irrigation or tractor hire are provided for them as a block unit. This introduces efficiency and reduces manual application. The farmer on a small unit within the block will benefit from improved technology and reduced unit costs, making him/her more competitive and profitable.
- **Payment of premium price for extra effort.** For example, a trend of informal standardisation is emerging in the fresh tomato and mango sector. Large-sized (from 70g to 100g), hardy, firm, fresh tomatoes with a shelf life of five to 14 days attract a premium price of about US$1 per kilogram, whereas others are priced between 40 and 80 per cent lower. The same goes for firm, non-bruised, fibre-free mangoes. If the nucleus farmer shares the premium with the small-scale farmers there is the likelihood that they will pursue improved technologies for better quality and higher yields.
- **Nucleus farmers supported by large block farming farmers.** The socio-cultural setting of the rural farmer can make his/her motivation and expectation less than optimal. There is a need for any nucleus farmer to target entrepreneurial lead farmers, who can employ the others and pay them wages to reduce their risks.

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2

Fresh fruit and vegetables exports from Africa to the UK

Supported by their governments, private entrepreneurs and donor agencies, many sub-Saharan African smallholders have attempted to develop export horticulture over the past two decades. The lure for sub-Saharan Africa of this trade is the promise of high-value output delivering a cascade of jobs, incomes, rural multipliers, opportunities and skills for small-scale growers. In order to take full advantage of the opportunities arising from access to these high-value markets, it is crucial to understand the dynamics of the supply chain, from the production side in Africa to consumption in Europe. [4]

2.1 Who grows, who trades, who sells?

Europe is the world's biggest importer of fruit and vegetables, and developing countries have become increasingly significant suppliers. With attractive prices, year-round demand for fresh produce, a sizeable consumer market and good transport linkages, the UK attracts a large portion of fresh fruit and vegetables exports from Africa.

In 2005, sub-Saharan Africa as a whole supplied over 650,000 tons of all categories of fruit and vegetables to the UK. UK consumers spend at least £1 million per day on fruit and vegetables from sub-Saharan Africa. Fresh fruit and vegetables imports grew by an estimated 6 per cent per annum over 1996–2004. In comparison with the overall trade in fresh fruit and vegetables, supermarkets are even more dominant drivers for air-freighted, high-value fresh produce that is imported to the UK from Africa. Although a significant minority of this produce is sold in the UK wholesale and food service markets, this is mostly a spillover effect from supermarket procurement.

Smallholders have been an important and cost-effective part of the export horticulture industry. In the 1990s, three-quarters of horticultural export production from Kenya was estimated to come from smallholders. In total, between 1 and 1.5 million livelihoods in sub-Saharan Africa rely in part on the fresh fruit and vegetable trade with the UK.

Produce from smallholders may be preferred to that from large commercial farms because small-scale farmers produce superior quality produce for many crops – such as green beans, peas and baby corn – which require more management time per unit of land, or are not well suited for plantation production. But logistical considerations may lower net benefits to buyers, and so smallholder-sourced produce can end up more expensive than that derived from plantation systems.

4. Source papers for this section are the 'Fresh Perspectives' briefing papers that follow as case studies (Legge *et al.* 2008; Accord Associates 2008) as well as the full length 'Fresh Insights' technical working papers (NRI 2006; Accord Associates 2007). All are available at www.agrifoodstandards.net.

Fresh Perspectives 9

Mapping different supply chains of fresh produce exports from Africa to the UK

Alan Legge, John Orchard, Andrew Graffham, Peter Greenhalgh, Ulrich Kleih and James MacGregor

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Key messages

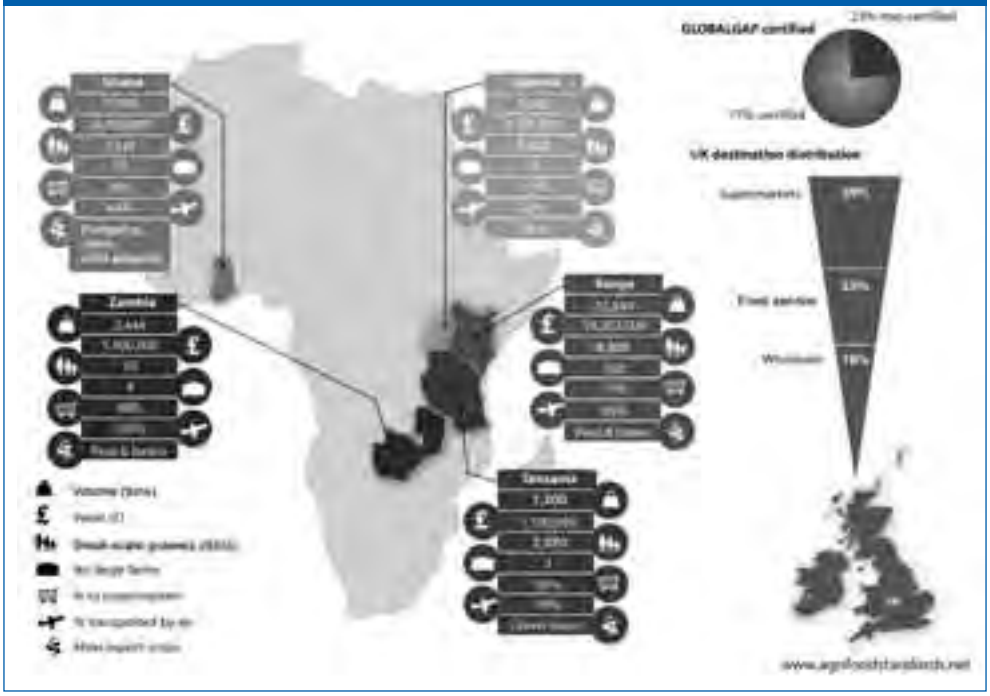
- **Over 1 million livelihoods of the rural poor are in part supported by the export trade of fruit and vegetables from sub-Saharan Africa to the UK.**
- **The 'non-supermarket' market is offering a haven for smallholders, with more than double the number of smallholders in sub-Saharan Africa accessing the non-retail market compared to the supermarket supply chains.**
- **Supermarkets are increasingly primary drivers for imported fresh produce.**
- **The export horticulture trade as a whole from sub-Saharan Africa to the UK is under competitive threat from Asia and North Africa.**

Source countries for African fruit and vegetables to the UK

In 2005, sub-Saharan Africa (SSA) supplied over 650,000 tons of all categories of fruit and vegetables to the UK. If South Africa is excluded from the data, sub-Saharan Africa countries exported 73,788 tons of vegetables to the UK worth £105 million and 209,555 tons of fruit worth £89 million in 2005 (NRI 2006).

Among five significant fruit and vegetable exporting countries in sub-Saharan Africa (excluding South Africa), Kenya dominates the vegetables trade and Côte d'Ivoire the fruit trade. Key facts for five countries targeted by the project are shown in Figure 1 and discussed in more detail below.

Figure 1. All fresh fruit and vegetable (FFV) imports from Africa to the UK



Source: NRI. Based on research in 2006.

Kenya is one of the world's leading exporters of fresh green beans (French and runner beans) and peas (snow peas and sugar snaps), as well as a minor exporter of tropical fruits (e.g., avocado, papaya and passion fruit). Other vegetables exported include squash, aubergines, chilli peppers, and sweetcorn.

Key factors behind Kenya's dominance include a dynamic private sector that has benefited from structural and macro-economic reforms, as well as an efficient transport hub. Approximately 75 per cent of exported produce is marketed through supermarkets, with the remainder entering the wholesale and food service sectors.

Exports of fresh produce from Kenya have been associated with significant smallholder involvement. In the 1990s, researchers estimated that three-quarters of fruit and vegetable export production came from smallholders. However it is readily accepted that smallholder involvement has significantly declined due to pressures from GLOBALGAP compliance. The results of a recent survey confirm that the number of smallholder growers of vegetables has fallen over 50 per cent, from an estimated 11,600 in 2004 to about 5,500 in 2006.

Ghana has a small range and volume of export vegetables (gourds/pumpkins, yams and chilli peppers), with a total annual value of £14.7 million from a volume of approximately 15,000 tons. All of the vegetables are sourced from smallholders by a relatively large number of vegetable exporting companies (via intermediaries), which supply mostly UK wholesale markets. Fruit exports

are bananas, pineapple, melons and papaya, although the volumes and values are relatively small (an average of 5,000 tons of pineapple in 2005 worth approximately £2.8 million). The producers of these fruits are both smallholders and large farmers/exporters.

Tanzania's fruit and vegetable export production base has two large-scale farms and 2,070 smallholders supplying vegetables to the UK retail (dominant part) and wholesale markets. The number of dependants associated with the export sector is over 32,000 and opportunities for expansion exist. Green beans represent the major export by far (close to 1,200 tons, worth about £1.1 million in 2005). Other produce includes peas, chilli peppers, sweetcorn and gourds. Tanzania does not export any significant volumes of fruit. The production area is viewed positively by supermarkets as an alternative source to Kenya at certain times of the year due to different climatic conditions. It also possesses the potential for expansion.

Uganda exports a relatively small volume of fresh produce to the UK (under 3,000 tons in 2005), dominated by okra but including chilli pepper, matooke and pineapple. Overall, levels of exports over the last three years have remained fairly constant, despite considerable donor-supported projects in the sector (although flower exports have increased significantly under the same programme). Of 2,060 Ugandan smallholders active in export production, 1,713 supply a relatively wide variety of produce to the UK market – mainly the wholesale/catering sector. Nonetheless, an estimated 200 smallholders also supply chilli peppers and okra to UK retailers.

Zambia's exports of vegetables to the UK totalled £7.4 million in 2005, with peas (about 1,300 tons in 2005) and beans being the dominant products. Other vegetables include sweetcorn, chilli peppers, and courgettes. Currently, production and export of produce from Zambia have been reduced with the rise in the value of the Zambian kwacha against the pound sterling, making exports uncompetitive compared to other sources. The number of smallholders, workers and dependants involved in supplying the UK fruit and vegetable sector totals approximately 7,000 and the export production base is currently centred on two large producers/exporters.

Employment and livelihoods in the export fruit and vegetable sector

The number of farmers, workers, their dependants and ancillary workers reliant on fruit and vegetable exports to the UK for a living in sub-Saharan Africa (excluding South Africa) has been estimated at 715,390. Including South African produce would take this figure to at least 1–1.5 million. Table 1 provides a breakdown by UK market (wholesale or supermarket) and production basis – smallholder (i.e., small-scale grower, SSG) or large-scale grower (LSG) – for the five study countries.

Trends in produce sourcing

For air-freighted imports in particular (which concern all fresh produce exported from sub-Saharan Africa), the UK market has mostly become a highly demanding and competitive premium-quality market, with a shrinking number of importers. It is increasingly difficult for new entrant suppliers to satisfy public and private standards without sizeable investment and attendant certification. Moreover, supermarkets remain wary of sourcing from small-scale farmers. They realise that failure to meet food safety or ethical trading standards can result in bad publicity and undermine their position in the marketplace.

Table 1. Livelihoods in the fresh fruit and vegetable export industry to the UK (sub-Saharan Africa excluding South Africa)

Market	Ghana	Kenya	Tanzania	Uganda	Zambia	Totals for the 5 countries	Other SSA (excl. RSA)	All sub-Saharan Africa (excl. RSA)
SSGs wholesale	3,438	2,815	2,070	1,860	10	10,193		
LSGs wholesale	10	191	1	12	2	216		
SSGs retail	160	4,140	2	200	0	4,502		
LSGs retail	10	191	0	2	2	205		
Dependants and ancillary workers	*70,433*	*171,237*	*30,330*	*29,963*	*6,948*	*308,911*		
Total livelihoods	**74,051**	**178,574**	**32,403**	**32,037**	**6,962**	**324,027**	**392,165**	**716,192**

As a result, between March 2005 and September 2006 over 50 per cent fewer smallholders in Africa accessed these high-value markets. Most of the decline has occurred in Kenya, despite the large amount of donor support provided. The smallholder decline reflects the increased costs and managerial burden associated with meeting private sector standards. This trend is emphasised by the decrease in external donor funds to maintain smallholder participation.

Other (non-supermarket) markets remain a haven for smallholders wishing to export their products. More than double the number of smallholders in sub-Saharan Africa are accessing the non-retail market compared to the supermarket supply chains. The non-retail sector for fresh fruit and vegetables – encompassing traditional wholesale markets, catering, and food service sectors – may represent a significant opportunity for smallholders given the lower barriers to entry in relation to private sector standards and quality requirements. Nearly 25 per cent of the volume of produce imported from the five case study countries in sub-Saharan Africa now flows into the catering sector.

Future markets

UK market structures are evolving, and this is having an impact in sub-Saharan Africa. The wholesale sector, which has traditionally been a major supplier to the food service industry, is losing some of this business to larger food service suppliers. These food service suppliers are behaving more like supermarket category managers and have introduced a greater degree of governance to ensure higher quality, a reduced risk of contamination, and traceability. A few companies now dominate this sector, with consolidation taking place and private standards being introduced as has happened in the supermarket sector.

Thus the trend for private standards is moving from supermarket-only export markets into traditional wholesale and food service markets. The ability of smallholders to comply with these standards has the potential to increase their competitiveness and provide access to these lucrative markets. Non-compliance will further marginalise and exclude them.

Competition from other parts of the world is also a threat to the sub-Saharan African export markets. The export horticulture trade as a whole from sub-Saharan Africa to the UK is under competitive threat from Asia and North Africa. Surveying UK category managers reveals that key factors able to influence future procurement are: production efficiencies, transport systems, overall carbon impact, and localised water supply. As such, procurement from sub-Saharan Africa is facing increasing competition and its security will be tested as UK importers continue to develop relationships with South and Southeast Asia and North Africa.

2.2 International opportunities for non-certified products

The ability of smallholders to access the high-value markets dominated by supermarkets has declined dramatically since the implementation of GLOBALGAP. As an alternative, could wholesale, food service and ethnic markets provide a significant refuge for smallholder production? Wholesale markets, the food service industry and independent retailers already offer sales opportunities for small-scale producers because standards for traceability and food safety are closer to the purely legal requirements, without the more stringent private sector standards required by multiple supermarkets. The scale of the potential overall UK market for non-GLOBALGAP-certified produce has not been assessed in detail but it is predicted that this will decline and that the opportunities for new sub-Saharan African suppliers are very limited.

In the fresh fruit and vegetables sub-sector, the UK market for non-private sector certified produce was recently estimated to be in the region of £1.71 billion, comprising £1.34 billion into grocery retail and £0.37 billion used in the food service industry. The cost and freight value was estimated to be in excess of £750 million. However, research indicated that only about £30 million per year (i.e., about 4 per cent) was supplied by sub-Saharan African smallholders, mainly directed to independent stores.

There is increasing demand from the food service industry for suppliers to have the same standards as those demanded by the supermarkets. Because of concerns over 'due diligence', i.e., the industry being able to demonstrate that it had taken adequate precautions to ensure food safety, many catering supply companies are auditing suppliers to ensure that they are implementing standards higher than the less onerous legal ones for the imported produce they purchase. And consolidation in the food service industry will result in fewer and bigger catering supply companies – which are even more likely to demand higher standards of certification.

Fresh Perspectives 10

Markets for non-certified fresh produce in the UK. Limited options for sub-Saharan African small-scale exporters

Accord Associates LLP

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Key messages

- **The market for fresh fruit and vegetables in the UK that did not have private sector certification or even compliance was estimated to have a cost and freight value of about £760 million – 76 per cent through retail outlets (mainly small corner shops) and 24 per cent via the food service sector.**
- **Very little non-certified fresh fruit and vegetables produce is currently supplied by smallholders in sub-Saharan Africa – probably no more than £30 million/year, and the opportunities for new suppliers are extremely limited.**
- **Factors negatively affecting the demand for non-certified fresh fruit and vegetables outweigh those that positively affect demand, indicating a further decline in sales of non-certified fresh fruit and vegetables from sub-Saharan Africa.**

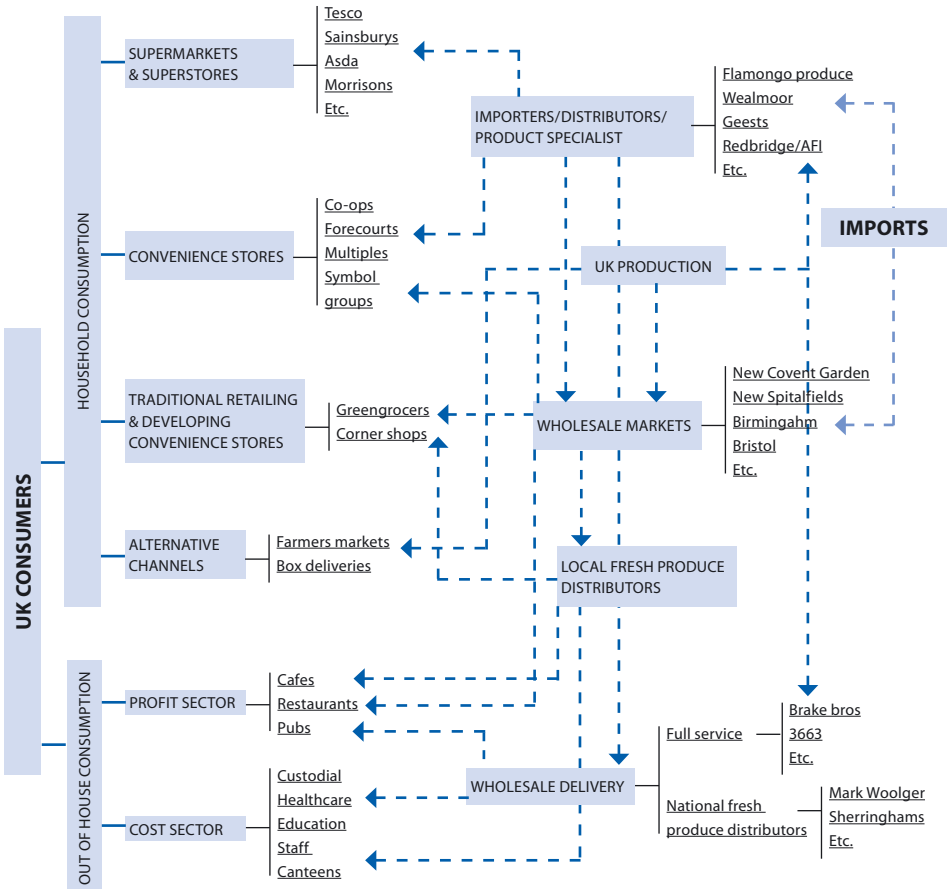
Introduction

In an effort to help reduce poverty in developing countries, many donors have promoted the international trade in horticultural produce grown by smallholders in the belief that it will deliver meaningful jobs, incomes, rural multipliers, opportunities and skills. This effort has continued in the face of rising food safety compliance standards that have eliminated many smallholders from the market. There are potential opportunities for smallholders in sub-Saharan Africa to supply fresh fruit and vegetables that have not met the certification standards demanded by the supermarkets. The main objective of this paper is to quantify the scale of the UK market for non-certified produce and to identify the main drivers of the fresh fruit and vegetables market in order to determine whether sub-Saharan African producers could increase their sales of non-certified produce.

Scale of the UK market for non-certified fresh fruit and vegetables

There are two main marketing supply chains in the UK for fresh fruit and vegetables imported from sub-Saharan Africa and other developing countries. The first and largest supply chain begins with importers who supply direct to the multiple retailers, supermarket chains, or the large food service supply companies. The second chain also starts with importers, but the produce is traded through wholesale fruit and vegetable markets.

Figure 1. Supply chains for imported fresh fruit and vegetables to the retail and food service outlets



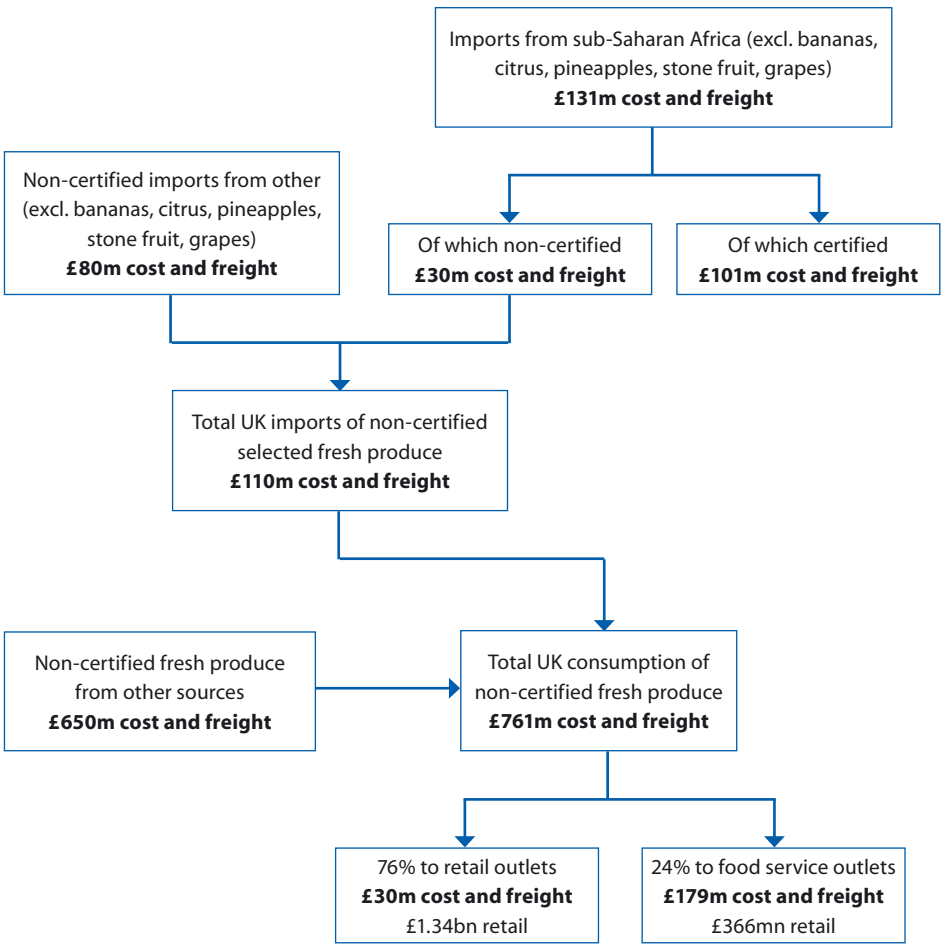
Source: Accord Associates Ltd

Whereas the first chain requires compliance with private standards, the markets for non-certified produce require compliance only with the legal regulations set by the government and the EU. The vast majority of this non-certified produce will therefore be sold through wholesale markets and will reach the consumer via independent convenience stores or will be used in the catering industry. Additionally, there is a small amount of produce that is imported directly by small supermarkets or by companies specialising in supplying to convenience stores.

The UK market for non-certified fresh fruit and vegetables was estimated to be in the region of £1.71 billion (retail value). This was broken down into about £1.34 billion in the retail sector and £0.37 billion in the food service industry. The corresponding cost and freight value of these retail figures was estimated to be in excess of £750 million.

However, the research indicated that only about £30 million per year was supplied by smallholders from sub-Saharan Africa (i.e., about 4 per cent). The main products supplied by these farmers are fresh fruit and vegetables for ethnic markets such as yams, chilli peppers and mangoes (whereas the main fresh fruit and vegetables exports from sub-Saharan Africa are bananas, pineapples and citrus, which are mainly produced by estates that are large enough to have the certification required to market through supermarkets). Sub-Saharan Africa can therefore compete because of its cheap labour for the very labour-intensive crops and because its climate is well suited for tropical crop production.

Figure 2. Flow of non-certified fresh produce in the UK



Note: the data on imports only covers lychees, mangoes, papaya, passion fruit and unspecified fruit; and beans, peas, mini-aubergines, chillies cassava, yams, sweet potatoes and unspecified vegetables

Source: Accord Associates LLP

Factors affecting the demand for non-certified fresh fruit and vegetables from sub-Saharan Africa

As with all industries, there are a number of factors that impact upon the trade in fresh fruit and vegetables from sub-Saharan Africa; some are positive and some are negative. See Table 1.

Table 1. Positive and negative influences upon the trade in fresh fruit and vegetables (FFV) in sub-Saharan Africa

Positive influences	Negative influences
Steady growth in the value of groceries, which includes fruit and vegetables.	The fruit and vegetable market in the UK is generally regarded as being mature and therefore not good for new entrants.
	Increasing strength of multiple retailers will result in more fresh fruit and vegetables having to be certified. Multiple retailers account for 84% of FFV sales – an increase of 2.2% between 2000 and 2002.
Increase in number of convenience stores.	Increase in number of multiple convenience stores that demand certified products.
	Decrease in number of independent convenience stores that do not demand certified products – which has led to a decrease in non-certified FFV sales. Outlet numbers fell by 5% and sales fell by 4% from 2005 to 2007.
Increase in popularity of ethnic restaurants (although much of the fresh produce that is used comprises temperate climate vegetables that can be grown locally).	
Promotion of FFV for healthy lifestyles – but the FFV market is reaching its peak with consumption at about 2,300g/person/week.	Promotion of local production in both retail and food service outlets.
	Environmental concerns regarding air freight of FFV.
Steady increase in demand for ethnic food – from 22 to 30g/person/week over last five years.	Preference of some restaurants to promote local and seasonal products.
Growth in food service sector.	Increasing demands by food service industry for traceability as the industry consolidates.
	Even smaller food service companies are increasingly demanding the auditing of supply chain.
	Local government institutions wanting to support local production and reduce their carbon footprint.
	Consolidation in the food service industry will result in fewer, but larger, catering supply companies, which will demand higher standards of certification.
	Overall, sales in the wholesale markets are, at best, steady and there is a switch from supplying retail outlets to the food service sector – much of which is very cost conscious.

Conclusion and recommendations

It was anticipated that opportunities for smallholders in sub-Saharan Africa to supply non-certified fresh fruit and vegetables would increase. However, while some sub-Saharan African produce is marketed through this channel, indications show that this market is decreasing as the supermarkets are taking an increasingly larger share and as the food service sector focuses more on traceability and demands certified produce.

The UK market for non-certified fresh fruit and vegetables is large, but very little is currently supplied by sub-Saharan African smallholders. More importantly, it is predicted that this market will decline and that the opportunities for new sub-Saharan African suppliers are very limited. Furthermore, the factors negatively affecting the demand for non-certified fresh fruit and vegetables appear to outweigh the positive factors.

Thus the main recommendations are:

- Donors should be extremely wary of promoting the export of non-certified produce from Africa to the UK – any significant increase in non-certified produce being supplied to the wholesale markets could have a dramatic effect on prices.
- Instead, donors should focus on alternative options for reducing rural poverty, such as helping small-scale horticultural farmers trade in markets where they have greater comparative and competitive advantages, e.g., local markets, neighbouring countries, and possibly the Middle East.
- It is important to help secure the existing trade in non-certified produce. Consideration needs to be given to help farmers and exporters establish a simple system of traceability and crop record-keeping to help the food service supply companies that audit their suppliers. Such a system would be much simpler than private sector certification (such as GLOBALGAP), but it would give increased confidence to the food service sector and help with improving their 'due diligence'.
- Consideration could also be given to the establishment of a simple certification procedure for some segments of the sub-Saharan Africa local market.

10

Section 2 references

Accord Associates (2008), *Markets for non-certified fresh produce in the UK. Limited options for sub-Saharan African small-scale exporters.* Fresh Perspectives series no. 13, DFID/IIED/NRI. Available at www.agrifoodstandards.net

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Learning from the GLOBALGAP experience

There have been concerns that PVS would negatively affect the competitiveness of producers in developing countries. Economies of scale matter, with compliance being easier for larger firms and relatively more expensive for smaller participants in the market. The economics of the system are currently pushing African small-scale producers away from export markets that demand GLOBALGAP compliance. Assessing costs and benefits of compliance is key to understanding the viability of small-scale growers in export horticulture chains. Once difficulties faced by smallholders are identified, this can help point out opportunities for cost reductions and better prepare exit strategies.[5]

3.1 Benefits and costs of compliance with GLOBALGAP – smallholder and exporter perspectives

In order to comprehend the range of impacts, surveys of smallholders in the GLOBALGAP-certified export crops chain were conducted in Zambia, Kenya and Uganda. Interviewees reported general satisfaction with GLOBALGAP, with the greatest perceived benefit being the cascade of opportunities generated by preferential market access. These include: access to produce markets, credit, trade credit, and quality inputs (high-germination seeds, high-nitrate fertiliser, etc.). In addition, respondents perceived considerable 'non-financial' benefits, namely production of quality produce, improved field hygiene, better knowledge of pesticide use, and wider farm management benefits. This proves that the use of income or profit margin as an indicator of success or failure is partially misplaced.

A survey of top exporters in Kenya found that in 2003, when GLOBALGAP implementation started, the exporters sourced produce from over 9,000 small farmers and this would have provided livelihoods for around 45,000 dependent family members and employees. By 2006, 60 per cent of these growers had been dropped or had excluded themselves from the GLOBALGAP scheme due to problems with implementation of the standard. The smallholder decline reflects in part the increased costs and managerial burden associated with meeting private sector standards and the decrease in external funds to maintain smallholder participation.

The primary cause of failure is financial. GLOBALGAP compliance requires higher threshold levels of capitalisation than many smallholders can afford. In Kenya, average per-farm initial costs of compliance in 2006 were measured at around £1,200 and annual recurrent costs

5. Source papers for this section are the 'Fresh Perspectives' briefing papers that all follow as case studies (Graffham *et al.* 2007a; Graffham and MacGregor 2007a; Kleih *et al.* 2007a; IIED and NRI 2008a; Asfaw *et al.* 2008; Luvai 2008; Mwangi 2008; Graffham and Cooper 2008a; Graffham *et al.* 2008; and Nyagah 2008) as well as the full length 'Fresh Insights' technical working papers (Graffham *et al.* 2007b; Graffham and MacGregor 2007b; Kleih *et al.* 2007b; IIED and NRI 2008b; Graffham and Cooper 2008b; and Graffham *et al.* 2007). All are available at www.agrifoodstandards.net.

were £760 (with the farmer paying on average 36 and 14 per cent respectively, and exporters – sometimes also donors – paying the rest). With small-scale growers usually making less than £1,000 per annum, the average maintenance costs of compliance actually paid by a small-scale grower constitute a very significant proportion of net incomes.

Implementing GLOBALGAP properly is a major investment for exporters. A survey of companies that control over 50 per cent of the Kenyan export horticulture market revealed that over £2.2 million has been invested in getting almost 2,000 farms to a position where they can be audited for GLOBALGAP compliance. Simultaneously, exporters are often key providers of both managerial and technical support for the growers, with large export companies being well staffed and resourced with outgrower management teams, comprehensive annual training programmes, internal auditors, and programmes for sampling and laboratory analysis.

There is an economic threshold for the size of a smallholder scheme that exporters are willing to work with, related to the perceived high cost of technical support per farm. The total investment by the exporter is a predictor of the health of the GLOBALGAP-certified smallholders supplying it. Large export companies fulfil the role of primary marketing organisation for the growers and are capable not only of providing the necessary managerial, technical and logistical support, but also of representing the growers effectively during the certification audit.

Donor support has also been a significant factor in encouraging attempts to comply with GLOBALGAP. This is especially true for smaller export companies, which have relied heavily on donor support amounting to 40 to 100 per cent of establishment costs (as compared to 15 to 28 per cent for the large companies). Smaller companies were more likely to push more of the costs of compliance onto the farmer, and to operate a 'cheaper' system with many inefficient or technically unsustainable features, simply to reduce costs, e.g., small exporters can have very limited, or virtually nonexistent, outgrower management teams. In many cases, companies could not maintain the system once donor support was withdrawn.

All of the failed and failing schemes are associated with smaller companies that lack the necessary resources to operate an efficient and sustainable GLOBALGAP-compliant scheme.

Fresh Perspectives 11

Impact of GLOBALGAP on small-scale vegetable growers in Kenya

Andrew Graffham, Esther Karehu and James MacGregor

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Key messages

- **The GLOBALGAP private retailer standard has been the main driver for change in producer and exporter practices in Kenyan horticulture since 2003.**
- **Many Kenyan exporters have significantly reduced their involvement with small-scale growers since GLOBALGAP introduction.**
- **For smallholders, costs of compliance are high and indicate significant co-investment from exporters.**
- **Maintenance costs of GLOBALGAP compliance are very high relative to average smallholder margins, necessitating financial support from export companies.**
- **Reducing recurrent costs is the chief reason for 'drop-out' and hence key to sustaining smallholder inclusion.**
- **There are advantages to standards. Standards have increased the demand for export horticulture, injected cash into rural areas, increased the value of skilled labour, and upgraded quality, productivity and technological know-how of smallholders.**

Production and processing of fresh produce for export to the EU is an attractive market opportunity, with ten sub-Saharan African countries exporting significant volumes of fresh fruit and vegetables to the EU. In Kenya, export horticulture is now the fastest-growing sector of the economy. Estimates indicate that over one million livelihoods in rural sub-Saharan Africa depend on UK consumption of imported fresh fruit and vegetables. In Kenya, small-scale growers play a significant part in this process, accounting for an estimated 50 per cent of production.

Consumer pressure, protection of brand image, stricter food regulation in the EU during the 1990s, and the need for access to a due diligence defence drove retailers to develop strict commercial standards, culminating in the introduction of GLOBALGAP. Since its inception, GLOBALGAP has been the main driver for change in producer and exporter practices. Currently, 30 of the retailer members of the Euro-Retailer Produce Working Group control 85 per cent of fresh produce sales in the EU,

and their standards go much further than the legal minimum specified under EU regulations for food of non-animal origin.

Large-scale commercial growers have found it relatively easy to comply with GLOBALGAP as they already have access to the necessary financial, infrastructural and human capacity. In contrast, it is often reported that small-scale growers (farming from 0.1 to 1.0 hectares) find GLOBALGAP a major challenge as they lack the necessary infrastructure and trained personnel; nor do they have the finances to support adoption and maintenance of GLOBALGAP without external help.

Can small-scale growers in Kenya remain viable?

In 2006, as part of ongoing research in Kenya covering data since 2003, a survey encompassing 11 out of 18 of the major exporters in Kenya (including the four largest companies, which control 80 per cent of produce exports to the EU) was undertaken. Its purpose was to understand trends in the position of small-scale growers, and to illustrate incentives for them to continue being part of GLOBALGAP.

Prior to 2003, the majority of exporters relied on casual purchases of vegetables from large numbers of small-scale growers via a system of brokers. Following the introduction of GLOBALGAP 2.1 in September 2003, the exporters were obliged to try to certify growers. At this time 9,342 small-scale growers with an estimated 45,000 dependants (family and waged labour) were involved.

Three years later, 60 per cent of these small-scale growers are no longer directly supplying export markets. This apparent drop in market access is not solely attributable to the advent of GLOBALGAP. While it is true that some farmers have been dropped by their export company, or withdrawn from compliance schemes, as a direct result of an inability to either comply or retain compliance with GLOBALGAP, other farmers have taken personal decisions to drop out. Furthermore, the figure of 60 per cent should not be translated into total exclusion. All remain in farming, selling to local markets as they did before, and many continue to sell to exporters who sell to less stringent markets – such as in South Africa. A small number have been absorbed into groups managed by other export companies and are still trying to achieve GLOBALGAP compliance. The potential turnover in non-export markets will be lower, offset in part by lower initial and recurrent costs (since GLOBALGAP compliance is not required) and more immediate payments.

Our research indicates that for small-scale growers the primary reason for exclusion is lack of financial viability rather than a technical inability to meet the standard. Feedback from companies' management indicated that further reduction in smallholder involvement was planned for 2007.

The financial burden for small-scale growers

From the companies surveyed, 1,978 small-scale growers have been supported by exporters and donors to get GLOBALGAP certification. Establishment of GLOBALGAP for these small-scale growers cost at least £2,340,000, equivalent to £1,183 per grower. On average, farmers paid 36 per cent, exporters paid 44 per cent, and donors paid 20 per cent of this cost.

Maintenance of GLOBALGAP for these small-scale growers cost at least £1,500,000, or £760 per grower, of which farmers paid 14 per cent (averaging £104 per farmer). Actual farmer contributions ranged between schemes from £1.10 to £175 per grower for smallholder (from 0.1 to 1.0 hectares) groups and £1,183 for ten larger individually certified farms (approximately 10 hectares). Smallholder incomes from export sales range from £98 to £1,250 per grower per annum, with most making £200 per annum.

The supply chain's financial investment in small-scale growers

Standards compliance is not possible without external support and can be maintained only with significant financial inputs from export companies or donors. All farmers complained of investing most, or all, of their individual or group savings in the GLOBALGAP compliance process, and the majority felt that these costs were not balanced by an increase in price for compliant produce. Four companies offered credit support for standards activities, recovering loans via produce sales, and two companies operated a cost-sharing scheme for farm and infrastructure, with the company contributing between 20 and 50 per cent of the initial investment costs.

Donor support has been a significant factor in encouraging attempts to comply with GLOBALGAP, mostly in the form of training, laboratory analyses and certification costs. Exporters and farmers express concern that donor inputs are not coordinated, do not seek involvement of the stakeholders, do not provide direct support to individual farmers, and take no account of the long-term viability of smallholder schemes.

Donor subsidies for initial costs can give farmers and exporters a skewed view of the reality of producing GLOBALGAP-certified export crops. Thus farmers who in reality are not going to be able to conform to GLOBALGAP in the long term might have been swept along (with neighbours or fellow cooperative members) in the initial stages, and then dropped out when the financial and organisational reality started to bite.

Our calculations indicate that when an average farmer is asked to contribute more than 25 per cent of total recurrent costs, his or her margin slips to zero and he/she ceases to be a part of GLOBALGAP value chains, seeking other markets instead. This begs a key question that is crucial for donors and analysts to consider: how much added inflation in standards and their associated costs can be sustained by small-scale growers?

In conclusion

There are some positive impacts of standards. By expanding the potential markets for Kenyan produce, standards have increased the demand for export horticulture and injected cash into rural areas. Productivity (yield per hectare) has increased, input costs have been reduced through more prudent pesticide and fertiliser application, and the ties with export horticulture have increased the quality of the seeds. Standards provide incentives to upgrade, presenting positive incentives for farmers to improve their practices and for exporters to find and secure product from these farmers.

Farmers who had attained GLOBALGAP certification were clearly reaping benefits from adoption of good agricultural practice, record-keeping and improved hygiene. Many farmers said that they were using GLOBALGAP records to understand their financial viability and run their farms more commercially. The number of skilled agricultural technicians has risen and the value of skilled labour has risen too.

Sustainable GLOBALGAP compliance by small-scale growers was found to be related to the level of commitment and resources of the export company. Only two of the schemes examined were running efficiently. Smaller export companies relied heavily on donor support, with some of them frankly saying they could not see how the system could be maintained once donor support was withdrawn.

Reducing costs is the key to sustaining smallholder engagement. The private sector is quick to invest its own resources in a system that already exists and is functioning – here contributing around 86 per cent of recurring costs. The research shows that initial costs are a barrier to entry for exporters and also farmers. Moreover, these costs are a barrier to exporters wishing to expand their supply base of small-scale growers in Kenya. It is difficult to see how, in Kenya or in other countries, these high costs will be surmounted other than through persistent donor intervention. Many options exist to ensure that these investments are not wasted, such as bonds or repayment schedules from imports. Investment in reducing the costs of infrastructure, especially irrigation, is justified by the argument that the control points for GLOBALGAP compliance for small-scale growers need to be made less costly. Donors have a key role to play in making this happen and championing the role of small-scale growers in export supply chains and in the standard-setting process.

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GLOBALGAP Protocol for Fresh Fruit and Vegetables

The GLOBALGAP Protocol for Fresh Fruit and Vegetables 2.1 was introduced in September 2003 and became mandatory from January 2004. It is divided into 14 chapters with sub-divisions into a large number of control points that cover all aspects of agricultural production from seed through to delivery of the product at the farm gate. It has both environmental and social dimensions. Each control point has specific criteria for measuring compliance, and the system for measurement is via independent audits of the application of GLOBALGAP on the farm. The most important control points are highlighted in red and known as 'major musts'. For a farm to pass the certification audit there must be 100 per cent compliance on major musts.

The second category of control points are highlighted in yellow and known as 'minor musts'. The farm must demonstrate compliance with 95 per cent of these control points at the time of the audit and 100 per cent within one month of completion of the audit. GLOBALGAP offers four optional routes for achieving certification but only two of these are applicable to most developing country suppliers: Option 1: Individual grower certification, and Option 2: Group certification.

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Impact of GLOBALGAP on small-scale vegetable growers in Zambia

Andrew Graffham and James MacGregor

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Key messages

- **The geographic position of Zambia makes export horticulture particularly expensive and necessitates accessing high-value markets, particularly those involving UK supermarkets where GLOBALGAP dictates market entry.**
- **The experience of a smallholder group marketing organisation in Zambia showed that compliance with GLOBALGAP is technically feasible.**
- **The Zambian smallholders had a very positive view of GLOBALGAP as a standard and are firmly convinced of the benefits of good agricultural practice.**
- **The economics of the system are currently pushing these smallholders away from export, or at least away from exporting GLOBALGAP-compliant produce.**

Production and processing of fresh produce for export to the European Union (EU) is an attractive market opportunity, with ten sub-Saharan Africa countries exporting significant volumes of fresh fruit and vegetables to the EU. In Zambia, the agricultural sector is important for livelihoods and it is growing, with export horticulture growing the fastest. Smallholders play a significant role in agriculture and in export horticulture.

In many of the countries in sub-Saharan Africa, small-scale growers make a major contribution to export production and derive significant levels of income in return. In Zambia, where rural household incomes are often less than £100 per annum, small-scale growers have made incomes of between £1,000 and £7,500 per annum from vegetable exports.

Zambia is a double land-locked country, situated a long way from the lucrative European market. The Zambian export industry is small but well organised, with just two exporters (formerly three), a small number of large commercial growers, and one smallholder scheme. Lacking easy port access, the Zambian export industry has been able to compete internationally only by supplying high-value exotic and out-of-season fresh and minimally processed vegetables to EU retail markets. At present, Zambia is not an economically viable supplier for EU wholesale or other

lower-value export markets. Therefore it must rely on accessing retail markets (particularly those involving UK supermarkets) that demand compliance with the European retailers' private standard for good agricultural practices (GLOBALGAP) as the absolute minimum for market entry.

Much of the evidence for problems with GLOBALGAP is anecdotal. For this reason the decision was made to conduct a detailed cost–benefit analysis of GLOBALGAP implementation by small-scale growers in Kenya, Uganda and Zambia. In Zambia the fieldwork was conducted by NRI and IIED, working in collaboration with the NRDC-ZEGA (Natural Resources Development College – Zambia Export Growers' Association) Training Trust (NZTT). The overall objective was to identify, quantify and assess the range of costs and benefits associated with compliance with the GLOBALGAP standard in order to design policies for donors and standard-setters that are pro-poor and sustainable (a cost–benefit analysis was carried out in Kenya with a far larger survey, see Graffham *et al*. 2007).

When the GLOBALGAP implementation process was started in 2003, nearly 500 smallholders were involved, organised in an independent marketing cooperative (Lubulima Commercial Cooperatives Unions, LACCU) to sell produce to both local and export markets. Income levels from exports varied from £1,000 to £7,500 per annum. Extensive support was received from the major exporter, Agriflora.

During March 2006, managers and small-scale growers in the smallholder scheme were surveyed. The timing of the visits was important since the GLOBALGAP audit was planned for June 2006 and cooperative farmers were planting baby corn in accordance with an arrangement with the exporter, for harvest before June 2006 to comply with the requirements of the GLOBALGAP Protocol for Fresh Fruit and Vegetables Version 2.1, January 2004.

Experiences of compliance with GLOBALGAP

Growers reported the benefits of GLOBALGAP compliance as increasing farm efficiency and yields, improving plant health and food safety of products, food safety and hygiene training (with spinoff benefits as workers apply knowledge in the home), and improved health and safety of farm workers, especially those involved in handling crop protection products.

Certification also builds buyer confidence in the professional standards of the farmers (GLOBALGAP-certified smallholders in Zambia used GLOBALGAP as a marketing tool to access high-value local, regional and EU retail markets). New 'soft' technologies were transferred to the farmers, including a range of land and business management skills, and exposure to – and experience working with – cooperative structures (including negotiation and resolution management), which have spinoffs as farmers apply these to their entire farm. It also built grower confidence in opportunities for market growth and financial reward, developing incentives for growth, stimulating innovation, and enhancing efficiency. Establishment of the centralised facilities required for Option 2 of GLOBALGAP allowed for cost savings through bulk purchases of farm inputs and made it easier for the farmer groups to access credit and loan facilities.

On the negative side, significant costs were reported as associated with GLOBALGAP compliance. For a group of 25 smallholders in Zambia, compliance costs amounted to average per grower

contributions of £4,664 for initial investment, and £938 per annum for maintenance costs. These levels of cost were untenable given the low number of smallholders involved and the poor level of income achieved from export vegetable sales during the 2005 season. Smallholders cannot establish or maintain GLOBALGAP without sustained financial and technical support from external agencies. Continued improvements to the GLOBALGAP standard are raising costs and barriers to market entry.

Cooperative management is one key element of compliance that requires investment of time and resources by all members. Key principles are that it remains democratic, it works proactively for its members, distribution of costs and benefits are equitable, and it develops and sticks to its business plan.

Is GLOBALGAP responsible for Zambian farmers becoming excluded?

Incomes of farmers who are compliant with GLOBALGAP have fallen by half since 2002, and margins are being further squeezed. Better access to market opportunities and efficiency savings on farms are needed. Less than 3 per cent of the smallholders involved in supplying the UK market with export horticulture in 2000 are doing so today.

But GLOBALGAP cannot be seen as being primarily responsible for loss of access to EU markets by Zambian smallholders. The bankruptcy of the biggest exporter, Agriflora, in July 2004 eliminated all of the advantages (reliable monthly income via written contracts – initially paid in foreign currency, transport logistics, managerial and technical support) of being linked to a major exporter; it also deprived the growers of access to markets for high-value commodities such as peas.

Issues external to the horticulture industry have also proven significant. In December 2005, the value of the Zambian kwacha appreciated against the US dollar – a major blow to the economic viability of the export horticulture industry. The cost of air transportation increased, and the number of cargo flights from Lusaka fell from seven flights per week in 2005 to just one flight per week in March 2006. Furthermore, the budget of January 2006 proposed levying 17.5 per cent VAT on all agricultural inputs (other than those for maize) and all food sales other than maize meal. A 45 per cent withholding tax was proposed for businesses. The detailed records and production contracts of export markets render producers liable to VAT. Although the local markets offer poor prices and unreliable sales, they do operate on a cash-in-hand basis at the farm gate (thus there are no transport costs) with no records or receipts, thereby making taxation easy to avoid.

Investment in reducing the costs of infrastructure, especially irrigation, is justified by the argument that the control points for GLOBALGAP compliance for small-scale growers need to be made less costly. Donors have a key role to play in making this happen and championing the role of small-scale growers in export supply chains and in the standard-setting process.

Is GLOBALGAP certification viable in Zambia?

The experience of LACCU in Zambia shows that compliance with the requirements of Option 2 of the GLOBALGAP Protocol for Fresh Fruit and Vegetables is technically feasible for small-scale growers with the possible exception of some elements of the quality management system.

Gross incomes of farmers interviewed in March 2006 varied from £555 to £2,462 per annum and net incomes from export sales varied from £37 to £1,317, with most making between £300 and £700 per annum at net income from sales of baby corn for export. This is a drastic reduction on the net income figures seen during the 2003–2004 season with Agriflora.

The GLOBALGAP system implemented by the producers' independent marketing cooperative cost £116,621 for initial investment and £23,453 per annum. This investment provided the farmer-led market organisation with relatively sophisticated produce-handling facilities and external technical support from NZTT to cover training, extension advice, farm inspection, and internal auditing and development and maintenance of the quality management system and documentation systems for GLOBALGAP.

Given that 25 growers were participating in the GLOBALGAP scheme in 2005, the cost per individual grower would have been £4,664 for initial investment and £938 annually to maintain the system.

However, if the ten growers who went for GLOBALGAP certification in June 2006 had met the cost it would have been £11,662 per grower for initial investment and £2,345 per grower to maintain the system. Given the farmers' levels of income from export sales, these figures are obviously untenable. Massive levels of donor support made it possible to achieve GLOBALGAP but as donor support only has a limited duration it would not be possible to maintain GLOBALGAP certification unaided.

Had the original system with 300 to 500 growers been sustained, the individual investment costs would be £974 and £584 per annum respectively and recurring costs would range from £463 to £225 per annum. In addition, savings could be made by removing some of the more extraneous components of the system.

Overall, for GLOBALGAP to be viable for smallholders in Zambia there would be a need for a much larger group of certified growers with a considerably higher and more stable income, and ideally the exporter would play a role in managing the scheme. The economics of the system are currently pushing smallholders away from export – or at least away from exporting GLOBALGAP-compliant produce. Other markets, such as South Africa, are becoming more attractive and the standards regime to enter these markets will be less severe. But without external help and patronage, accessing these opportunities is unlikely to reap decent returns or sustainable livelihoods.

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Impact of GLOBALGAP on small-scale vegetable growers in Uganda

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Key messages

- **There are currently no active GLOBALGAP certification schemes in Uganda. (In December 2007 two farmer groups – Awaggwa Ekku farmers' cooperative society and Abasaija Kweyamba cooperative society – were certified for GLOBALGAP, and it is believed one more company received the certificate during the first quarter of 2008).**
- **Ugandan horticultural exports are niche crops for wholesale and ethnic markets.**
- **Horticultural exports are predominantly grown by smallholders.**
- **There was steady growth in horticultural exports from the 1990s until 2005, with 2,145 smallholders involved in 2005.**
- **A sharp drop of 40 per cent in smallholder participation in exports in 2005/6 is attributed to fuel prices and PVS.**

Production and processing of fresh produce for export to the European Union (EU) is an attractive market opportunity, with ten sub-Saharan Africa countries exporting significant volumes of fresh fruit and vegetables to the EU. Smallholders and the rural poor play a significant part in these supply chains. The infancy of this new industry in Uganda, in which there are currently no GLOBALGAP-certified growers, presents both opportunities and threats for future pro-poor agriculture-based growth. Uganda's horticultural exports are less developed than in its Kenyan neighbour: 5,600 tons in 2005, one tenth of Kenya's.

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Taking pineapples to export

GLOBALGAP was founded in 1996 by a group of 11 British and Dutch retailers, with the objective of creating a single private sector standard for ensuring the food safety and quality of fruit and vegetables from seed through to the farm gate.

By 2007, the now 30 retailer members of GLOBALGAP control an estimated 85 per cent of fresh produce sales to consumers in the EU. Uganda's export horticulture industry is concerned that lucrative EU markets – where average unit prices can be five times higher than for regional trade – are increasingly out of its reach as PVS become embedded in the industry. An additional worry is that small-scale grower (smallholder) participation in EU supply chains is falling. These concerns exist at a time when Uganda produces no GLOBALGAP-certified export horticulture, but the experience of smallholders in neighbouring countries and demands from buyers are starting to suggest that something must be done to ensure sustainability in this industry.

How does Uganda export to the EU with no GLOBALGAP certification?

Whilst 97 per cent of Uganda's export horticulture trade to the UK is by air freight, less than 10 per cent is sold in supermarkets, with the majority sold in wholesale markets and through the food service sector. A common export example is the Scotch bonnet pepper, sold into UK ethnic markets. GLOBALGAP is not required by these non-supermarket supply chains; rather the entry ticket is compliance with the EU *General Food Law Regulation (EC) 178/2002*.

This indicates a potential for the upgrading of the Ugandan export horticulture sector into products, qualities or quantities that are required to enter the dominant supermarket supply chains. However, industry concerns abound that this sector first needs to secure these markets – and PVS are playing a defining role in this.

Export horticulture in Uganda

Horticultural exports to non-African markets from Uganda showed steady growth from the 1990s until 2005, when an estimated 5,600 tons (US$5.6 million) were exported by 23 companies. Unexpectedly, export growth to overseas markets fell by 16 per cent in 2006 to 4,700 tons and our research indicates that the number of smallholders supplying the export sector had fallen by 40 per cent during 2006, from 2,145 to 1,260.

Our survey indicates a strong correlation between these apparent falls in export volumes and smallholder participation. Reasons are complex, with exporters surveyed identifying two chief culprits: rising fuel and freight costs, and the increasingly stringent food standards in export markets, in particular GLOBALGAP. Both reasons combined to squeeze non-GLOBALGAP-compliant produce from trade, raising concerns that future decreases in fuel costs will not result in recapture of lost markets owing to a lack of GLOBALGAP compliance.

There is evidence of 'standards creep' in the EU, from supermarket supply chains into wholesale and food service sectors. The increasing requirement for GLOBALGAP compliance is a threat to these wholesale routes from Uganda to EU markets. Uganda has a number of natural advantages for continued horticultural export growth, such as low-cost labour, access to water, and year-round climate for production of specific products (e.g., roses, cuttings, pot plants, hot peppers, chillies, okra, pineapples, and bananas). However, it also faces a number of constraints, including ineffective coordination of growers, limited cold chain facilities, few incentives to attract foreign direct investment, competition from established neighbours, and production constraints (lack of improved varieties, poor agronomic practices, lack of appropriate and relevant extension services, and limited access to quality inputs).

Two export companies acquired GLOBALGAP certification (Option 1) during 2004 but failed to renew their GLOBALGAP certificates, one of them stating that it now entirely focuses on floriculture due to higher margins in that sector. Other industry participants are familiar with the failure of these pioneers in making a success of GLOBALGAP.

Conclusions

Uganda continues to benefit from exports of niche products through wholesale channels to the EU, but there is concern that these are on the decline. The introduction of GLOBALGAP certification could enable access to these lucrative markets, but there are no guarantees of success.

Uganda appears to be facing a difficult decision over the direction of investment in its export horticulture industry. On one hand, it could follow the high-cost route of GLOBALGAP compliance to gain access to lucrative markets. On the other hand, it could continue the non-GLOBALGAP route for the non-supermarket supply chains. Both choices offer risks and benefits (see Table 1 below) yet without concerted effort from the national-level industry, and complementary demand from EU

trading partners, no change is likely. This is due to two missing elements: an enabling environment and industry commitment.

The enabling environment in rural Uganda remains incomplete. Compliance in the long term is not simply a question of raising standards and practice at farm level. It is essential to make other elements of the agricultural system efficient. Without an enabling environment, compliance is rendered difficult for even the strongest firms. Appropriate markets do not exist for credit, information, and business service provision, thereby stifling efficiency and investment.

Securing market share is the most important outcome from GLOBALGAP compliance within the Ugandan export sector. Compliance could serve to avoid further loss of market shares in Europe and recapture markets that have recently been lost. However, this requires that exporters commit themselves to undergo certification within the coming year. Ideally, the Horticulture Promotion Organisation of Uganda should coordinate this process and ensure that several companies can be certified at the same time, thus avoiding delays and extra costs.

Upgrading to comply with GLOBALGAP appears possible for some industry participants along the supply chain. Analysis shows an export company would have to sell an additional 53 tons and smallholders would have to increase their production by 50 per cent to compensate for additional compliance costs.

Yet overseas markets are typified by risk, and currently all of the initial exporters are seeking market opportunities elsewhere. It is suggested that there are also opportunities in exploring the following market opportunities:

- Cross-border trade in horticultural products in which Uganda has a comparative advantage. For example, matooke, pineapples and apple bananas are already being exported to Kenya.
- Uganda's domestic market is expanding due to population growth and changing consumer preferences.
- Processing of fruit and vegetables for the domestic and international markets takes place, albeit on a small scale. This includes drying of fruits such as pineapples and mangoes, and the production of juices.

Stakeholders in the horticultural sector state that, with sufficient support from government and donors, there is scope to take better advantage of the horticultural production potential in Uganda and market opportunities. This would require upgrading infrastructure, the availability of finance on favourable terms, and support for the organisation of groups of small-scale outgrowers, given that the latter are likely to form the backbone of the export industry in the foreseeable future. It has been suggested that National Agricultural Advisory Services could play a stronger role in this respect.

Table 1. Opportunities and threats presented by GLOBALGAP compliance and the non-GLOBALGAP alternatives

Scenario	Opportunities	Threats
1. No GLOBALGAP: continue with current EU market access (non-supermarket focus).	■ No extra compliance costs. ■ Diversification (e.g., into organic fruit production or processing).	■ Loss of market share due to increased demand for GLOBALGAP certification.
2. No GLOBALGAP: focus on African cross-border and domestic trade.	■ Lower fuel-cost-based risks. ■ Focus on regional comparative advantage crops (e.g. pineapples and apple bananas).	■ Reduced unit benefits and total revenues. ■ Zero demand for current niche crops. ■ Aggressive regional competition.
3. Upgrade to GLOBALGAP where possible.	■ Securing EU market share. ■ Recapture lost markets. ■ New technologies and knowledge transfer increase global competitiveness.	■ Costs of upgrading to comply with GLOBALGAP necessitate consolidation. ■ Direct competition with other EU exporters such as Kenya. ■ No exporter 'leader' to break into the EU market.

Fresh Perspectives 14

Costs and benefits of GLOBALGAP compliance for smallholders: synthesised findings

IIED and NRI

Key messages

- **While smallholders face on-farm costs (initial and recurring investments) and off-farm costs (chain management) to comply with GLOBALGAP, no premium is paid for certified products at farm level.**
- **Smallholders benefit from a cascade of opportunities owing to preferential market access such as upgraded produce quality, improved field hygiene, better knowledge of pesticide use, and wider farm management benefits.**
- **Key factors of success are co-investments by exporters, flexible technical support, and appropriate donor aid.**

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IIED and NRI's research on the costs and benefits of GLOBALGAP compliance for small-scale growers in sub-Saharan Africa has shown that there are evident barriers to sustaining access to export horticulture markets. Financial costs and technical requirements are high. Those smallholders already in the export business – who are required to comply in order to continue exporting – often complain that prices received do not increase, while costs of compliance are high. Yet the perceived benefits of upgrading production activities are high for those smallholders who are able to comply and there are secondary benefits for the rural economy. Benefits for the wider economy include the jobs provided in packhouses and in transportation. Exporter companies have demonstrated their willingness to form partnerships with smallholders by providing high levels of financial, technical and administrative support. Donor commitment to this trade has in turn provided an important startup impetus in helping growers to adapt to EU requirements. Going forward, realising and sustaining these benefits across farms and economies, now requires appropriate investments to facilitate continuation of the European market access that has proved to be so beneficial to the economies of some developing countries.

This research aimed to identify, quantify and assess the range of costs and benefits associated with compliance with the GLOBALGAP standard in order to design policies for donors and standard-setters that are pro-poor and sustainable. The GLOBALGAP Protocol for Fresh Fruit and Vegetables was chosen as a special focus for the study as this is the only standard that has been identified as having a significant impact on African smallholders. From an economic development viewpoint, trade linking rich countries with relatively poor smallholders in developing countries has great potential to provide poverty alleviation and long-term economic development and to complement current development aid budgets. This is particularly true in Kenya and Zambia.

Methodology

A techno-economic research team was formed (made up of an economist working with a standards compliance expert) and this team conducted face-to-face semi-structured interviews along the supply chain. This research was conducted in March 2006 (Zambia) and October 2006 (Kenya). Rather than using formal questionnaires to gather information, the team used a semi-structured interview process to elicit answers, views and reflections on: financial costs and benefits; production changes; perceptions of the compliance process; and non-financial changes and benefits. The analysis of the viability of GLOBALGAP compliance for small-scale growers could be expressed as:

Viability = Turnover from crop sales – Initial and recurring costs associated with compliance

Conceptually, Kenya is the 'leader' country in the export horticulture markets for the region, and is being 'followed' by Zambia. This is well-illustrated by the comparative number of smallholder exporters, volume of exports, and GLOBALGAP certificates in each country (see Box 1).

Box 1. Profile of export horticulture in Zambia and Kenya, 2006

Factor	Zambia	Kenya
Number of exporting companies	2	30
UK significance for export	100%	50%
Volume exported to UK (MT)	3,444	32,644
Air freight significance	100%	75%
No. of smallholders exporting	10	5,520
Proportion sold into supermarkets	100%	75%
Export horticulture crops ranking		
1	Baby corn	Green beans
2	Mange tout	Baby corn
3	Green beans	Mange tout
Number of GLOBALGAP certificates	4	386

The following findings are synthesised from the research.

Key costs factors relate to the requirement (and ability) to invest in upgrading certain components of production

GLOBALGAP compliance requires higher threshold levels of capitalisation than many smallholders can afford. In Kenya, average per-farm initial costs of compliance with GLOBALGAP in 2006 were measured at £1,145, of which 36 per cent was paid by the smallholders, and annual recurrent costs were £175, with farmers paying on average 14 per cent of recurrent costs associated with GLOBALGAP and exporters (and/or donors) paying the rest.

Box 2. Costs of GLOBALGAP compliance

	Zambia	Kenya
Smallholder sample	14	1,968
Chief vegetable crop	Baby corn	Green beans
Initial cost	£4,664	£1,145
Proportion paid by smallholders	6% (£279)	36% (£412)
Recurrent cost	£938	£175
Proportion paid by smallholders	12%	14%
Estimated turnover on GLOBALGAP crops	£413	£417–1250
Recurrent GLOBALGAP costs as % of turnover	227%	21%
Estimated change in smallholder numbers in exports	-97% since 2000	-60% since 2002

Financial and non-financial benefits

Satisfied compliant suppliers

All smallholders who were GLOBALGAP-certified and who were interviewed for this project reported general satisfaction with GLOBALGAP. GLOBALGAP's greatest reported benefit for smallholders is in opportunities for preferential market access. This includes access to produce markets, credit, trade credit, and quality inputs (high-germination seeds, high-nitrate fertiliser, etc.). In addition, smallholders perceived considerable non-financial benefits, and although the use of income or profit margin as an indicator of success or failure is key, it ignores the other perceived advantages of GLOBALGAP, including production of quality produce, improved field hygiene, better knowledge of pesticide use, and wider farm management benefits.

Trade aids the rural economy

Our findings illustrate the power of trade to unleash multiplier benefits in rural areas, as farmers report more efficient and stable farming operations serving all markets. By expanding the potential markets for Kenyan produce, standards have increased the demand for export horticulture and injected cash into rural areas. Productivity (yield per hectare) has increased, input costs have been reduced through more prudent pesticide and fertiliser application, and the ties with export horticulture have increased the quality of the seeds. Standards provide incentives to upgrade and are a stimulus for farmers to improve their practices. In turn, exporters find and secure product from these certified farmers. Farmers who had attained GLOBALGAP certification were clearly reaping benefits from the adoption of good agricultural practice, record-keeping, and improved safety and hygiene. Many farmers said that they were using GLOBALGAP records to understand their financial viability and run their farms more commercially. A side-effect of the increased export access has been that the number of skilled agricultural technicians has risen and the value of skilled labour has risen too.

Key factors of success for benefits to outweigh costs

Co-investment

Implementing GLOBALGAP properly is also a major investment for exporters. A survey of companies that control over 50 per cent of the Kenyan export horticulture market revealed that over £2.2 million has been invested in getting 1,948 farms to a position where they can be audited for GLOBALGAP compliance.

Flexible technical support

A second key role for the exporter was as provider of both managerial and technical support for the growers. The largest of the export companies had well-staffed and resourced outgrower management teams, comprehensive annual training programmes, internal auditors, and programmes for sampling and laboratory analysis. There is an economic threshold for the size of a smallholder scheme that exporters are willing to work with, related to the perceived high cost of technical support per farm.

Successful exporters provide positive incentives to maximise the numbers of smallholders supplying their export trade. Furthermore, the total investment by the exporter is a predictor of the health of the GLOBALGAP-certified smallholder outgrowers supplying it. Large export companies fulfil the role of primary marketing organisation for the growers and not only were capable of providing the necessary managerial, technical and logistical support, but were also sometimes able to represent the growers effectively during the certification audit.

It is significant that smallholders who are not well supported by their exporter struggled with GLOBALGAP, and evidence from Kenya has shown that many either fail to certify or drop out of the compliance system within one to two years of first being certified. The most common causes of individual grower withdrawals from GLOBALGAP were an inability to deal with the complexities of the standard and the high costs associated with compliance.

All of the failed and failing schemes are associated with the smaller companies that lacked the necessary resources to operate an efficient and sustainable GLOBALGAP-compliant scheme. The smaller exporters had very limited outgrower management teams, or in some cases the team was virtually non-existent. Interviews with farmers associated with these schemes showed how such farmers are more aware of the very high costs of compliance than those supplying large companies, and cannot see how a compliant system can be maintained without a dramatic increase in income.

Appropriate donor support

Donor support has been a significant factor in encouraging and funding attempts to comply with GLOBALGAP. This is especially true for smaller export companies, which have relied heavily on donor support amounting to 40 to 100 per cent of establishment costs (as compared to 15 to 28 per cent for the large companies). Smaller companies were more likely to push more of the costs of compliance onto the farmer, and to operate a cheaper system with many inefficient or technically unsustainable features, simply to reduce costs. Some of these companies were frank in saying that they cannot see how the system can be maintained once donor support is withdrawn. Significantly, questions are raised about the sustainability of a donor-primed model, since the average recurrent costs of GLOBALGAP compliance typically exceed half of the margin for smallholder farmers.

Fresh Perspectives 15

Food safety standards: a catalyst for the winners – a barrier for the losers? The case of GLOBALGAP in horticultural exports from Kenya

Solomon Asfaw, Dagmar Mithöfer and Hermann Waibel

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Key messages

- **Resource-poor farmers with limited access to information and services face difficulties in complying with certification schemes.**
- **Small-scale farmers who do adopt the standards enjoy a range of tangible and intangible benefits.**
- **The financial internal rate of return on investments in standards compliance at farm level is remarkably high even when pessimistic assumptions are made. Investment in standards compliance pays off for small-scale producers in Kenya even in the absence of external support.**
- **Although the financial support of donors or private companies is crucial for smallholders to achieve certification, subsidising GLOBALGAP certification among smallholders may not be justified from a development perspective for a number of reasons.**

Many sub-Saharan African countries have been diversifying their export portfolios away from primary commodities into non-traditional products – such as horticultural produce – in order to increase their export earnings and reduce poverty levels. Several studies have documented the positive role of the horticultural export sector in meeting these targets. However, there are concerns that the proliferation and enhanced stringency of food safety standards that are imposed by high-income countries can negatively affect the competitiveness of producers in developing countries and impede actors from entering, or even remaining in, high-value food markets. In parallel with changes in legal requirements, supermarket chains in Europe have developed prescriptive, production-orientated standards, e.g., GLOBALGAP.

To comply with these standards, producers have to change their production technology, e.g., by switching to less harmful pesticides and investing in structures like grading sheds, charcoal coolers, disposal pits, toilets and pesticide stores. Thus, unlike larger commercialised farms, smallholder farmers are faced with financial constraints and human resource limitations in complying with standards. Consequently, small-scale producers, who are the very target of many agricultural

development programmes that aim at poverty reduction in line with the first Millennium Development Goal, could become losers in this development. Yet others argue that in some cases such standards can play a positive role, providing the catalyst and incentives for the modernisation of export supply and regulatory systems, and the adoption of safer and more sustainable production practices.

How significant is the cost of GLOBALGAP compliance?

We estimated the costs of compliance with GLOBALGAP standards incurred by individual farmers and donors and/or exporters contracting the farmers. Data obtained from the household survey and AfriCert, one of the few certification companies operating in Kenya, were used. The estimates show that the costs of compliance with GLOBALGAP standards for small-scale export vegetable producers operating under the Option 2 certification scheme are about 36,600 Kenyan Shillings (KSh)[6] per individual member of the group, and about 8,390 KSh per group member by the exporters and/or donors. The investment cost borne by individual farmers accounts for approximately 30 per cent of their total annual crop income. The bulk of costs incurred by individual farmers (about 90 per cent) is spent on investment in infrastructure and equipment that they must have as a pre-condition for implementing standards. These represent the non-recurring costs and are primarily meant for record-keeping and in support of internal self-inspection (e.g., office construction and furniture), crop protection (e.g., chemical store, pesticide disposal pit), worker safety, health and welfare (e.g., waste disposal pit, toilet and bathroom) and product handling (e.g., grading shed and charcoal cooler).

Beyond these costs there are a number of wider benefits from compliance with GLOBALGAP as perceived by the survey respondents. They perceived that adoption would assure them of markets and higher prices as well as timely payment by the exporters. Many also perceived that implementation of GLOBALGAP at the farm level increased the quality of production and reduced the amount of buyer rejection. Under GLOBALGAP, agrichemicals are stored and handled by trained individuals and many growers felt that their health was better protected this way. Likewise, the installation of disposal pits for the waste generated on the farm, clean toilets, and handwashing facilities were perceived by the respondents to lead to better hygiene conditions. In addition GLOBALGAP adopters expressed pride in the neatness of their farms compared to pre-compliance conditions. Finally, another perceived benefit for the farmers was improved bargaining power with their buyers, which enabled them to switch more easily from one buyer to another. The question remains whether these benefits are large enough to offset the investments associated with GLOBALGAP compliance.

Does investment in GLOBALGAP compliance benefit small-scale farmers?

Empirical results show that resource-poor farmers with limited access to information and services are less likely to adopt standards and could potentially be marginalised from the lucrative export market. Nevertheless, farmers who adopt standards enjoy a substantial income benefit. The question is whether these benefits are sufficiently large to cover the non-recurring and recurring costs of obtaining and maintaining the certification standard and to render the investment profitable. This is analysed by considering two scenarios taking the planting schedule of smallholders in Kenya into account. Scenario 1 assumes that smallholders plant three export

6. The exchange rate at the time of the survey was approximately 72 KSh to the US$.

crops per year, which is the most frequent case in Kenya, and Scenario 2 considers the worst case situation of two cropping seasons only. Assuming a constant impact of GLOBALGAP on net income in all cropping seasons of 8,727 KSh,[7] the annual net income attributable to GLOBALGAP adoption is approximately 22,443 KSh in Scenario 1 and 14,962 KSh in Scenario 2. Using the cost data presented above, the financial internal rate of return and repayment period are determined.[8]

Firstly, it is assumed that farmers pay all the costs, including for auditing, training and testing. Considering three cropping seasons per year and a constant net income over the life span of the investment, the estimated financial internal rate of return is 33 per cent for a conservative five years of investment and 42 per cent for an upper limit ten-year life span of investment. However, when two cropping seasons per year are considered, the financial internal rate of return declines to minus one per cent for five years and 15 per cent for a ten-year life span of investment.

Secondly, it is assumed that external agencies cover the annual audit fees, training and testing costs – as has been the case for small-scale farmers in Kenya. In this case, the financial internal rate of return is high, ranging from 30 per cent for Scenario 2 and up to 66 per cent for Scenario 1. The repayment period analysis demonstrates that smallholders can recover their investment cost in two to three years in the three cropping seasons scenario, and in up to seven years for two cropping seasons without any donor/exporter support (this analysis did not incorporate the risk inherent in the investment or compare the findings against alternative investment options that are available to smallholders, due to lack of information). However, comparing the financial internal rate of return to the medium-term lending rate by banks in Kenya, which is about 12 per cent, we can generally conclude that investment in standards compliance is beneficial for small-scale producers in Kenya even in the absence of external support.

Yet the question remains whether many small-scale farmers in Kenya can finance the initial cost of about 37,000 KSh to start up the implementation of the protocol, and at the same time the donors/exporters can continue their financial and technical support.

Policy implications

The above discussion has one major message for policy: it is the asset-poor – with limited access to information and services – who may be excluded from participating in export market value chains. The government and private sector can help farmers expand and upgrade their range of assets and practices to meet the new requirements of supermarkets and other coordinated supply chains. Options include public investments to increase farmers' productivity and connectivity to markets, and public-private partnerships to promote collective action and build the technical capacity of farmers to meet the new standards. Up until now, the role of the public sector in this development was rather limited compared to the private sector. Nevertheless, if it is the policy goal of the Kenyan government to keep as many smallholders as possible in the export market by helping them to

7. We used different micro-econometric modelling techniques to obtain the income effect of adopting GLOBALGAP among smallholders in Kenya.
8. The financial internal rate of return is an indicator to measure the financial return on investment of an income-generation project, and is used to make the investment decision. The financial internal rate of return is obtained by equating the present value of investment costs (as cash outflows) and the present value of net incomes (as cash inflows) and thus determining the break-even interest rate. In general, the higher the percentage compared to the minimum alternative rate of return, which could be the lending rate in the bank, the better it is.

become certified with the emerging standards, the questions are: what cost can this be achieved at, and what alternatives might there be? So far donors have supported the smallholders to attain standards, and some exporters have also helped farmers overcome their asset constraints and improve their business image by providing technical assistance.

Although the financial support by donors or private companies is crucial for smallholders to achieve certification, subsidising GLOBALGAP certification among smallholders may not be justified from a development perspective for a number of reasons.

- First, donor support may be insufficient to offset the increased smallholder disadvantage. There is also a danger that farmers won't maintain their level of certification once donor support ends, rendering smallholders' involvement in GLOBALGAP production unsustainable.
- Second, large farms growing vegetables employ large numbers of labourers, who are often from poorer segments of the rural population than the farmers adopting GLOBALGAP. Thus, subsidies for smallholders can have a digressive impact on income distribution among the rural poor.
- Third, it is not yet clear who is benefiting most from the subsidies in the supply chain, and it is possible that farmers are indirectly paying for the subsidy through lower product prices. This does not mean that financial and technical support for small-scale producers is unjustifiable, but it requires further research that assesses the costs of helping a larger part of the smallholder population to achieve food safety standards and compares these with alternative options for attaining poverty alleviation and rural development.

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GLOBALGAP certification in Kenya: lessons from the Vegcare experience

Lynette Luvai

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Key messages

- **GLOBALGAP certification is not adapted to underskilled and under-resourced small-scale farmers from developing countries.**
- **Beyond the need to reduce costs of compliance for small-scale farmers, it is essential to contextualise the requirements to develop local understanding and expertise.**
- **Final consumers are the main beneficiaries of PVS and should therefore contribute to the cost of compliance by paying a higher price for certified produce.**

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GLOBALGAP facility for Kikoo farmer group

Kenya is predominantly an agro-based economy, with agriculture employing about 80 per cent of the population. Agriculture accounts directly for 26 per cent of the gross domestic product, and indirectly for an additional 27 per cent. It is estimated that small-scale farmers account for about 60 per cent of the country's total agricultural output. Although smallholders in Kenya have traditionally dominated the horticultural sector, during the past decade they have steadily lost market share owing to the limitations of their size of operation, as well as their inadequate technical knowledge and managerial capacity. Their position has been further eroded by the introduction of stringent new laws and market standards that aim to ensure sound environmental management, ethical trade practices, good agricultural practices, and high-quality produce. This paper draws on field experience of the implications of GLOBALGAP certification for Kenyan producers and offers some key factors for success in sustaining smallholders' participation.

The GLOBALGAP challenges for developing country smallholders

During the 1990s, increased consumer awareness and stricter food regulation in the EU propelled retailers into developing strict commercial standards, which resulted in the introduction of EUREPGAP (the European retailers' protocol for good agricultural practice). These standards pushed for a change in producer and exporter practices. EUREPGAP has since changed its title to GLOBALGAP, in recognition of its spread to other parts of the world. This has led to the adoption of identical criteria in several continents and countries, including Africa, South America, Thailand and Japan.

Such standards are reasonable for farmers in developed countries and large-scale farmers in developing countries, who have adequate resources and capacity to bear the costs associated with compliance. However, with smallholder farmers the situation is very different. They have neither the resources nor the capacity to comfortably meet these standards, making compliance an uphill task for them. Factors that make it particularly difficult for smallholder farmers include the high cost of compliance, lack of technical capacity and knowledge, and sometimes requirements that are difficult to implement within the local context. Under these circumstances, is it therefore possible for smallholder producers to comply with voluntary private standards on a sustainable basis?

Improved quality, yields and hygiene thanks to GLOBALGAP certification

One positive impact of the implementation of GLOBALGAP has been the entrenchment of good agricultural practice in producer farming operations, thus improving yields and product quality and – it can be argued – ultimately leading to sustainable agriculture. Vegcare, an independent horticultural company formed as a partnership between CARE and a leading exporter in Kenya, has been working with groups of smallholder farmers, linking them to markets and facilitating their compliance with GLOBALGAP. The company has seen quality of produce increase by 15 to 20 per cent, as evidenced by reduced levels of rejects by exporters. The improved quality and reduced reject levels can be attributed both to better weather conditions and to compliance with GLOBALGAP standards.

Another positive impact has been the improved hygiene of producers and their farms/environment. In the case of Vegcare farmers, this has been seen in various ways including – but not limited to – ensuring the availability of clean toilet and washing facilities and keeping farm land and equipment clean. The improved farmer hygiene has benefited customers in that they are able to purchase more hygienic produce.

Additional investments do not yield higher prices

The costs of complying with GLOBALGAP have been too high; they have proven to be prohibitive for some small-scale farmers who have insufficient resources to cover them. It costs Vegcare farmer groups approximately US$6,500 per average group of 30 farmers to successfully go through the entire process and attain certification. These costs have been subsidised by CARE through donor funding. In addition to this, once groups are certified there are still annual charges and costs related to the annual renewal of the certificate. While CARE subsidised the initial group certification, Vegcare agreed with its farmers that all renewal costs would be paid for by the farmer groups.

For the farmers who manage to attain certification, the fact that the certified produce does not command a higher price than non-certified produce is demoralising, because they see no difference in their income when they compare their situations before certification and after certification. However, even though there is no price difference between certified and non-certified produce, one of the key advantages of certification is that it provides a larger market opportunity – so certified farmers stand to earn more because they can access markets that are not available to non-certified farmers.

No adaptation for developing country farmers

Another failure of GLOBALGAP has been the inability to contextualise its requirements to a developing world environment, therefore making it harder for farmers in developing countries to understand the requirements and comply with them. It is hoped that the newly-launched KenyaGAP has addressed this issue, and has developed protocols that are relevant to the Kenyan context.

The expertise needed to implement the voluntary private standards is not readily available. Only a few local people have the expertise, resulting in the need to hire foreign consultants. Vegcare had to hire a South African firm to develop a GLOBALGAP-certified quality management system. This proved very costly and time-consuming. Where local expertise has been available, it has been difficult to hold on to the personnel, as their skills are in high demand within the industry. Thus, there is need for more localised expertise in this area.

Small-scale farmers do not benefit much from PVS. While the cost of compliance is high, there is no commensurate price increase for their produce. On the other hand, larger farmers benefit more as they are able to comply easily with these standards at a lower cost because of benefits from economies of scale and from implementation of harmonised systems that increase their efficiency. However, the main beneficiaries of these standards are the end customers, as they are able to purchase higher-quality and more hygienic products without necessarily paying more for them. Often, the investment the producers have to make in complying with these standards actually outstrips the benefits.

Key factors for more successful smallholder participation in GLOBALGAP certification

- There is a need to reduce the costs of compliance, so as to make the process of compliance more affordable to smallholder farmers. Linked to this is the need to introduce different price structures for certified and non-certified produce. This would encourage compliance, as farmers would clearly see the correlation between certification and their incomes.
- The need to contextualise the requirements is also important as this will make the process of certification much easier to understand and implement.
- It is important to develop local expertise on the voluntary private standards. This will enhance farmers' access to pertinent information, skills and training and eliminate the necessity of relying on international consultants, thereby saving on time and costs.

Shifting the cost of compliance down the chain

Any discussion of how to achieve improvements and sustainability in the system should be linked to the question of who actually pays for compliance with private standards such as GLOBALGAP. Because the main beneficiaries of these standards are the end consumers, they should contribute to the cost of compliance by paying a higher price for certified produce. This will encourage compliance because when farmers carry out a cost–benefit analysis they will clearly see that the benefits outweigh the costs.

In addition to this, the improved market access that results from the better infrastructure benefits the entire value chain – including the bottom line of the buyers/exporters. Therefore the buyers/exporters should contribute towards these infrastructure costs, rather than pushing them down the chain to the supplier.

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The impact of private agrifood standards on smallholder incomes in Kenya

Timothy Mwangi

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Key messages

- **GLOBALGAP is an opportunity and not a threat to Kenyan smallholders and it is achievable.**
- **To succeed in implementation of any new private or public food standard, cooperation is required from all stakeholders – farmers, exporters, government and development partners (donors).**
- **GLOBALGAP benefits serve the whole value chain, improving the conditions of trade for fresh produce.**

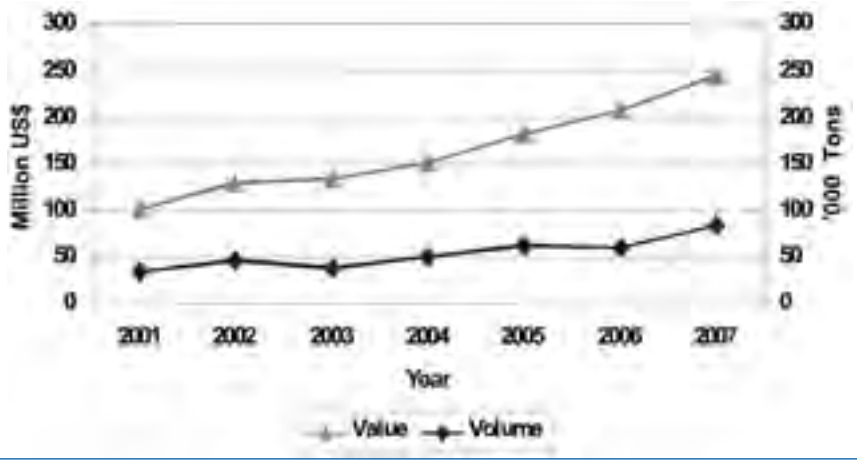
The Kenya Horticultural Development Program (KHDP) is a five-year USAID-funded programme established in October 2003. The aim of the programme is to sustain and increase smallholder sales and income through production and employment in the fresh and processed food sectors in Kenya. KHDP provides marketing, post-harvest handling, processing, and agronomic support for smallholders and allied agri-businesses. One strategic area of support given to smallholders is training and certification in GLOBALGAP (formally EUREPGAP) – a private voluntary food standard required before exporting to European retail markets. This paper seeks to summarise the methodology and the key findings from the USAID/KHDP initiative, focusing on the impact of food standards on smallholder incomes.

Industry involvement in sustainable GLOBALGAP compliance for smallholders

Since 2003, Kenyan smallholders wishing to continue exporting to EU retail markets have had to comply with the PVS GLOBALGAP. However, many smallholders were unable to meet these new requirements, which forced them out of the export market. Moreover, a risk of non-compliance was for Kenya to lose market share, leading to a drop in fresh produce exports and a reduction in income for suppliers and employees. To offset these trends, exporters maintained market share by establishing large-scale farms and thus buying less from outgrowers. This led to further income loss in rural areas.

The horticultural industry anticipated these threats and made practical interventions to achieve compliance for smallholders; in particular, smallholders were assisted by cost-sharing support between farmers, export companies and donors, complemented by direct donor funding. Simultaneously, lobbying began to make standards more 'smallholder-friendly', alongside the continuous monitoring of the impacts of food standards.

Figure 1. Kenyan vegetable exports 2001 to 2007



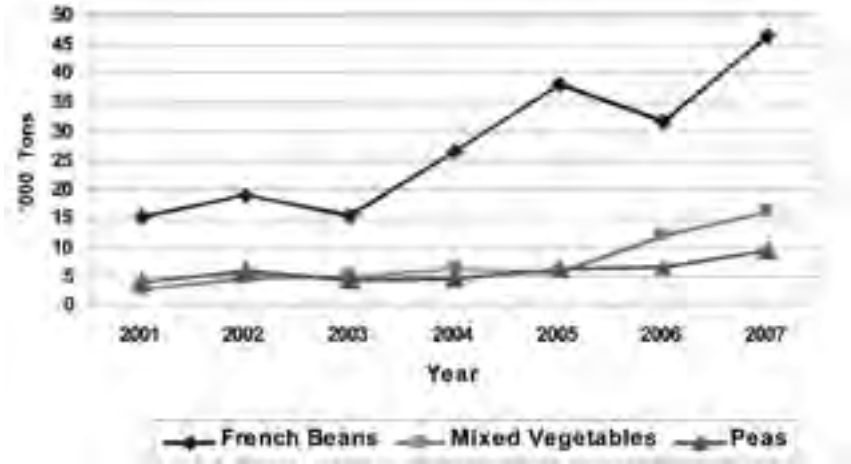
Source: Kenya Revenue Authority.

Methodology for impact analysis

KHDP collected the data used in this survey through:

- Eight KHDP field agronomists working directly with growers and exporters in six of the eight provinces – Central, Rift Valley, Eastern, Nyanza, Western and Coast.
- Six GLOBALGAP partnerships with major export companies.
- Continuous interaction with the industry in Kenya and the EU.
- A survey of 1,020 growers (in September 2006) from the 12 main districts that produce more than 80 per cent of Kenya's fruit and vegetables (carried out by Farm Produce Technologies, a leading consulting firm in horticulture in Kenya).
- A survey of 23 brokers and 15 export companies (in 2007) by KHDP.

Figure 2. Kenyan outgrower vegetable exports 2001 to 2007



Source: Horticultural Crops Development Authority (HCDA).

Results

Ability to comply with GLOBALGAP and other food standards

Results showed that smallholders have succeeded in becoming certified with GLOBALGAP. By December 2007, at least 2,210 outgrowers had achieved certification for fresh fruit and vegetables and at least 6,000 for processed vegetables. It is estimated that there are more than 20,000 farmers growing fresh produce for the export market.

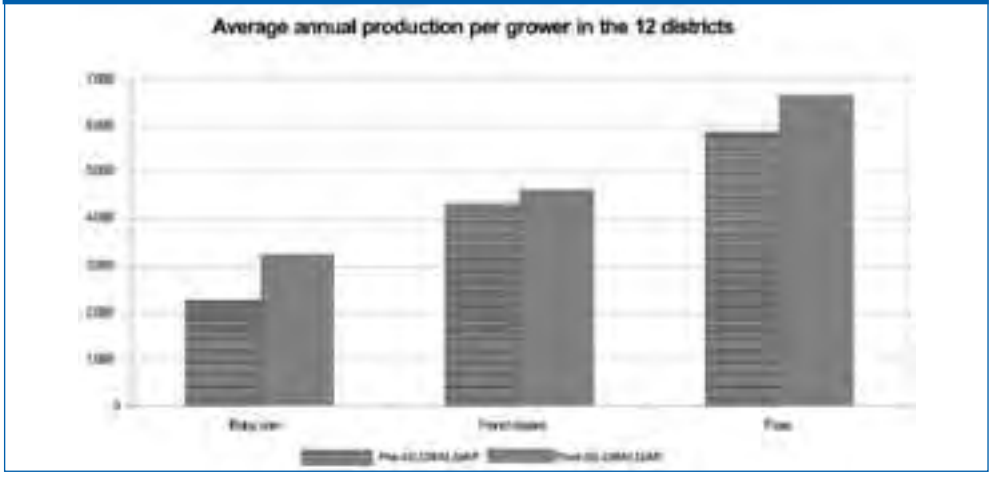
Increase in fresh produce exports

Kenya has maintained its market share and increased its fresh produce exports (see Figure 1). All Kenya's fresh produce exports have increased since 2003, with higher than average growth in outgrower vegetable exports (see Figure 2).

Increase in outgrower production and income

Exporters and large-scale farms have invested mainly in flower production and improved high-care packing facilities – rather than in vegetable production on their own farms. However, outgrower production and income from vegetable exports actually increased between 2001 and 2007. From the two graphs it was noted that the farmers' production increased per given area and also their average income increased across all export growers in Kenya (see figures 3 and 4).

Figure 3. Annual production (kg) pre-GLOBALGAP (before 2003) and post-GLOBALGAP (after 2004)



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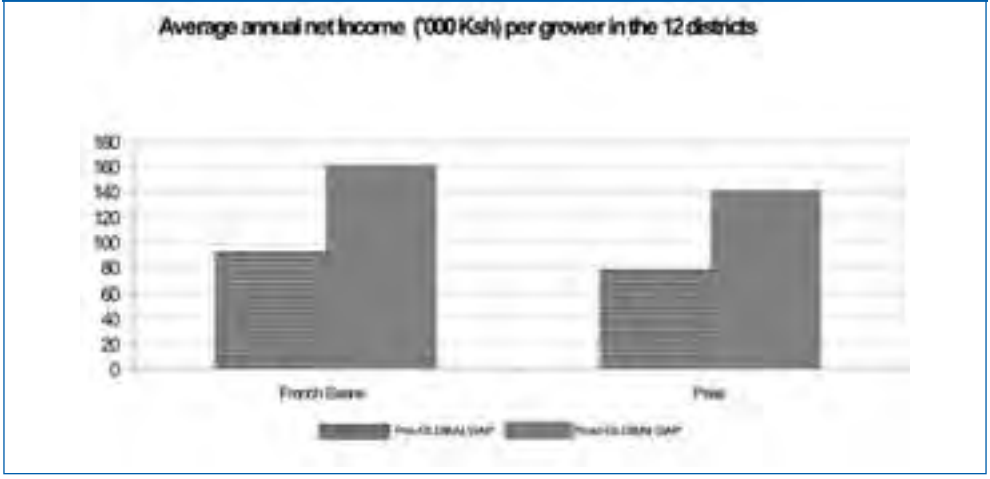
Conclusions and lessons learnt

Compliance with GLOBALGAP and other food standards has been achieved in Kenya by thousands of smallholders. Outgrowers who meet market standards benefit from greater competition for their products. Moreover, the findings suggest that standards have not reduced smallholder incomes from export horticulture in Kenya – incomes have actually increased significantly since 2003, as has average production per grower.

In addition, the experience has brought positive outcomes in terms of organisation, investment, export supply and local demand. These benefits serve the value chain as a whole, improving conditions of trade for fresh produce.

Figure 4. Average annual net incomes pre-GLOBALGAP (before 2003) and post-GLOBALGAP (after 2004)



Source for figures 3 and 4: KHDP Survey (2006).

Key findings of successful inclusion of smallholders in GLOBALGAP certification include:

- Increased investment by exporters in technical support to their contracted outgrowers.
- Increased cooperation between exporters, intermediaries, government and development agencies.
- Increased transparency along the value chain.
- Increased demand for food safety from domestic market consumers.

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Recommendations for sustained smallholder inclusion in GLOBALGAP

- Costs of compliance need to be continuously assessed and minimised. For example, questions should be asked such as 'Can the frequency of third party audits be reduced?'
- Costs of certification, coupled with the erosion of margins down the value chain, are the biggest threat to smallholder incomes – retailers need to share the costs.
- Smallholders need to consolidate production in producer groups or scale-up their production to be more competitive. It is noted that those who have less than two acres of land cannot meet the cost of certification. This is explained only through economies of scale. The groups that are successful are those that are commercial and not formed specifically to target certification.
- More technical research could be directed specifically at smallholder compliance to keep production costs competitive, for example on the maximum residue levels needed for minor crops.

3.2 Opportunities for cost reduction

An assessment of GLOBALGAP control points and compliance criteria, as well as feedback from stakeholders in Kenya, revealed opportunities for very significant cost reductions for small-scale producer compliance. Overall, costs of compliance could be reduced if the level of control is based on a clear understanding of the risks associated with different crop types and production practices. Most small-scale production in sub-Saharan Africa would fall into low-risk categories and thus merit a reduced level of control, with consequent savings on compliance costs.

Opportunities also exist for cost reduction in the provision of first aid facilities, pesticide residue testing, plant protection product stores, and installation of field toilets. A significant practical saving would be to reduce the frequency of inspection and/or reduce the number of farm sites visited under Option 2 for growers with low-risk operations. Another would be to take vertical traceability to the level of the producer group – rather than expecting farm- or plot-level traceability – where individual growers produce very small volumes. Theoretically the current system would require an identifier for quantities as small as 5 kilogram, which is both impractical and unnecessary.

GLOBALGAP has an interest in the widespread adoption and acceptance of its standard and has started to make efforts to incorporate smallholder needs into the scheme. One manifestation of these efforts is that it has now approved the GLOBALGAP-benchmarked Kenyan equivalent, KenyaGAP. KenyaGAP was developed by the Fresh Produce Exporters Association of Kenya (FPEAK) in an attempt to help reduce the costs of certification for fruit, vegetables and flowers entering international markets.[9]

9. See the FPEAK website: http://www.fpeak.org/code.html

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Making GLOBALGAP smallholder-friendly: can GLOBALGAP be made simpler and less costly without compromising integrity?

Andrew Graffham and Jerry Cooper

Andrew Graffham is a food technologist with 14 years' experience in food microbiology, food safety and quality assurance. He works in the Enterprise, Trade and Food Management Group at the Natural Resources Institute (NRI). Jerry Cooper is a pest management specialist with 30 years' experience in crop protection, especially in control of major vegetable crop pests. He works in the Agriculture, Health and Environment Group at NRI.

Key messages

- **Smallholders in sub-Saharan Africa have found sustained GLOBALGAP compliance challenging, with over half exiting formal involvement in export horticulture.**
- **The most successful GLOBALGAP-compliant smallholder schemes are highly committed to a commercial farming approach, well organised in strongly-managed producer groups, and linked to a large, well-resourced export company.**
- **Costs of compliance could be reduced if the standard was revised so that the level of control was based on a clear understanding of the risks associated with different crop types and production practices.**
- **Most small-scale production for export in sub-Saharan Africa would fall into low-risk categories for food safety.**
- **Adopting smallholder-friendly recommendations will reduce GLOBALGAP compliance costs to smallholders by 45 per cent in the first year and 11 per cent over a five-year period.**

GLOBALGAP has become the most successful family of PVS for primary production of a wide range of agricultural products, with over 80,000 certified producers in 80 countries. Overall the content of the Fruit and Vegetables Protocol ('All Farms Base', 'Crops Base' and 'Fruit and Vegetables Module') is well designed and fit for purpose when applied to large-scale commercial growers; however, the experience for smallholders in sub-Saharan Africa has been less positive. In Kenya, over half of the total number of smallholders has dropped out of the GLOBALGAP-compliant supply chain in a single year. This paper reports research examining the potential to support the sustained participation of good smallholders in supply chains governed by GLOBALGAP without compromising food safety.

GLOBALGAP and smallholders in sub-Saharan Africa

Smallholder experiences of GLOBALGAP have been far from uniform. Yet the most successful GLOBALGAP-compliant smallholder schemes have several common factors. Farmers in the schemes are highly committed to a commercial farming approach, being organised in strongly-managed producer groups and linked to large, well-resourced export companies. Here, the exporter does more

© Steve Homer

Checking beans for quality

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than just buy the produce; it provides extensive technical support and co-investment in compliance. Typically, the bulk of the compliance costs are met by the exporter, and the exporter manages more complex parts of the standard such as the operation of the Option 2 quality management system scheme, risk assessments, and much of the organisation behind the documentation and traceability components of the system.

It is significant that smallholders who are not well supported by their exporter struggle with GLOBALGAP. Evidence from Kenya has shown that most either fail to certify or drop out of the compliance system within one to two years of being certified. The most common causes of individual grower withdrawal from GLOBALGAP are an inability to deal with the complexities of the standard and the high costs associated with compliance. Even growers linked to large export companies have lost out, as the high costs associated with testing for pesticide residues on every farm site, and the farm- or plot-level traceability systems for very small production volumes, can make continued procurement from smallholders unattractive. In these cases the exporter changes its procurement strategy and tends to focus on a small number of large commercial farms.

What do smallholders and exporters think about GLOBALGAP and smallholder compliance?

Surveys of smallholders in Kenya showed that virtually all smallholders saw many advantages in being GLOBALGAP-compliant and wanted to be certified if problems with high costs and the complexity of some control points could be resolved. Similarly, exporters said that smallholders were a valuable part of their export strategy and they did not wish to stop procuring from them. One exporter summed up the general level of concern as follows: 'We must put up a strong case for changes to the standard, otherwise we are going to wipe out the smallholder supply chain.'

Can GLOBALGAP be made simpler with reduced compliance costs?

To produce a truly smallholder-friendly standard that smallholders could operate cost effectively without external support is probably impossible. To alter compliance requirements' content to specifically address the needs of smallholders would undermine the integrity of the standard, thus making the modifications unacceptable to the buyer of the end product. Rather, a balance is required between the desire of the production end of the supply chain for simplicity and reduced compliance cost, and the buyers' desire for high levels of control and guarantees of integrity.

During our interviews with exporters and producers in Kenya the following suggestions for improvements to GLOBALGAP were provided.

Risk-based assessments

Overall costs of compliance could be reduced if the standard was revised so that the level of control was based on a clear understanding of the risks associated with different crop types and production practices. Most small-scale production in sub-Saharan Africa would fall into low-risk categories and thus merit a reduced level of control – with consequent savings on compliance costs.

The biggest single cost-reduction measure could be achieved by reducing the requirements for pesticide residue testing to a realistic level, on the basis of a practical understanding of the level of risk on the farm. Costs could also be reduced by reducing the frequency of inspection to every two years and/or reducing the number of farm sites visited under Option 2 for growers with low-risk operations who have a proven track record of compliance for at least two years.

Safety and traceability

Costs could be reduced if sharing of first aid kits and trained first-aiders was permitted in areas where large numbers of farm sites are clustered together.

Allowing vertical traceability to the level of the producer group rather than to individual growers, who may produce very small volumes, would also decrease costs.

The cost of plant protection product stores could be reduced by removing the 'fire resistant' requirement for smallholders' chemical stores. For instance, locked metal cabinets may be appropriate for producers handling such small volumes of chemicals.

The cost of field toilets could be reduced by 60 to 80 per cent by providing clearer guidance on the design of toilets permitted under the standard and making provision for low-cost options.

There is potential for some simplification of GLOBALGAP and significant reductions in cost if modifications are made to some control points, and the level of control applied is related to evidence-based assessments of the real risks associated with particular crops and production practices. However, there must be willingness for change on the part of the standard owners, and capacity to make compromises where suggested modifications could result in small reductions in the integrity of the standard. Even with the suggested modifications, smallholder groups will still need a well-resourced exporter who can assist in managing complex areas such as the Option 2 quality management system.

What will be the advantages for smallholders if the proposed modifications to GLOBALGAP are accepted?

To give an idea of the potential scale of savings, a 'before and after' comparison has been made for a hypothetical group of Kenyan smallholders growing fine beans for export to the EU (based on real field data). This group consists of 750 growers in a GLOBALGAP Option 2 scheme with an average plot size of 1ha of which 0.01ha is dedicated to an export crop of green beans. There are 60 collection centres and a single exporter. A few of the key savings are shown in Table 1.

Table 1. Some financial savings from a smallholder-friendly GLOBALGAP

GLOBALGAP V.3.0 (Sept. 07)	Cost £:	Smallholder-friendly GLOBALGAP	Cost £:	Saving £:
Field and collection centre toilets – concrete base, brick/ block walls and iron sheet roof, wooden door, Blair type with ventilation pipe.	120,000	Field and collection centre toilets – concrete platform made from two bags of cement with pipe aperture and renewable walls/roof of thatch, walled overlap to ensure privacy, thatch replaced annually.	10,500	109,500
Full first-aid kit for every farm site.	6,000	Basic first-aid materials consisting of plasters to deal with minor cuts at every site, full kits held at each collection centre.	1,500	4,500
Pesticide store – brick built walls, cement base, bunded entrance, wooden door with lock, metal roof with spaces for ventilation, H1.7metres (m) / W1.2m and D1.5m approximately.	36,000	Metal box with lock, wall mounted, coated with fire resistant paint, two shelves with upturned edges to contain spillage and ventilation holes at top and bottom, minimum capacity three to five litres of fluids and 25kg of powders. Box located in outbuilding away from house, produce, fertiliser, harvesting equipment and protective clothing.	7,800	28,200
Pesticide maximum residue level (MRL) analysis – one test per farm site on an annual basis. MRL cost was taken from a real example but note that costs varied widely for different schemes in Kenya according to who was doing the analysis (from £80 to £150 per sample).	88,200	A risk assessment of this scheme showed a relatively low-risk crop, no history of MRL violations, and good control of pesticides by grower and exporter. On this basis random sampling of the $\sqrt{}$ of the total number of growers is recommended ($\sqrt{750} = 27$ samples). If violations are detected this could be increased to one in ten growers.	3,175	85,025

In the above example, with a smallholder-friendly version of GLOBALGAP, full implementation costs in the first year would be reduced by £241,425 to £1,017,993 – an overall reduction of 20 per cent when compared to the current version of GLOBALGAP. The total cost per individual grower would be £1,357 but in practice the total growers' contribution would be £180,492, which equates to £241 per grower for the initial investment. This is a 45 per cent reduction in the first year when compared to the individual cost of £435 per grower for the current version of GLOBALGAP.

Over a five-year period, overall costs would be 11 per cent lower (a saving of £578,395 over five years) for the smallholder-friendly version of GLOBALGAP when compared to the conventional version. These costs might be further reduced if the detailed risk assessment indicated potential for a reduced level of management and control. However, there are limits to the level of cost reductions as many of the most significant ongoing costs (such as outgrower management and operational costs) are inherent in ensuring management and control of the system.

The cost-saving measures recommended are intended to ensure that the spirit of GLOBALGAP from an integrity perspective is not compromised. With minimal changes, start-up and running costs for smallholders over the first year can be reduced by 45 per cent and over a five-year period by 11 per cent. Even with these measures, successful smallholder groups need to be highly committed to a commercial farming approach, well organised in strongly-managed producer groups, and linked to a large, well-resourced export company that can assist in managing complex areas such as the Option 2 quality management system.

How are these recommendations for change being taken forwards?

To have a chance of success it is essential to work within the GLOBALGAP system to demonstrate to food retailers that change can benefit all parties without undermining the integrity of the existing standard. For this reason, close links have been maintained with the GLOBALGAP African Smallholder Observer and the GLOBALGAP Smallholder Taskforce. The proposals for change outlined in this document were submitted as part of the GLOBALGAP Smallholder Taskforce call for proposals for change to GLOBALGAP in February–March 2008. Under this call, the proposals have been independently reviewed and submitted to the relevant sector committees of GLOBALGAP for further discussion and final approval. Representatives of the retail sector dominate the sector committees and there are food industry representatives within the GLOBALGAP Smallholder Taskforce, thus ensuring that any proposal approved via this process will be acceptable to the retail industry.

3.3 What happens to smallholders who withdraw from GLOBALGAP?

A survey of 102 small-scale farmers was conducted. All had once participated in the GLOBALGAP compliance process, but had subsequently dropped out of the process. The predominant reasons given for dropping out were high investment and running costs and lack of – or inadequate – price premiums for certified crops. Individual growers found the complexities of the standard exacting.

Yet of these formal 'drop-outs', a surprising 83 per cent were still involved with export horticulture, but with severed linkages to their original buyers. These farmers report a much lower level of advice and support from their buyers, a lower price paid per kilogram, less trade, and considerably lower income from sales of export crops. However, revenue and income (per kilograms) for these informal exports were higher for export crops as compared to crops grown for national markets.

Importantly, exposure to standards in itself has benefits for small-scale producers. There is evidence that these excluded producers who have received some training find this expertise useful in alternative production and marketing environments – such as for local or regional trade.

Fresh Perspectives 19

An exploration of farmers' decision-making and reasons for participation in and subsequent withdrawal from GLOBALGAP

Andrew Graffham, Jerry Cooper, Henry Wainwright and James MacGregor

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Key messages

- **A survey of smallholders who used to export GLOBALGAP-certified crops but whose certification has lapsed shows that 83 per cent continue to grow export crops.**
- **The former GLOBALGAP-certified farmers had left the scheme within one to three years of first being certified, citing high investment and running costs and lack of a price premium for certified production.**
- **Farmers who withdrew from GLOBALGAP received a much lower level of advice and support from the buyer, are paid a lower price per kilogram, grow and sell smaller volumes, and derive much less of their household income from sales of export crops.**
- **Since leaving GLOBALGAP, different income strategies have been adopted, namely cultivation of new crops, off-farm employment, and adoption of new business practices.**

In the past, smallholder farmers in Africa and other countries that exported produce to Europe did not have an obligation to prove the safety and quality of their produce. But in recent years the supply chain has started to demand certified produce, so farmers have had no option but to comply. Now GLOBALGAP is a widely accepted private voluntary standard (PVS) whose membership is often a prerequisite for being linked to an export company.

During previous project work in Kenya and Zambia with exporting farmers – mainly sending vegetables to Europe – the authors noted a significant percentage of farmers had lost their certification for GLOBALGAP. The reasons why farmers were no longer certified were explored since being certified had several advantages in terms of market access. Farmers in Kenya whose certification had lapsed or who prepared for certification but never completed the process were

surveyed. A report (Graffham *et al.* 2007) analysed the responses from the farmers who were interviewed. This paper aims to summarise the key findings.

Obtaining farmers' views

The survey form consisted of 46 questions exploring business, livelihoods and market access. It was carried out by members of The Real IPM Company (K) Ltd. in three regions of Kenya from where significant exports of fresh produce to Europe take place. The survey canvassed 102 farmers on their businesses and particularly the factors affecting their access to the export market, which in all cases involved sale through intermediaries. The survey involved only farmers who had been GLOBALGAP-certified but whose certification had lapsed, or farmers who had made preparations for GLOBALGAP but had not completed the process of obtaining certification.

GLOBALGAP advantages

Being GLOBALGAP-compliant was considered to be a significant advantage by the large majority of farmers who were interviewed. Small-scale growers cited 12 benefits from GLOBALGAP certification, the most important being improved hygiene (70 per cent of respondents) and safe use of chemicals (55 per cent of respondents). In addition, the revenues for crops were sometimes higher, access to market and training were facilitated, and crop handling and quality also improved significantly.

Obtaining and maintaining GLOBALGAP certification were closely associated with the relationship between farmers and their buyers, often an export company. The survey indicated that the company or buyer had often helped the farmer towards obtaining certification by providing advice and support.

Reasons for withdrawing from GLOBALGAP

Despite these benefits, all respondents had either failed to join GLOBALGAP or had left within one to three years of first obtaining certification. The predominant reasons given in addition to audit failure were high investment and running costs and lack of, or inadequate, price premiums for certified crops.

Reason given	Number of respondents	Percentage
No reason given	40	39%
Failed audit	20	20%
Poor payments	11	11%
Too expensive	9	9%
Poor market	9	9%
Trainers transferred	9	9%
Failure to pay	8	8%
Disintegration of farmers group	6	6%

What happens to small-scale farmers who leave?

While most farmers wished to continue to export crops and 83 per cent still do so, some no longer export produce, even though they recognise that revenues for exported crops are sometimes higher than those for crops destined for the domestic market. Those 83 per cent of respondent farmers who still export crops demonstrate that being GLOBALGAP-certified is not essential and that an export market still exists for non-certified production.

After exiting GLOBALGAP both the range of export crops and the price per kilogram had reduced, as had the level of income derived from export horticulture. Employment of farm labour had fallen dramatically, from 88 to 92 per cent of farms before and during GLOBALGAP compliance to just 34 per cent of farms post-GLOBALGAP. The level of support provided by the company or buyer also drastically reduced once the growers dropped out of GLOBALGAP.

These differences have a lot to do with a change in the relationship between the growers and the export companies, rather than a farmer simply being – or not being – GLOBALGAP-compliant. It is evident from the survey and case studies that the majority of growers were formerly closely linked to one of the ten largest export companies. However, after leaving GLOBALGAP, 52 per cent said they were now selling via middlemen (brokers). The subsequent reduced or broken relationship between the growers and their export company was therefore linked to the reduction in support, prices, crop range, volumes and income from export crops.

What alternatives have farmers developed since leaving GLOBALGAP?

With the fall in income from sales of export crops after leaving GLOBALGAP, almost three quarters of growers have responded by diversifying production into more of the types of crops grown for local markets. Of those alternatives, growing tomatoes, maize and rice for local sale was the most commonly adopted practice. Diversification into other business activities was also popular. Some farmers have established business ventures (such as transportation) or have taken up employment off their farm to improve income levels.

However, income levels have still gone down and labour employment on farms has dropped dramatically, indicating that farms cannot generate such high incomes from the export industry without GLOBALGAP certification.

Unsurprisingly, respondent farmers would generally still like to be GLOBALGAP-certified but felt the costs outweighed the benefits. Bearing the growers' perception of the benefits in mind, donors and advisers should consider ways to help them obtain and retain certification rather than letting it lapse.

Fresh Perspectives 20

Tackling the exclusion of smallholders from fresh produce markets: a personal view

Ruth Nyagah

Ruth Nyagah has worked in the fresh produce sector for the last 14 years. Since 2004, she has been working at Africert, covering fruit and vegetables under GLOBALGAP; coffee, tea, fruit and vegetables under the Rainforest Alliance; coffee under Starbuck's C.A.F.E and the Common Code for the Coffee Community (4C) Association, and at the British Retail Consortium (BRC).

Key messages

- **Private standards have disadvantaged the smallest farmers, leading to exclusion from the export chain and often stopping production.**
- **The fresh produce export market is small and complex, which may not allow all smallholders to participate.**
- **The smallest producers, who are not able to comply with the private standard requirements of the fresh export market, should seize other opportunities – upgrade production techniques to supply all year round and target different segments of the market, or use domestic markets as an alternative outlet.**

PVS are playing an increasing role in determining access to export markets for small-scale farmers. Producers who cannot meet the standards are facing marginalisation.

The emergence of PVS as requirements for entry to some segments of the export market is of interest for a number of reasons. The market dictates its requirements in terms of volume and timing, and the producer will often have no choice but to comply, regardless of the level of risk or cost. However, compliance brings a number of benefits along the supply chain, including improved producer health, more awareness of environmental issues, and better conditions for workers; such benefits often remain unquantified and are generally not taken into account in price negotiations between buyers and producers.

Drawing on many years' experience of quality and food safety issues in the private sector (both pre- and post-farm-gate) and extensive research, this paper seeks to give a personal view of the impact of PVS on African smallholders. It discusses the role of farm size in the exclusion of smallholders from the market, and the key conditions for inclusion. Finally, the paper suggests how to improve access to markets for smallholders who are unable to qualify for export markets.

The impact of international standards on smallholders

PVS have had undeniable impacts on small-scale producers, both positive and negative. The positive impact in terms of monetary returns has not yet been fully quantified. However, other benefits have

been identified over the last two or three years, including free training for producers, mostly funded by development partners through either export companies or private training institutes. Topics have included integrated pest management, basic quality management systems, environmental management, the safe use and disposal of pesticide containers, basic business management skills and group dynamics, record-keeping, and food safety. Such training has, in turn, impacted on the production methods used by farmers – in most cases improving produce quality, which effectively results in increased market security and savings on inputs.

On the negative side, PVS have disadvantaged the smallest producers, those without strong farmer group/exporter support. Such producers have become marginalised from the export chain and have in most cases stopped producing. Larger-scale producers have greater bargaining power with the market because of the volume of their production and because they are able to meet contractual demands on quotas reliably.

The positive impact of market standards on smallholders: An example of a smallholder group working with an exporter, demonstrating how earnings have grown progressively through binding grower–buyer contracts and certification

KGG

- KGG had 33 members in 2006 (nine women, 24 men). It grows French beans for the export market.
- KGG began in 2003 with nine members doing ad hoc export farming for multiple exporters.
- The minimum land size per farmer is 1ha, with a maximum of 4ha, to enable a minimum of 0.25 acre of French beans to be planted every month, with a projected monthly production of 800kg. The average price is US$0.60 per kg, with production costs of average US$0.39 per kg.
- In 2004, GLOBALGAP training started, provided by the exporter. KGG improved its internal dynamics through the development of a constitution with strict membership criteria and penalty clauses for defaulters.
- At the same time, the group entered structured informal domestic markets to boost sales and create a strong financial base.
- In 2005, the group achieved its first fixed annual price contract with an exporter as it became more organised and committed.
- In 2005, the weekly production of French beans averaged 4 tons.
- In 2006, weekly production doubled to an average of 8 tons as members dedicated more of their land to export production (either by farmers allocating more of their own land or by leasing more land with their increased income).
- GLOBALGAP implementation (quality management systems) started in 2006 and certification was achieved in December 2006.
- Employment has increased from 15 workers to 264 since inception. They carry out various temporary or permanent production activities across the production year, including planting, weeding, harvesting, spraying, supervision and record-keeping.
- The group's gross income increased from US$7,000 in 2004, when it was still just consolidating itself, to US$20,000 in 2005, when farmers started dedicating themselves to serious export farming through contractual volumes and pricing. In 2006, income reached US$130,000, when farmers raised their weekly production volumes through increased production area, better production methods, and increased price per kg of produce.

Source: Exporter and author

A trend of further marginalisation of the smallest growers has been identified within smallholder producer groups. A producer with an output of only 1 kilogram of beans twice a year will often not be admitted to a producer group. Exporters in turn prefer to deal with strong groups with assured volumes – groups that are even more inaccessible to the smallest producers, causing the cycle of marginalisation to continue and the gap between the smallest producers and the exporters to widen.

Key conditions for inclusion of smallholders in the fresh produce export market

- Size of land: this justifies a certain level of inputs to expect a given amount of produce, which actually determines if the farmers make a loss or gain.
- Guaranteed annual prices, although these may differ at certain times of the year, based on the volume the group is able to supply to the market as per annual contractual arrangements with the exporter.
- Commitment of farmers to implement and sustain compliance with GLOBALGAP: this is based on both internal and external factors, e.g., technical support from exporters and, internally, the ability of the group to work together.

Finding new market opportunities for marginalised smallholders

- It is possible that not all small producers will be able to qualify to produce for the fresh export market. The dynamics of the fresh produce export market are complex and smallholders without support and good linkages to the market may not be able to keep up with them. Furthermore, the export market may not be large enough to accommodate every producer. It is therefore important for sustainable development to look at how to improve production and market access for producers, without necessarily focusing on a particular fresh export market. For example, the development of value-adding at the production level could avoid high-season waste (e.g., drying fruit, tomatoes, etc.), as well as provide access to different segments of the market.
- Domestic markets are poorly developed in Africa and this is an area of development that is often overlooked. Despite the limited size of the fresh produce export market, a lot of attention, effort and resources have been put into it, often at the expense of developing and growing local domestic markets. Such markets could provide an important outlet for smaller producers excluded from the export market.

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Costs and risks in the wider sustainable development context

PVS are not the only factor affecting long-term involvement of African horticulture exports in markets. Mounting concerns over the environment have notably targeted carbon emissions and natural resources use related to production and trade of developing countries' agricultural produce. Taking a closer look at these issues has allowed a more informed debate on tensions between the economic development of African exporting countries and the ecological impact of trade with Europe.[10]

4.1 The air freight and food miles debate

In early 2007, two major UK retailers responded to a rapid change in consumer polling on environmental issues – especially on climate change and 'food miles' (the distance food has travelled to reach the consumer) – by announcing that they would label air-freighted products and stock more locally-produced food. Simultaneously, the Soil Association began a review of organic certification of air-freighted food, with a view to a possible total ban. In addition, the Department for Environment, Food and Rural Affairs (DEFRA) had recommended air freight to be one of the key sustainable development indicators for transportation in the food sector.

Environmentally, air-freighted produce usually scores poorly compared with locally-grown produce. When the energy consumption in transporting beans from Kenya to the UK by plane is included, the difference between the two supply chains becomes considerable. Energy use is 12 to 13 times greater when beans are sourced in Kenya rather than the UK. Only 1.5 per cent of imported fruits and vegetables arrive by air transportation but that portion produces half of all emissions from fruit and vegetable transportation (excluding consumer travel to the shops and back again). On the other hand, fresh fruit and vegetables air-freighted from sub-Saharan Africa account for less than 0.1 per cent of total UK carbon emissions, and Africa accounts for only 5 per cent of global air freight. Looking at the big picture, the environmental cost of international food transport is trivial compared with UK domestic food miles.

Shipping food by air has considerable benefits too. It is the only possible mode of transport for highly perishable produce where no other infrastructure exists. It enables rapid responses to unforeseen changes such as the weather, overcomes some costs of trade, expands land-use options in exporting countries, and induces structural changes in the horticulture industry.

10. Source papers for this section are the 'Fresh Perspectives' briefing papers that all follow as case studies (MacGregor and Groom 2007a; Garside *et al*. 2008, updated from MacGregor and Vorley 2007; Orr and Chapagain 2007; and MacGregor and Chambwera 2007) as well as the full length 'Fresh Insights' technical working papers (MacGregor and Groom 2007b; MacGregor and Vorley 2006; MacGregor 2006; and Orr and Chapagain 2006). All are available at www.agrifoodstandards.net.

Informed debate in the UK on food miles versus 'fair miles' is now allowing supermarkets to move away from token gestures towards a more balanced response based on sustainable development principles. In addition, a number of initiatives prove further commitment in meeting environmental public concerns while not discriminating against air-freighted produce suppliers. Major UK retail companies have started working with the government-supported Carbon Trust in developing a standard method for measuring the embodied greenhouse gases in products and services. The final objective is to display a carbon label to enable consumers to compare the carbon footprint of produce. However, caution must be exercised because carbon analysis can work against developing countries that export goods, and the subsequent carbon labelling can be harmful for development.

Fresh Perspectives 21

Air-freighted fresh food: guilty pleasure or sustainable development champion?

James MacGregor and Ben Groom

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Key messages

- **Air freight enables rapid responses to unforeseen changes; e.g., unpredicted warmer weather episodes in the UK boost fruit consumption.**
- **Air freight for fresh produce is estimated to account for less than 0.1 per cent of carbon emissions but supports over one million livelihoods in sub-Saharan Africa.**
- **Air freight overcomes some costs of trade – time, distance, storage, depreciation, damage and administration.**
- **Rapid transport expands land-use options in producer countries.**
- **Supportive policies are required to ensure the sustainable pro-poor impact of air freight-led development in producer countries.**
- **Air freight changes horticulture industry structure and provides opportunities for PVS, which need careful implementation to be pro-poor.**

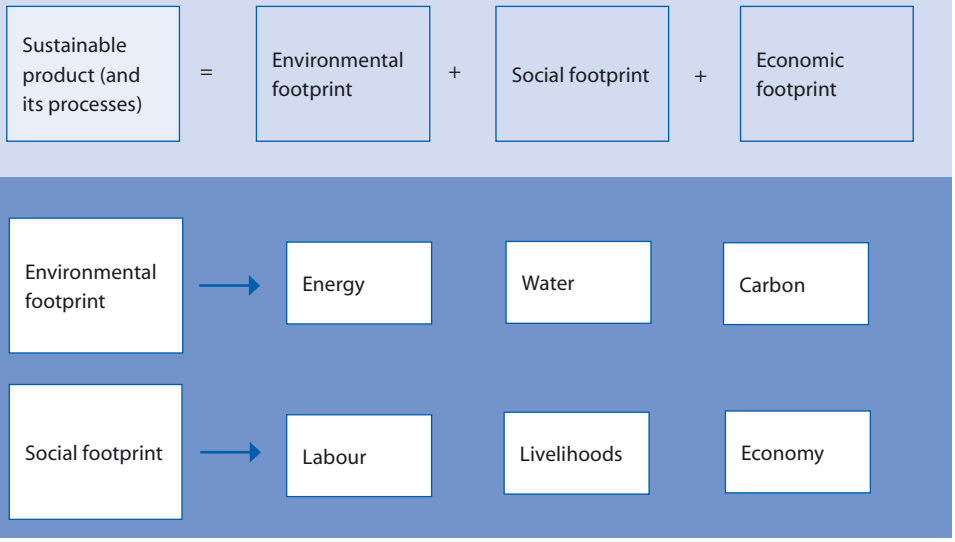
Introduction

The Stern Review Report on *The Economics of Climate Change* (2007) reports that emissions from aviation have been rising faster than other sectors in recent years, largely as a result of global trade. Nowhere are these concerns expressed more vocally than in relation to tourism and air freight. Yet these concerns extend only to the environmental impacts of aviation, ignoring attendant social and economic benefits. Indeed, while the climate change debate identifies air-freighted fresh produce from sub-Saharan Africa as the epitome of unsustainable consumption, research shows that over one million livelihoods are supported in part by the fresh produce trade with the UK. Furthermore, this trade complies with the highest public and private standards. This briefing paper seeks to expand analysis of aviation's impact on sustainable development by understanding the impact that air freighting has on producer nations, particularly in developing countries.

Sustainable development, not partial solutions

Sustainable development requires balancing elements to ensure we make the most appropriate decisions for the planet and its people (Box 1). Focusing on maximising returns or minimising costs from one element – e.g., the environment (food miles) – will not provide sustainable solutions to complex global issues.

Box 1. How should we assess 'sustainability'?



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How guilty is air freight?

Air freight is clearly part of the reason planes fly, but there is no evidence that it is the primary driver of aviation. Currently, aviation accounts for 2 per cent of global greenhouse gas emissions and this proportion could double by 2050. Yet within the aviation industry it is difficult to discern the driver for expansion. In 2006, in the UK, air freight, passenger volumes and flights all grew by 6 per cent.

Air freight itself is the result of a complicated decision-making process involving subsidies, middlemen (freight forwarders) and passenger volumes. For instance, new routes opened recently by South African Airlines are driven by business passengers. There is further complexity in the three transport types of air freight: belly-hold, combi-planes and dedicated freighters. The economics of air freight are that costs have fallen as trade liberalisation has increased global aviation competition, profitability tends to be low, and pricing depends on the accounting model used by the airline.

Global air freight is dominated by couriered documents. Fresh food accounts for an estimated 14 to 18 per cent of global air freight. Moreover, the overwhelming majority of export horticulture is transported in the belly-hold of passenger planes, not in dedicated freighters.

The economics of air freight

The literature on trade and development is vast and offers a variety of viewpoints concerning the importance of trade liberalisation in promoting economic growth and reducing poverty. There is a widely-held view that suggests that trade in agricultural products has a greater impact on poverty in developing countries than trade in non-agricultural commodities. The empirical evidence on trade suggests, by and large, that trade liberalisation and openness are good for growth and poverty reduction. While there are exceptions to this general rule, there is no systematic evidence in favour of the reverse proposition. On average, transport costs for goods shipped by air represent around 25 to 30 per cent of the goods' retail value.

Other trade costs are reduced – time, storage, depreciation, insurance and administration. Time represents a significant barrier to trade; reductions in transit time tend to increase trade volumes, induce new trade links, and change the composition of trade, the location of industry, and the extent of vertical specialisation and fragmentation in the supply chain.

Air freight pricing is predominantly based on weight and/or bulk – favouring light, small, valuable items. Air freight is not economical over short distances. The comparative advantage of air freight appears to be in small, lightweight or dense objects of high economic value over long distances. Also, air transportation has advantages for products that evolve rapidly or for which demand is difficult to predict, and that therefore require rapid responses. Examples include art, electronic goods, fashion clothing, new technologies such as mobile phones, medicines, and legal and business documents. Currently, the highest expansion of air freight volumes is on routes out of East Asia to Europe and the USA.

Export horticulture and poverty

Air freight and sub-Saharan African agricultural production make best use of comparative advantages from this impoverished region. Air freight economics are about low weight and high value, and African producers are very competitive in all high-value horticulture sectors.

Furthermore, international trade in these commodities tends to benefit rural development through a direct flow of wealth to rural farmers and via multipliers to the rural economy, broadened land-use options, and the expanded structure of opportunities within the private sector. It is this view that has engendered a shift in the focus of development policy in the UK towards agriculture in general.

These are worrying times for both the export horticulture industry and poverty alleviation strategies in sub-Saharan Africa. First, information symbols identifying air-freighted fresh products are recent additions to UK supermarket shelves as retailers respond to increased consumer concerns about climate change. Second, rising supermarket PVS are reducing participation of smallholders owing to the high costs of compliance.

Does air freight catalyse local economic development in developing countries?

There is little doubt that access to air freight for developing countries can produce some important developmental benefits. Air freight has been critical to the export-led development of South and East Asia. While air freight is not a catalyst for development, it certainly appears to be an important enabling factor for the development of industries supplying goods exported by plane, including horticultural products. Moreover, because of the falling cost of air freight, global trade in horticultural products has been increasing. This affects the nature of comparative advantage in many industries, shifting the location of suppliers and workers – often with value-adding processes being repositioned nearer to production, such as fruit packhouses relocated from Heathrow to Jomo Kenyatta International Airport, Nairobi.

Does air freight catalyse sustainable development?

There is unequivocal evidence that aviation causes climate change and its contribution is increasing. This paper does not seek to downplay climate change concerns, but rather to propose using a sustainable development screen to drive balanced decision-making that can make a lasting difference.

For air freight of fresh produce from sub-Saharan Africa some commentators have proposed 'fair miles', positing that the contribution of this sector to the UK's carbon emissions is estimated not to exceed 0.1 per cent while an estimated one million livelihoods are supported by this trade.

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To maximise the potential of air freight's sustainable development credentials, an economist would suggest three linked components. First, all goods should be priced to reflect the social cost of carbon. Second, consumer awareness should be raised of the ethical/developmental content of certain purchases so that the price reflects these preferences. Last, in order to maximise benefits from trade in developing producer countries, supportive policies need to be put in place to ensure sustainable pro-poor impacts of air freight-led development. Such policies might include greater access to training for smaller-scale farmers, to credit for the cash constrained, and to market information for all.

In a carbon-constrained world, many options exist however. For example, ensuring that allocation mechanisms favour developing countries with ecological space to spare; and ensuring that taxes on aviation are proportionate (e.g., those on short-haul flights) and will actually change behaviour to reduce emissions, and not merely constrain specific sectors, particularly those that support the world's most vulnerable people.

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Miles better? How 'fair miles' stack up in the sustainable supermarket

Ben Garside, James MacGregor and Bill Vorley

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Key messages

- **Air freighting flowers, fruit and vegetables from developing countries, especially those in Africa, has drawn fire on environmental grounds and highlighted the issue of fairness in the 'food miles' debate.**
- **Without the right analysis, there is a risk that environmental and food miles arguments will work against development goals such as 'trade, not aid'.**
- **Informed debate in the UK on food miles versus 'fair miles' is now allowing supermarkets to move away from token gestures towards a more balanced response.**

Introduction

In 2007, 'food miles' shot to the top of consumer concerns in the UK. Buying goods that took the shortest route from farm to table was widely seen as a way of shrinking carbon footprints. Air-freighted produce became the epitome of unsustainable consumption, and some UK retailers began to label flown items such as green beans from Kenya. Yet looking at the bigger picture, fresh produce air-freighted from Africa accounts for less than 0.1 per cent of UK emissions and per capita emissions from sub-Saharan Africa are minuscule compared to those in industrialised countries. Against this background are the one million plus African livelihoods supported by growing the produce. Within the grocery supply chain the time is ripe for 'fair miles' – a working idea that puts development in the South on the environmental agenda, and allows UK retailers a more balanced response on behalf of their millions of customers.

At the start of 2007, UK retailers were jostling to establish their green credentials by pledging on eco-initiatives. In part this was a response to a rapid change in consumer polling on environmental issues – especially on climate change and food miles. Both Tesco and Marks & Spencer announced that they would label air-freighted products and stock more locally-produced food.

Marks & Spencer launched a £200 million five-year plan in January of that year. Its aim was to become carbon neutral by 2012 and roll out environmental management requirements for suppliers. In an effort to minimise the amount of food air freighted, it began to label such food as 'flown'.

The same month, Tesco's chief Terry Leahy launched a £500 million eco-plan with a pledge to reduce the company's carbon footprint and encourage consumers to buy more sustainable products. Their target was to measure the footprints of 70,000 items so that shoppers could 'be empowered to make informed choices' and help in driving the market for low-carbon products. Leahy set a target to air freight less than 1 per cent of Tesco's products (with a bias for sourcing from 'the poor' within this percentage), compared to the 3 per cent currently flown in. Stickers for air-freighted products bearing the legend 'by air' were introduced as an interim measure.

In late spring, the Soil Association launched a one-year consultation on ways to reduce or eliminate the environmental impact of organic air freight, with a view to a complete or partial ban. Amid media attention, and as part of the huge response to such a ban, IIED submitted its analysis. This shows why a ban on air freighting will damage lives in Africa, and why the Soil Association should see the consultation as a chance to positively support 'fair miles'.

Food miles in perspective

How do food miles measure up? The bigger picture begins to emerge when we compare the realities of air freighting, along with related socioeconomic and environmental issues, for both the importing and exporting countries.

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The view from Africa

'Ecological space' refers to a country's emissions: the bigger they are, the smaller the ecological space. In the UK, the annual CO_2 emissions rate per person is 9.2 tons. In Kenya it is 0.2 tons and in Uganda, 0.1 tons. Thus sub-Saharan Africa countries have considerable reserves of ecological space compared with the countries to which they export.

The Kyoto Protocol recognises the need for equity and economic development for developing countries in the transition to a low-carbon future. Current calculations of a sustainable carbon future estimate equitable ecological space per capita globally as approximately 2 tons of CO_2 per year.

Meanwhile, the socioeconomic benefits for Africa are substantial. Over 100,000 rural people are employed in the exported fresh fruit and vegetables sector in sub-Saharan Africa, roughly split 50/50 between smallholders and employees on larger farms. Beneficiaries include both rural and urban groups, and smallholders and employees along the supply chain. The fresh fruit and vegetables trade also has poverty alleviation benefits and provides seasonal, unskilled employment opportunities.

Indirect employment benefits are also significant. An estimated 100,000 to 120,000 people work in support services for the producers and employees. In total, there are an estimated 1–1.5 million people whose livelihoods depend in part on the supply chain linking production on African soil and consumption in the UK. Every £1 of agricultural income generates another £1.50 for other businesses in Zambia and another £1.64 in Kenya.

The view from the UK

The UK's carbon footprint is largely domestically generated. Its Kyoto targets demand the reduction of domestic road transport and energy use, then aviation. Estimates that air travel will double in the next 20 years mean that cuts in that sector will be a necessary part of the solution. Yet passenger traffic makes up the lion's share of this rise. In the UK, it accounts for 90 per cent of air transport emissions, while international freight accounts for 5 per cent. The year 2006 saw air traffic in all sectors expand by 6 per cent.

Agricultural produce makes up only 0.1 per cent by value of all air-freighted goods. For fresh fruit and vegetables, between 60 and 80 per cent of imports to the UK are carried in the belly-hold of passenger aircraft. In the wider context, air freight is responsible for 8 per cent of the entire fresh fruit and vegetables sector and 0.2 per cent of total UK greenhouse gas emissions – while fresh fruit and vegetables from Africa account for 0.1 per cent of all UK emissions.

How UK retailers are changing their view

Analyses from IIED and other organisations such as the International Trade Centre have helped the balanced environment/development view to gain traction. The UK government, and some supermarkets and environmental organisations, have recognised that the food miles concept has limits as an indicator of environmental impact – and is also blind to the social and economic benefits associated with trade in food, especially from developing countries.

In March 2007, Leahy spoke of the need to balance 'fair miles' against 'air miles', admitting there would be 'hard choices'. On Freshinfo, a UK news site for commercial growers, he said: "We all know that transporting a product by air creates far higher carbon emissions than any other form of transport. So we could say, 'Let's scrap all imports by air.' Yet some of the poorest people on earth get their goods to market by aeroplane" (Freshinfo 2007a). Tesco also said it was determined to boost trade volumes in agricultural produce with Kenya beyond the current US$400 million mark, and has now dropped the 'by air' labelling scheme.

In June, Marks & Spencer reassured Kenyan agricultural suppliers that it would not cut imports of fresh produce (The African Channel 2007). Paul Monaghan, head of ethics at Co-operative Retail, meanwhile described stickers on air-freighted fruit and flowers as 'lazy thinking' and 'dangerous'. In the UK *Guardian* he said: "There is a whole series of decisions like this which are being taken which are wrong because people aren't joining the issues up" (Finch 2007). He committed The Co-op to reducing carbon, "but never at the expense of the world's poorest." And in November, Tesco and Marks & Spencer both admitted the stickers had had no impact on sales (Freshinfo 2007b).

The food miles debate is also being incorporated into a broader agenda on the entire 'carbon life cycle' of a product, from seed to plate. From this, the Carbon Trust and the British Standards Institute (BSI) will develop a new standard for measuring the carbon footprint of products. A number of other studies have shown significant carbon 'hotspots' within the food supply chain, in farm production methods, processing techniques, and consumer shopping patterns.

Yet air freight remains on the radar. In October the Soil Association announced a ban on certification of air-freighted produce that was not additionally certified by it or by The Fairtrade Foundation. On the Department for International Development (DFID) website, the UK's Minister for Trade and Development, Gareth Thomas, responded by expressing concern for "the livelihoods of the African farmers who don't meet these extra standards", adding that the move "could also turn consumers away from air-freighted fruit and vegetables in general." (DFID 2007).

There is no need for legitimate interest in local food and food miles to work against the interests of developing countries. What is clear is that consumers, policymakers, and food chain businesses should base decisions on good information. If environmental harm is to be weighed against developmental gains, it is essential to consider the full context in more detail, so that:

- the degree of harm is put into the context of Africa's current use of ecological space;
- the degree of harm is quantified and compared to that of other food choices; and
- the degree of development gain is quantified, to demonstrate whether this trade really benefits those living in poverty.

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4.2 Equitable ecological space

There is currently global inequality in how 'ecological space' (i.e., the per capita right to natural resources utilisation, such as energy, food, land and water) is distributed. The Kyoto Protocol identifies the need for equity and non-restrictive economic development for developing countries in the transition to a low-carbon future, recognising that economic development for the poorest in a low-carbon future means increasing carbon emissions for some. The global per capita emission average is 3.6 tons of carbon, the UK's average is 9.2 tons; Kenya's is 0.2 tons, and Uganda's is 0.1. Under current calculations for a sustainable carbon future, equitable ecological space per capita is estimated at around 1.8 tons.

Water resources are also at stake when considering the ecological space concept. The data on virtual water (total green and blue water used in the production of a crop or the processes of a given product) indicate that the production of green beans from Africa to the UK per growing season uses the equivalent amount of water to supply 13 million Kenyan people for one year. But the link with national water resource management in Kenya is indirect, since the water used for agriculture is not diverted away from the majority of the population.

If environmental harm is to be weighed against developmental gains, it is essential that the degree of harm is quantified and put into the context of other food choices and Africa's current use of ecological space; and that the degree of development gain is quantified, to demonstrate whether this trade really benefits those living in poverty.

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African air freight of fresh produce: is transport of 'virtual' water causing drought?

Stuart Orr and Ashok Chapagain

Stuart Orr works in freshwater policy at World Wide Fund for Nature (WWF)-UK, working mainly with business on water stewardship, standards and metrics, and links to their field programmes on environmental flows and better water management structures. Ashok Kumar Chapagain has been an irrigation engineer in Nepal for more than a decade and worked as a researcher at the University of Twente on issues related to water footprints. In 2007 he joined WWF-UK as a water footprint officer and works under themes of sustainable consumption and freshwater resources.

Key messages

- **Globally, 70 per cent of all freshwater is used in agriculture.**
- **The UK uses 189 million cubic metres (m^3) of African water annually for green bean consumption.**
- **A single Kenyan rose uses 2.7 litres of evaporated 'blue' water (surface and ground water) and pollutes a further 1.3 litres of local water resources.**

Introduction

Every year the UK uses 189 million m^3 of African water 'virtually',[11] as a result of the import of green beans produced there. Formal planning for water use at a local and national level is beneficial, but the current international trade of fresh fruit and vegetables does not internalise wider environmental costs. Global environmental implications of water use (and trade) cannot be resolved without a larger and more comprehensive study.

What is 'virtual' water?

Globally, 70 per cent of all freshwater is used in agriculture, arguably making water the most critical component of food production. Despite this, discussions on critical water issues have been noticeably absent from the food and trade debate. The withdrawal of groundwater at rates greater than nature's ability to renew it is widely documented in many parts of the Middle East, India, Mexico, China, the former Soviet Union and the United States. Moreover, 60 per cent of the world's accessible freshwater supply is found in just nine countries, illustrating water's uneven distribution across the globe. This hidden (virtual) trade of water can be seen in large grain imports from the Middle East and North Africa region, which increases water scarcity. Since 1972 the region has withdrawn more water from its rivers and aquifers every year than is being replenished.

11. The virtual water flows have been calculated using the methods presented in a paper by Chapagain and Orr (2009).

Virtual water constitutes the total volume of water involved in the sustainable production of a crop. Virtual water studies have highlighted benefits of food security for regions such as Southern Africa, as well as food trade in Japan.

The relative comparative advantages of countries have been used to explain why virtual water trade takes place. Although not 'accounting' for this movement of virtual water is potentially beneficial in traditional economic trade terms, it could lead to longer-term sustainability issues as it represents, in effect, a type of environmental subsidy.

Different types of water

The global volume of freshwater is estimated to be 39 million cubic kilometres and exists in two distinct but constantly interchanging states: blue and green water. 'Blue water' is the water found in rivers, lakes, reservoirs, ponds and aquifers. It therefore accounts for all water used in irrigation. Green water is essentially rainfall evaporated from soil moisture during crop growth. Two-thirds of water in the hydrological cycle is green water.

Agricultural production uses combinations of blue and green water for crop production. The 'evaporative' (or productive) content is the amount of water that has transpired through crop growth. Any additional water applied to the crop but not transpired is considered 'non-evaporative', or irrigation loss.

The evaporative virtual water content is the sum of blue and green evaporative water per ton of crop, and is the definition of 'virtual' water in this report.

In addition, there are other factors that contribute to the total use of water per tonne of exported crop. First, the non-evaporative water (irrigation loss etc.) varies significantly depending on climate and crop production methods; for example, the use of drip-feed irrigation is far less wasteful than field flooding. Second, for a theoretically sustainable crop cycle any pollutants, such as pesticides, added to the crop need to be accounted for in the total water calculation. This is done by taking into account the volume of water required to dilute the pollutants to manageable levels (the 'pollution effect'). Double counting in calculating the non-evaporative component of the virtual water content is avoided by taking the maximum of 'irrigation losses' and 'dilution volume of water' required to make the polluted return flows acceptable under the standards chosen for the receiving freshwater bodies.

Virtual water: Kenyan cut flowers and green beans

Taking Kenya as an example, the import of cut flowers to the UK results in the evaporation of 1,300,000 m^3 of water resources annually. This results in the pollution of 600,000 m^3 of Kenyan blue water resources and an inefficient use of irrigation water supplies equal to the volume of 2,200,000 m^3. For green beans, 72,000,000 m^3 of evaporative water resources are used, plus an additional 35,000,000 m^3 in irrigation losses.

Impact on livelihoods

Emotive press accounts have highlighted the issue of 'irresponsible' water use from sites such as Lake Naivasha in Kenya. When consumers buy a Kenyan rose, do they consider the 2.7 litres of blue water that was evaporated or the 1.3 litres of water that was polluted in Kenya for its production? Does the price of a particular rose stem represent its impact on the water resources in the place where it was grown? Can the existing market bring the demand and supply to an equilibrium at which the price truly reflects the opportunity cost of the use of water resources for a particular rose stem?

From a social and economic view, horticulture and floriculture exports from emerging markets such as Zambia and Kenya have been praised as positive moves toward cash crop production. However, from an environmental perspective, the depletion of water levels and the deterioration of water quality in places like Lake Naivasha are blamed on this. The concept of virtual water could be an important tool in the food trade debate. Indeed, the physical use of precious water resources, combined with virtual water trade, is an important consideration in the context of sustainable African livelihoods and the aim of achieving the Millennium Development Goals.

Box 1. How can the government help exporting countries to monitor their water usage and make trade more efficient and sustainable for the long term?

- Differentiate the blue and green inputs into crops.
- Build capacity for green water to be utilised better or better captured for crop growth.
- Promote more benign irrigation practices and help increase irrigation efficiencies.
- Reduce chemical applications that have the potential to leach into the surrounding freshwater systems.
- Place an upper limit on basin extraction and share equitably and transparently.
- Launch educational campaigns encouraging an understanding of the real value of water to all basin inhabitants.
- Provide baseline information to poorly understood production sites.
- Establish the real state of water resources in export countries to feed directly into development plans. A clearer understanding of the opportunity costs of water needs to be developed.
- Establish future water scenarios for countries affected by climate change and population increase, which include water exports and imports through trade.
- Feed development gains (taxes) back into water infrastructure projects.

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Room to move: 'ecological space' and emissions equity

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Key messages

- **Equity in mitigation should remain a key element in discussions under the Kyoto Protocol.**
- **Compared to industrialised countries, developing countries have ecological space credit because of lower emissions, past and present.**
- **The international community needs to recognise the global benefits of promoting opportunities for developing countries to use or sell their unused ecological space – for example through low-carbon development, trade, transfer of knowledge, and poverty reduction.**
- **Identifying and promoting equitable trade expansion would then promote sustainable development.**

Introduction

Tackling climate change will involve a monumental balancing act. How can we curb emissions effectively while ensuring that poor countries are not restricted in their efforts to develop sustainably? The concept of 'ecological space' offers a viable solution. By measuring and comparing countries' greenhouse gas emissions, we can pinpoint their share of the total remaining emissions the planet can sustain without serious disruption to climate. The relatively low emissions of poor countries – and the per capita levels for the poorest are just 2 per cent of those in the US – allow them the ecological space for non-restrictive economic development. Overall, the concept is a workable guide to achieving emissions equity while collectively moving towards a low-carbon future.

The distribution of ecological space

Ecological space extends the concept of rights to natural resources such as energy, land and water. With respect to climate change, ecological space means the highest level that global greenhouse gas emissions can reach without serious consequences for climate. Because regions, countries and even individuals also have a share of ecological space within the total, the issue of equity in how it is distributed is crucial. The Kyoto Protocol's recognition of per capita CO_2 emissions helps in defining the concept of equitable ecological space at the individual level.

When we look at how ecological space is actually distributed globally, however, there is an obvious imbalance. Past and present emissions – and hence contributions to climate change – differ widely among different countries. Today, sustainable carbon emissions stand at about 2 tons per person per year. However, the actual global average is 3.6 tons, with the UK averaging 9.2 tons and Africa 1.04. So the UK and certain other countries have exceeded the limits of their ecological space, while Africa is under-utilising its own.

The 'least developed countries'[12] emit the least carbon per capita and in total. In Africa, only two countries – Libya and South Africa – emit more than the global average. In the least developed countries, the average per capita emission of 0.2 tons amounts to about 2 per cent of that in the UK. The 1950–2000 data from the World Resource Institute's Climate Analysis Indicators Tool shows that African countries contributed 4.6 per cent of cumulative global carbon emissions over that period, and contribute just 3.5 per cent today. Meanwhile, the EU has been exceeding global per capita average emissions for many years.

Opportunities for utilising ecological space

Because of its past and present greenhouse gas emissions, the industrialised world is the prime driver of climate change. Poor countries, meanwhile, pollute the least and suffer the most from the impacts of climate change. These disparities in emissions also mean that most developing countries, particularly in Africa, have high levels of carbon credit. To redress the balance, developing countries can use or sell some of their excess ecological space to reduce poverty and boost low-carbon economic growth and development. If the balance is achieved at a globally low level of emissions, it would be in line with the theory of Contraction and Convergence proposed in the 1990s by the Global Commons Institute and accepted as a policy target by the Africa Group, among others.

While a significant share of the emissions from industrialised countries can be attributed to sources such as 'luxury' consumption and leisure, African countries emit mostly 'productive' carbon, generated to meet basic needs. This difference could be realised in trade-driven activities that benefit developing countries – for example, the export of flowers or green beans from several African countries, including Kenya, to developed countries like the UK (see 'Fresh thinking', below). While this may generate additional emissions in developing countries through the production and freighting of these goods, it also enables them to develop their economies and boost the livelihoods of many people.

Other initiatives have been proposed to enable the poor to adapt to the impacts of climate change due to past emissions by developed countries such as:

- incorporating adaptation as an additional value to the prices of voluntary carbon offsets originating in poor communities; and
- introducing an International Air Travel Adaptation Levy to raise adaptation finance.

12. The group of least developed countries, as defined by the United Nations General Assembly in 2003, comprises 50 countries; 34 of these are in Africa.

Fresh thinking: Africa's exported produce

Exporting produce such as flowers or green beans offers a good option for developing countries to use their excess ecological space in ways that promote development and poverty reduction. It is also an example of the effects of 'trade, not aid', with the benefits spilling over into other parts of the economy. In Zambia for instance, every US$2 of agricultural income generates another US$3 for other businesses in Zambia and over US$3 for businesses in Kenya. Currently there are 1–1.5 million livelihoods supported by the industry, which has a declared value of US$400 million and good prospects for growing further in Africa.

Emissions from aviation are not included in national emissions calculations at the moment, partly because of the unresolved problem of how to allocate associated aviation emissions between departure and arrival countries. In the case of exported African produce, if the aviation emissions were entirely allocated to the UK carbon budget they would account for an extra 0.1 per cent of the UK's total emissions. This would exceed the UK's ecological space even further, and effectively stop further trade in fresh produce with Africa – with predictable negative impacts on African economies.

Alternatively, if all the emissions were allocated to Kenya's budget, they would account for an extra 4.8 per cent of the country's total emissions, raising per capita emissions to 0.42 tons. As this is the equivalent of just 20 per cent of Kenya's estimated ecological space, the trade would be sustainable. An additional factor is that 60 to 80 per cent of fresh produce flown from Africa is transported in the belly-hold of passenger flights; so when the passenger emissions have been factored out, the level attributed to produce will be lower.

In practical terms, potential exporters should be offered the opportunity to choose to use their spare national ecological space to invest in carbon emissions (through exports or other economic activity) or, alternatively, to sell their carbon emissions space.

What needs to happen for the idea to work?

First, there is a need for innovative financial and economic mechanisms to encourage best practices. The UN Framework Convention on Climate Change (UNFCCC) could then be able to address both the impacts of climate change, and poverty reduction and economic development. Such mechanisms could include:

- a socially differentiated tax system on aviation that incorporates social considerations without transforming the incentives aimed at producing environmental benefits; and
- allocating the carbon load from the export of fresh produce to the producing country.

Second, one of the challenges of achieving equitable emissions distribution is arriving at an internationally enforced global contract to reduce carbon emissions – for example, to the target of 0.45 tons per capita by 2100. Some of the issues that surface in this context are:

- significant data limitations that constrain consensus among all countries;
- the need for facilitating low-carbon economic development through technology and knowledge transfer from developed to developing countries; and
- the hot debate over mechanisms to hit the 0.45 tons per capita target by 2100, as these require emissions reductions of over 90 per cent while allowing unconstrained economic development in developing countries.

Third, the use of ecological space as a benchmark has limitations. As the global population rises, the global per capita ecological space shrinks. With the population of Africa forecast to double by 2025, total CO_2 emissions will rise if the per capita emissions are kept constant. Thus per capita and total ecological space available to different countries and regions – as well as globally – will need to be reviewed as conditions such as population shift.

Finally, as economic development continues, total carbon emissions from least developed countries and developing countries will rise. If this economic development entails a shift from agriculture to manufacturing, higher levels of emissions will be expected. To keep these low, it will be essential to support this shift with the transfer of cleaner technology from developed countries. Even if the economic development is agriculture-based, improvements in technology and productivity are essential to minimise agricultural expansion because it often involves deforestation, which can generate emissions problems too.

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5 Recommendations

This section presents a set of recommendations resulting from our analyses and identification of issues reported in the first four sections. Some of these recommendations are building on best practice activities and, where applicable, are illustrated here by briefing papers.[13]

5.1 Diversify options for small-scale producers

Small-scale producers should foster associative initiatives such as grouping together or undertaking collective action; exporters favour this and it is clear both producers and exporters can benefit from shifting management responsibility and monitoring costs.

In order to diversify risks and secure income, small-scale producers should think about seizing alternative opportunities (such as reorientating destination markets for their produce). Notably less demanding export outlets still exist in the wholesale or the food service markets. Whereas these offer significant sales opportunities, one should however keep in mind that market trends are moving towards wholesale and food service markets imposing increasingly strict standards, just as supermarkets do now.

Regional and domestic alternatives or complements to export markets should be assessed. One collaboration among non-profit organisations and private sector business has launched a project to explore new business models for sustainable trading relationships, i.e., balancing risk, responsibilities and benefits along supply chains while improving the stability of trading relationships along the chain, enhancing the quality of production, and ensuring sustainable supply for small-scale producers.[14] As part of this project, IIED is working to expand the opportunities for complementary markets in sub-Saharan Africa.

None of these options can be achieved without market information, training or financial assistance. Those require external partners and support, be they trading players, enabling public policies, or donor bodies. Actor-specific recommendations therefore follow.

13. Source papers for this section are the 'Fresh Perspectives' briefing papers (Mithöfer 2008; Azaglo and Derrick 2008; Okello *et al.* 2008; Anstey 2008; Humphrey 2008; Hoffmann and Vossenaar 2008; Ouma 2008; Wright 2008; Wainwright and Labuschagne 2008; Waweru 2008; and Baker 2008) that all follow as case studies and are available at: www.agrifoodstandards.net.
14. See the Sustainable Food Lab website: http://www.sustainablefoodlab.org/article/articleview/19405/1/2370

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Linking smallholders to high-value crop markets: how does the group approach work?

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Key messages

- **Achieving compliance with GLOBALGAP standards requires investment at producer level, which includes investment in farmer training but also in structures of farmer organisation.**
- **There is a wealth of experience in training to learn from.**
- **All aspects of agricultural training (topics, approaches and interventions) should be coordinated and harmonised with national public extension programmes.**
- **Support structures for smallholders to achieve good agricultural practice also need to include support structures for viable farmer groups and organisations.**
- **Alternative opportunities for small-scale farmers – such as opportunities provided through growing domestic and regional trade in horticultural products – need to be assessed.**

GLOBALGAP certification involves investment not only in human capital – farmer training – but also in infrastructure, such as grading sheds and pesticide stores, and changes in production inputs, such as switching to specific approved pesticides. The initial investments required for certification are non-divisible; however, by splitting costs across a group of farmers, the initial investment cost per farmer can be reduced. Thus certification as a group – through Option 2 or 4 certification[15] – provides the opportunity to achieve economies of scale, which is furthered by being able to purchase inputs in bulk, thereby reducing variable costs.

Theoretically, accredited and certified standards can decrease transaction costs from the supermarkets' perspective. However, at the production level, standards increase transaction costs in terms of implementation and monitoring. These costs increase with the number of producers an exporter deals with. Therefore, unless smallholders are organised as a group, they can lose some of their comparative advantage in relation to larger-scale producers. According to the standards' guidelines, group certification (as opposed to certification as an individual farmer) requires an internal monitoring and control system, thus acknowledging (indirectly) that farmers are single decision-making units. This internal monitoring and control system means that some of the transaction costs are shifted from the exporter to the producer group.

15. In Kenya, until 2007, two categories of certification were available: Option 1 for individual farmers and Option 2 for groups of farmers. Both of them were linked via an exporter to the European supermarkets. In addition, since 2007, Kenya has had its own standard, KenyaGAP, which is benchmarked against GLOBALGAP. A further two certification options are now available: Option 3 and Option 4 give the opportunity to certify individual farmers and farmer groups, respectively, against KenyaGAP, and thus also GLOBALGAP.

This paper summarises findings on organisational issues and challenges faced by exporters and smallholders, related to the latter's link to high-value crop markets. It is based on several surveys in Kenya, conducted under an icipe project and its partners (Mithöfer 2007). The paper strives to answer the following questions: i) how can 'successful' be defined in the context of commercial smallholders? ii) what factors characterise successful smallholder groups? and iii) what is the comparative advantage of smallholder production from the exporters' perspective? Answers to these questions are discussed in the wider context of enabling policies in Kenya.

Findings from the exporters' perspective: small farms versus large farms

From the exporters' perspective, farmer groups are deemed successful if they have implemented the exporters' regulations and are able to meet targets without side-selling, be it for certified or non-certified export production. Overall, an exporter's decision about where to source horticultural produce depends on the production capacity and risks and costs linked to each production option.

Costs and associated risks

There are a number of factors that determine the difference in costs associated with sourcing produce from smallholder farmer groups or larger-scale producers. Large farms have more levels in the management hierarchy than small farms, and thus higher direct transaction costs in terms of staff wages. Additionally, the internal monitoring and control processes required by GLOBALGAP for smallholder group certification mean that some of the costs of monitoring are effectively shifted from the exporter to the group – and, from the smallholders' perspective, from the individual farm to the group level. However, the internal control and monitoring system does not entirely take care of the implementation and enforcement of the standards. Exporters also have an elaborate monitoring system over production, which results in higher monitoring costs for exporters when dealing with smallholder groups than with large-scale farms. A survey showed that large-scale farms were monitored for about 12 minutes per week per hectare; by contrast, a smallholder farm with only 0.3 hectare dedicated to beans was monitored for almost eight hours per week per hectare (Mausch 2007). Comparing monitoring costs per kilogram of produce was even less favourable for smallholder farmers.

The study showed further cost differentials in contract negotiation; less time was required in negotiations with smallholders than for larger farms. This is because of the smallholders' lack of bargaining power. From the exporter's perspective, costs are higher to source from smallholder producers. This is then reflected in produce pricing: prices for produce from smallholders were 16 per cent lower on average than for the contract large-scale farms. Overall therefore, the lower prices for produce from smallholders mean that sourcing from smallholders in practice costs less than sourcing from large-scale farms (Mausch 2007).

Besides the cost differentials between dealing with smallholders and large farms, there are other factors to consider. The logistics of collecting produce are more complex for clusters of smaller production units. This is aggravated by poor access roads to smallholder production areas. On the other hand, smallholder involvement allows for production to be spread across a larger area, thus decreasing climatic production risk, i.e., the risk that a crop in a localised area will be damaged or destroyed because of adverse weather.

Looking at the trade-off between risk diversification and monitoring costs, in the medium to long term it can be expected that production will shift more towards medium-scale farms. These may be farms that already have the necessary production area (possibly allocated to other enterprises) or farms growing in size as a result of a dynamic land market and the increased renting of horticultural plots.

Findings from the smallholder farmer group perspective: what characterises a successful farmer group and how can this be achieved?

Interviews with various Kenyan horticulture experts have shown that perceptions of what constitutes a 'successful' farmer group differ, depending ultimately on the overall aim of the group and the point of view of the expert. However, the most important factor – apparent across all the studies – is the need for the group to have a constant link to the market, although not necessarily through the same buyer. In fact, a case study of seven small-scale farmer groups producing for the export market showed that the most successful group had changed from one exporter (A) to another (B) (Paalhaar 2007). In this case, exporter B benefited from the fact that most of the investment and learning had already been achieved while the group had been contracted to exporter A.

These case studies of the smallholder groups showed that, in maintaining the link to the market, 'hard' factors (clear rules, strict penalties and good structure within the group) were more important than 'soft' ones (those that contribute to social cohesiveness such as frequent group meetings and communal plots). Furthermore, groups with external support were more successful because they were better informed and had a better understanding of the rules and regulations.

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Other benefits, arising from training on production standards, are: better-informed decisions about input use (especially regarding the use of agrochemicals), access to high-quality seed, and improved hygiene on the farm. Although record-keeping, as required by the standard, is resource-consuming, it enables the farmers to calculate the profitability of their enterprise, thereby enabling better monitoring of production. It should be noted that these benefits are not necessarily exclusive to those who have received GLOBALGAP training, but have also been reported from other training interventions.

Alternative opportunities for smallholders

Horticultural production in general has been identified as an opportunity for development because of the high returns on land and labour compared to the production of staple crops. Most vegetable production takes place in similar agro-climatic areas with sufficient access to irrigation, inputs and labour. Thus, the most obvious alternative to vegetable production for export is production for the domestic and regional markets.

The East African regional market is becoming more integrated and is supported by the East African Community Customs Union, which will be in place by 2010. It is expected that trade will increase in the region with the abolishment of non-tariff barriers. Today, the major share of onions consumed in Kenya is produced in Tanzania, which illustrates the extent of regional and domestic market opportunities (König *et al.* 2008). However, prices and profits of domestic crop production fluctuate more widely than those of export crops. Usually farmers rely on the public extension programme of the Government of Kenya. This is not as up to date as the private extension programme put in place by the export sector and also has rather limited resources. Surprisingly, smallholder vegetable producers targeting the domestic market favoured flexibility over certainty, and preferred non-contract-bound independent production (König *et al.* 2008).

Key lessons:

- Access of smallholders to markets with the highest production standards is tied to their link with an exporter. Smallholders who remain in the certified export system need to navigate a steep learning curve in terms of improving their production system, as well as their business and marketing skills.
- From an exporter's perspective, it is beneficial to work with groups who have already been exposed to production standards under contract with another exporter. This reduces the investment required in capacity-building and infrastructure.
- Successful smallholder groups tend to have a functioning group constitution, which defines not only incentives but also sanction mechanisms, and supports the success of smallholders.
- Groups can be further strengthened through clear rules and additional goals that translate into benefits such as savings schemes, all of which can increase cohesion and trust within the group.
- Public institutions can play an important role in contributing to the process by providing clear policies for production, marketing, contracts, and the implementation of standards. They also need to identify and clarify the role of an ombudsman in case of conflict. The definition and enforcement of national standards would lower the costs to the exporter of implementing and maintaining their standards: multiple sets of related standards decrease marginal costs if auditing is done for the set of standards.

Solutions for improvement and sustainability in the wider Kenyan context

Rather than focusing exclusively on smallholders' participation in export markets, alternatives need to be assessed, including opportunities in regional and domestic markets. When considering GLOBALGAP as an investment in capacity-building in good agricultural practices, it is necessary to assess how sustainable this investment has been, whether alternative training approaches would have been more cost effective, and how the private sector investment in training integrates with the public sector strategies. Finally, GLOBALGAP training programmes could benefit from those materials developed for related topics.

The training approach chosen under GLOBALGAP could be assessed against experience from other areas of investment in farmer capacity-building. For example, the evidence on the impact of farmer field-schools (an adult learning approach based on farmer trials over at least one production season) shows mixed results, but experience from western Kenya indicates that there are additional benefits to this method in terms of smallholder organisation and empowerment. A general group approach for farmer training and marketing is applied under the Government of Kenya's National Agricultural Extension Policy. This policy focuses on the formation of grassroots structures as focal points for discussion among all stakeholders. Among them are common-interest groups, which are enterprise-based groups formed along commercial lines (MoARD, 2001a; MoARD, 2001b). With respect to training topics, training in GLOBALGAP production standards (especially pest management) is very knowledge intensive. Thus parallels to the topics of integrated pest management training in general could be made use of, and lessons could be drawn from research in this area.

Overall, GLOBALGAP interventions should be discussed using the background of these other studies on farmer group training and capacity-building. There needs to be an assessment of how aspects of good agricultural practices can be integrated into other extension programmes. Apart from thus mainstreaming good agricultural practices into the national system, this might also contribute to the assessment of which groups and structures are deemed most effective to invest in.

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Private voluntary standards: placing small-scale growers on a different footing

Mark Azaglo and Simon Derrick

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Key messages

- **PVS have been created to address particular concerns and are largely driven by agendas set in consumer nations, which may not be appropriate in developing countries.**
- **As PVS become more complex, they become even less applicable for farming systems in tropical and subtropical areas.**
- **There are enough examples to suggest consumers do place value on goods and services that link to something important to them, and will even pay a premium.**
- **Most smallholders already farm in a way that has a low environmental impact and supports wide environmental biodiversity. This should be seen as a valuable commodity which needs more focus.**

PVS invariably designed to both assure and appeal to customers (people who buy) and consumers (people who eat) farm produce (these are not necessarily the same people) in industrialised countries. Smallholders who grow the produce are obliged to comply with these standards if they trade internationally with customers who demand standards compliance. These private standards are agenda driven; they address the concerns of particular organisations. When the farm is local to the customer/consumer, the farmer may at least understand the issues and choose which standards to support. However, when trade is international – and particularly when sourcing from developing nations – the issues and concerns of developed country customers/consumers can literally be a world away and are often seen with some confusion at local levels.

This paper aims to offer a new perspective on how to value smallholder attributes for final consumers. Notably it is proposing the consumer engages with the smallholder using the subject of environmental care; deliberately not using the term 'farmer' but instead using the term 'environment carer' (or 'environment steward'). The environment is a subject that Western consumers value and smallholders are already working alongside – rather than against – the environment in practice but without recognition. Produce then becomes a medium of exchange, a practical link between smallholders and the consumer, who can now choose to support the

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Pineapple picker with certified produce

environment when selecting food for purchase. Further, this proposal suggests consumers can be more effectively engaged by bringing focus towards protecting and enhancing the environment for the benefit of particular named animals. Imagine, if you will, having a World Wide Fund for Nature (WWF) logo, or the Royal Society for the Protection of Birds (RSPB) logo on produce, indicating that the product is associated with specific and credible wildlife environment enhancement.

Inform consumers of the standard requirements

If the consumer of food appreciates and values the standard, and can see a clear connection between the standard and the product (for example, the use of the Soil Association symbol to denote produce grown to Soil Association organic standards), local smallholders will have a greater understanding of the links with the market, even if such standards are written with temperate agriculture in mind. The bigger problem is that some of the standards most commonly applied, for example GLOBALGAP, may be demanded and valued by UK and European supermarket buyers but, as the logo never appears on the pack, consumers have little idea of the time, trouble and expense smallholders have undertaken to attain and maintain a standard designed for Western farms.

If the work and produce of smallholders are not directly valued by the consumer, it is then much

easier for exporters and supermarkets to change standards (as they are periodically upgraded) and impose yet further demands without compensation or recognition of practical realities. Over time, these standards tend to develop in sophistication and complexity, need further work to upkeep and audit, and grow ever more distant from simple farming systems in developing countries. As we look into the future, this trend of direction and smallholder alienation looks set to continue.

Revalue small-scale farmers' approach in consumers' eyes

It is time to rethink what smallholders are doing and to question whether this can be valued – or be made to be valued – by consumers and therefore essentially place smallholders on a different footing. This has two requirements to be successful:

- Consumers who appreciate what smallholders are doing and are willing to search out and pay for their products (so there is direct linkage and incentive for smallholders to participate in such standards/schemes).
- A standard that is appropriate and practical for smallholders in developing nations to undertake with a minimum level of outside support and expense.

Perhaps the most obvious example of such a standard that already focuses attention to smallholders is Fairtrade, whose agenda is to promise a 'fair' financial return to smallholders who participate in group supply schemes. The benefit of this standard is the Fairtrade mark, which appears on the pack so consumers can make informed choices. While laudable in intention, the organisation of groups, the collation of produce, and the logistics of international trade all mean smallholders' involvement is limited to being a member of a group and growing the produce (rather than the full participation in bringing goods to market that consumers, and even Fairtrade itself, envisage).

One is often struck by how informal and apparently unstructured the farms of smallholders are, to the eyes of those from industrialised countries at least. Crops are hand planted around large trees, crop lines often waver, termite mounds are present, field boundaries are essentially areas of land gone to bush, and there is often fallow land not being cropped as part of an overall land rotation system. Chemical sprays and artificial fertilisers are used infrequently and sometimes not at all. While the productivity of such farming is modest, it also means a low environmental impact, and is actually a good form of production for high biodiversity. This would score highly in a Linking Environment and Farming (LEAF) farm environment scheme; however, LEAF is very much a UK farming standard with a plethora of questions not applicable for farms of small size in developing nations. Moreover, LEAF attempts to give credit for overall environment management so there is no specific marketing pull for consumers, and farmers will only see benefit if they sell through to a participating supermarket.

It seems the environmentally-friendly way of production by smallholders is a valuable commodity, but one which needs to be presented with a focal point that developed country consumers might well value, and value highly. A suitable focal point might be care of the environment to provide a suitable habitat for particular (named) wild animals. On land that is not being farmed, at low cost and with the skill set of smallholders, it is quite possible to arrange for food plants to be present (plant cuttings or seed), for rainwater water to be collected, for the bush to be allowed to grow as shelter areas, and for mineral salt licks to be established to attract animals. These arrangements could be tailored to suit specific animal species (mammals or birds). This then means smallholders

take charge of their non-cropped land to do something valued in the developed countries (looking after the environment in general) and looking after a particular animal species in particular (the more threatened the better).

In marketing terms it might be possible – with the appropriate logo on the final product pack – to link an 'environment steward' (i.e., a renamed smallholder) to a particular animal. In effect, the consumer pays for the environmental work and gets the product for free.

Solutions for improvements and sustainability

Smallholders themselves, as well as the organisations and development agencies that work with them, need to think about product 'value'. The subsequent question is: what does the consumer value in the product bought? (And in tangible terms what would consumers be willing to pay for?) While traditionally attributes of quality and price attract the attention of the consumer, increasingly intangible attributes are important, sometimes even more important in influencing consumers' buying behaviour. If it is possible for smallholders to be recognised for doing something of value, which is appropriate and practical at the local level, then they would start to play a rather different game from that set by the current range of PVS.

Smallholder compliance with international food safety standards is not a fantasy: evidence from African green bean producers

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Key messages

- **Small-scale farmers face three distinct problems: i) how to produce safe and/or high-quality food, ii) how to be recognised as producing safe and/or high-quality food, and iii) how to identify cost-effective technologies for reducing risk and/or improving quality.**
- **Through reorientation of target markets (less demanding markets), contracting and collective action (in the form of producer marketing organisations), and public–private partnerships, smallholders have been able to meet international food safety standard requirements and maintain their participation in high-value chains.**
- **Whereas donor support is needed to help small farmers meet PVS in the short run, assessing the full costs and benefits of donor interventions is key to avoid distorting private incentives to invest in meeting the standards.**

Though smallholders have been participating in the production of non-traditional agricultural exports, there is concern that with increased PVS smallholders will be marginalised from the export markets. Small-scale farmers face three distinct problems: i) how to produce safe and/or high-quality food, ii) how to be recognised as producing safe and/or high-quality food, and iii) how to identify cost-effective technologies for reducing risk and/or improving quality. This briefing paper provides an example of smallholders who have been able to overcome these constraints.

Globalisation of world economies has opened a window of opportunity for many African countries. With the failure of structural adjustment programmes to encourage reasonable growth, many developing countries turned to production of non-traditional agricultural exports to diversify their agricultural exports and increase foreign exchange earnings. Initial countries diversifying in Africa included South Africa, Côte d'Ivoire, Senegal, Egypt and Kenya, with Zambia, Ethiopia and Madagascar registering comparatively recent growth in such exports. In most of these countries, smallholders generally dominate the production of non-traditional agricultural exports.

The growth in non-traditional agricultural exports has, however, been met with increased scrutiny for food safety by major European importers following greater consumer demand for food safety. The increased demand for safety arises from: the rise in income that has enabled consumers to

pay for 'safe' food; technological improvements that make it easier to measure food contaminants and document their impact on human health; and the various international food safety scares such as Salmonella and Listeria contamination of fruits and vegetables that have made consumers, producers, and legislators more aware of the risks associated with food safety problems.

Consumer demand for safety has led European governments to revise legislation relating to pesticide use and microbial control, and forced major European retailers to develop private food safety protocols to be followed by their suppliers (e.g., GLOBALGAP). The protocols cover pesticide residue limits, hygiene levels, and traceability; they require large investments and third-party certification. Compliance with these PVS requires producers to switch to safer but more costly pesticides, invest in expensive medium- and long-term assets (e.g. grading and cooling facilities), and keep technical records of pesticide usage and application. These requirements have generated concerns that small-scale farmers are being marginalised by PVS (Dolan and Humphrey 2000; Graffham *et al.* 2007).

This paper presents strategies that have been used by some African countries to successfully maintain the participation of smallholders in high-value fresh vegetable export businesses, and therefore argues that PVS need not necessarily marginalise smallholders. It summarises a study conducted between December 2005 and February 2006 using value chain analysis (see Okello *et al.* 2007). The study involves personal interviews with various participants in the green bean value chain and is based on case studies looking at smallholders' roles in green bean exports from Kenya, Zambia and Ethiopia to Europe.

Green beans are one of the leading fresh export vegetables from Africa and over the years some European retailers have developed stringent food safety standards for their suppliers. In the three countries, smallholders differed in their coping mechanisms associated with meeting PVS. Kenya has a long history of smallholder-based systems exporting to the EU, whereas in Zambia and Ethiopia green bean export by smallholders is a fairly recent occurrence. Furthermore, Kenya began exporting to the EU and developing the infrastructure and institutions (involving smallholders) before the inception of PVS and traceability guidelines. In contrast, Zambia and Ethiopia entered the supply chain after the PVS system was already in place.

Initial impact of PVS

Suppliers of leading European retailers responded to PVS by integrating backwards or tightly coordinating their supply bases. A tightly-coordinated value chain worked against the smallholder because it:

- creates a problem of information asymmetry;
- entails costly monitoring of geographically dispersed smallholders; and
- requires establishment of a costly quality management system.

Therefore most exporters withdrew from smallholder sourcing with the advent of PVS. In both Kenya and Zambia, the leading exporters set up their own farms and reduced sourcing from smallholders. In Ethiopia, at least one exporter abandoned smallholder sourcing. In all the countries, smallholders were either incapable – or were perceived as being incapable – of meeting the standards. The number of smallholders thus fell initially in all the three countries (Okello and Swinton 2007; Dolan and Humphrey 2000; Jaffee 2003).

The survival strategies

Kenya, Zambia and Ethiopia have used three strategies to maintain participation of small-scale farmers in the high-value market, namely: reorientation of destination markets, collective action, and public–private partnerships.

Reorientation of destination markets

This strategy was used by Kenya and Ethiopia. In Kenya, smallholders who could not comply with PVS switched to supplying the domestic canning industry. For instance, in 2000 only a few hundred small-scale farmers grew beans for the canning industry in Kenya. By 2004, thousands of farmers who mainly used to grow fresh beans for the export market were now supplying one of Kenya's leading green bean canners. In Ethiopia, exporters avoided the demanding UK retailers and instead supplied the less demanding continental European wholesale markets. However, it is important to note that Ethiopian exporters did this to allow time to develop the infrastructure required to comply with PVS.

Collective action and producer contracts

Farmers in the three countries organised into producer marketing organisations and supplied exporters under contract. Through the producer marketing organisations farmers jointly: invested in fixed assets (e.g., grading and cooling facilities); raised the volume of produce sold (thus attaining economies of scale); reduced the exporters' training, monitoring and coordination costs; hired their own technical staff to monitor members' compliance with pesticide residue and hygiene requirements; and implemented traceability systems. The producer marketing organisations reduced buyers' transaction costs of sourcing from small-scale farmers, making it profitable to do so. Under the producer contracts, farmers gained access to essential inputs, technical advice and a ready market. Smallholders received technical information relating to pesticide residue and hygiene requirements through handouts, training and field extension services by buyers' field staff, and improved seeds and protective clothing under interlinked credit arrangements.

Public–private partnerships

Public–private partnerships had a significant influence on small-scale farmers' compliance with the requirements of PVS. Donor–government, donor–donor, and donor–exporter partnerships helped mobilise and train farmers in producer marketing organisations at lower costs. They also provided the infrastructure (e.g., grading, packing and cooling facilities), training, and capacity-building of horticulture industry business service providers (e.g., extension agents, internal auditors and even the establishment of a GLOBALGAP certifier, AfriCert). Donor–exporter partnerships also led to the development and implementation of GLOBALGAP certification under Option 1 and Option 2. Not all of these first-round donor–supported certifications have been renewed. However, farmers have maintained the quality management system established under them. The most successful cases of such donor–sponsored certification have been those that were anchored on an exporter, i.e., the exporter implemented the system but with donor support.

Conclusion and lessons learned

PVS can negatively impact the participation of small-scale farmers in the high-value fresh export business. However, there are strategies that can be used to minimise these impacts. The cases presented demonstrate that through reorientation of target markets, and contracting

and collective action in the form of producer marketing organisations and public–private partnerships, smallholders in Kenya, Zambia and Ethiopia have been able meet PVS requirements and maintain their participation in high-value chains. They have achieved this by focusing on less demanding markets, by jointly investing in the facilities needed to meet the PVS, and through support from the private and public sectors. To what extent these initiatives are sustainable or can be scaled up remains to be researched. Collective action among small-scale farmers has been useful in meeting PVS and helping small-scale farmers attain scale economies and meet traceability requirements. However, this would not have been sufficient without the assistance of several public–private partnerships.

Though government and donor initiatives have maintained smallholder participation in high-value markets, they raise important policy questions due to the subsidies involved. Some of the subsidies, apart from the fiscal cost, distort private incentives to invest in meeting the standards. Assessing the full costs and benefits of donor interventions is an important area for further research. Importantly, at least in the short run, donor support is needed to help small-scale farmers meet PVS and to complement the role played by other strategies.

5.2 Retailers and their associations: foster sector-wide collaboration

Building upon an existing recommendation of the Ethical Trading Initiative (ETI) smallholder guidelines,[16] retailers should work with their suppliers to map out where smallholders are in their supply chains. Procurement only needs to be modified rather than transformed to enable producers to be secured in these supply chains and to offer genuine opportunities to upgrade them (in terms of skills, opportunities and financial benefits) and to expand the number of small-scale producers participating in export markets.

In collaboration with suppliers and standard-setters, retailers should pilot ways to create a level playing field for smallholders in supply networks in terms of compliance issues. One way of doing so is for them to exert influence over GLOBALGAP to reinforce the role of the Africa Observer.[17] This could lead to opportunities for per-farm cost reduction for smallholder compliance with the standard – through differentiation between large and small farms for instance.

Retailers should improve sector-wide collaboration and leadership on pro-poor procurement approaches (e.g., prompt payments, better planning). Several public–private and strictly private attempts are being developed in the UK in this sense. The new Procurement for Development Forum aims to explore the role of the UK food sector in providing market opportunities for smallholders in Africa.[18] In partnership with the Department for International Development, the Food Retail Industry Challenge Fund is another example of an initiative toward more sustainable trading relationships between UK retailers and African farmers.[19]

Retailers should commit resources to buyer training and awareness-building in development issues. This is not an issue for corporate social responsibility and issue management, but should be integrated within commercial functions. Chain-wide learning should be encouraged, bringing producers, exporters, importers and retailers together to understand the hotspots of exclusion, working together to bring more development benefits from commercial horticulture trade. Consequently, a new training programme for buyers to inform and build knowledge about international development issues was developed, and then tested with two major UK retailers. This has revealed broad support among non-profit and business stakeholders in the UK and Europe for the principle of engaging in developing material for raising buyer awareness. Initial discussions with manufacturers have identified positive interest in developing sector-specific models. It is clear that training/awareness-raising needs to be tailored to the business model of each company.

16. See ETI website: http://www.ethicaltrade.org/Z/lib/2005/09/smhldr-gls/index.shtml.
17. The Africa Observer has a very strong involvement in the GLOBALGAP Fruit and Vegetable Sector Committee. In May 2007, GLOBALGAP appointed Dr. Johannes Kern as Smallholder Ambassador and Africa Observer. See: http://www.africa-observer.info/about.html.
18. See Chatham House website: http://www.chathamhouse.org.uk/research/eedp/current_projects/procurement/.
19. See DFID website: http://www.dfid.gov.uk/news/files/pressreleases/fund4-ethical-products-UK.asp.

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Improving buyer awareness: developing guidelines to increase buyers' knowledge of the people working in their supply chains

Chris Anstey

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Key messages

- **Though retailers and manufacturers have started to commit to development policies, core brands and the way they are purchased remain largely unaffected.**
- **Buyers need to be informed of development issues, with adapted training materials to change 'business as usual'.**
- **There is positive interest in, and strong need for, sector- and company-specific training modules.**

Retailers should commit resources to buyer training and awareness-building in development issues. This is about procurement best practices in a world where supply chains reach from the plates of the rich to the fields of the poor. Chain-wide learning should be encouraged, bringing producers, exporters, importers and retailers together to understand the issues. As a part of the project 'Small-Scale Producers and Standards in Agrifood Supply Chains', funded by DFID and jointly run by IIED with the NRI, a collaborative project considered how to address this issue.

Consequently, a new training programme for buyers to inform and build knowledge about international development issues was developed, led by Chris Anstey Ltd., in association with Impactt Ltd. (a consultancy and training provider to the retailers). It was then tested with two major UK retailers, the Co-operative Group and Tesco. This has revealed broad support among NGO and business stakeholders in the UK and Europe and useful shared learnings.

Priorities for buyers and the food companies

Buyers must make a margin and a profit. Also, they are usually involved in driving growth through promotions and marketing. Sometimes they are involved in quality, safety, legality and innovation.

Companies need to protect their reputation, and their customers expect them to be ethical. As a result, they have a growing awareness of the profound influence that their procurement practices have on how their products are grown, processed, packed and sold.

The global food business is now building on its current approach of setting and enforcing standards. It is starting to expect buyer awareness and understanding of the key consumer questions that must be answered in order to enable the delivery of 'responsible purchasing'. For example: Where is the product made? How is it made? What about the ingredients? What are the social, environmental and reputational risks? How have trading practices affected workers and producers? Is all of this in line with my company policy?

The emerging trend is for companies to seek new commercial frameworks to ensure their buying delivers more than the basics of margin and profit. This search for responsibility will drive sustainability in trading relationships, with the resulting benefits of income security for workers and producers in developing countries. For example, the Chartered Institute of Purchasing and Supply (CIPS), in association with the development charity Traidcraft, published a guide to more responsible purchasing practices in May 2008 called *Taking the Lead*. They identified the key success factors for an organisation to manage responsible purchasing as:

- leadership and accountability;
- knowledge of the consequences of buying actions;
- managing conflicting priorities;
- thinking and acting beyond short-term horizons;
- managing relationships in the supply chain; and
- responsible use of power in the supply chain.

Drivers of change

Price will remain the fundamental competitive issue for food retailers and brand manufacturers, as well as the small and medium-sized enterprises that work with them as service providers, suppliers and producers. But there is also a significant shift in consumer priorities that sees the publicly listed food companies demonstrating that corporate responsibility has become a licence to operate rather than a tool for differentiation. At its heart is the recognition that there is a range of voluntary commitments for business over and above mandatory requirements. The origins of certain food commodities and ingredients in developing countries mean that the 'development' impact of procurement decisions is emerging on the corporate responsibility agenda.

There is also a realisation that monitoring is only a part of the effort. The countless audits in factories and farms may have improved compliance but have not really delivered a change in approach or thinking. The leaders are now seeking innovation based on learning. Emerging best practice sees a series of proactive relationships forming between business and civil society stakeholders. These relationships are characterised by one party seeking a credible witness to their business model development while the other seeks to influence sustainable business practices. They learn from each other and change is the outcome.

Challenges

Meanwhile, there are communication anomalies. In marketing terms, 'ethical' has been redefined to equal 'labour standards' and 'fair' has been redefined to equal 'Fairtrade'. Thus, commitments in certain commodities under a 'Fairtrade' brand can become a proxy for an overall policy focus on rural development. However, generating real business in poor countries is something quite real and quite different.

Also, development issues can appear detached from brand integrity. How the raw materials that are used in a factory get there is considered somebody else's problem.

Finally, there is little evidence of the emergence of real development policy amongst the retailers and manufacturers, although there is evidence of the start of change. Core brands and the way they are purchased remain largely unaffected.

The project methodology

An advisory group of interested parties was formed. There was active engagement from DFID, IIED, NRI, Traidcraft, the Chartered Institute of Purchasing and Supply (CIPS), Comité de Liaison Europe-Afrique-Caraïbes-Pacifique (COLEACP)[20] (France/Belgium), the Ethical Trading Initiative (ETI) and Oxfam. Impactt Ltd. recruited the two retailers and developed and tested a seminar with the advisory group (see seminar structure). They then delivered two different sessions with the Co-operative Group and Tesco.

Box 1. Seminar structure

1. *Why bother?* Business case, risk, reputations, corporate responsibility, NGO campaigning and associated costs, supplier linkages.
2. *Making a difference.* DVD supplied by COLEACP. The life of small farmers, pickers and packers in Kenya. Realising the positive impact of trade through the effects of income. Livelihood issues. Poverty footprint.
3. *Negative impacts*. Triggers, purchasing practices, cause and effect. Sharing experiences. Building case studies.
4. *How to do good and still buy well.* A discussion session to share personal guidelines. Six steps to responsible purchasing (Traidcraft).

Main shared learning

- Broad support – the NGO stakeholders have demonstrated they are actively prepared to collaborate. The business stakeholders have willingly engaged in testing the model.
- Sector specific – initial informal discussions with manufacturers have identified positive interest in developing sector-specific modules.
- Company specific – each retailer needed their own seminar, relevant to their own commercial model and business culture.
- European and global options – initial informal discussions have identified positive interest in building new groups across the European Union and in the US.

20. COLEACP is an inter-professional network funded by the EU that promotes sustainable horticultural trade, gathering together African and Caribbean producers and exporters with EU importers of fruit and vegetables, flowers and ornamental plants.

Outcome

Draft guidelines for building buyer awareness of development issues were agreed by the project. With the support of DFID, these will be developed into a public document (see Box 2). The seminar structure will also be included to provide a core set of training materials.

Retailers, manufacturers, suppliers or service providers will be encouraged to use the training materials to initiate their own programmes to raise buyer awareness.

Box 2. Draft guidelines (summarised)

Content:

- Companies like to take ownership of training materials and events.
- The theme of building awareness through personal stories is important.
- The material on the 'economic footprint' (effect of income from jobs or trade) was a fundamental learning point.
- Procurement practices (such as tendering or auctions) need to be analysed.

Target groups:

- All buyers who make purchasing decisions should be included, at all levels of the supply chain.
- Buyers with high 'risk' jobs need an extra level of information.

Process:

- Buyers need to discuss these issues in private.
- A discussion of 'bad practice' builds resistance. Instead, focus on 'good practice' and allow individuals to express their experience.

Trainer competency:

- Trainers need background in international development, preferably with academic qualifications and business experience.

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5.3 Adapt donor support to promote profitable options for smallholders

Donors should continue and enhance dialogue and joint action with the private sector – including UK-based agrifood processors and retailers – as potential partners in development. Working with the business model as a foundation is crucial to success, and in some cases might generate greater and more sustainable pro-poor benefits than simply subsidising the livelihoods of smallholders. Importantly, encouraging the industry to be a partner in development may offer an economically viable exit strategy for donors. For instance, donors and retailers could support the role of small-scale producers in export supply chains through the Food Retail Industry Challenge Fund, established by the UK Department for International Development, which provides grants to partnerships that bring UK retailers and African farmers together in order to test new ways of increasing the market for food that has been sustainably produced by small-scale farmers in poor parts of Africa. This could also be done through the new Procurement for Development Forum.

Donors should champion smallholder participation in the standard-setting process. In particular, availability of training has proven key to small-scale producer compliance – such as in integrated pest management, quality management systems, environmental management, pesticide use, basic management skills, group dynamics and food safety. This impacts directly on the core production outcomes from the farms (and in some cases the entire farming community) beyond the certified production for export.

Simultaneously, donors should explore and promote alternative market options for small-scale producers. They should be wary of promoting greater export volumes of non-certified produce from Africa to the UK. Any significant increase in non-certified produce being supplied to the wholesale markets could have a dramatic effect on prices. Instead, there are probably better opportunities for rural poverty reduction by helping small-scale horticultural farmers trade in markets where they have greater comparative and competitive advantages, e.g., local markets, neighbouring countries, and possibly the Middle East. In particular donors should invest in supporting and upgrading wholesale markets in sub-Saharan Africa to help create a stronger financial base and a more attractive investment profile for the industry.

Undertaking systematic cost and benefit analyses is key to assessing sustainability as well as the cost effectiveness of any investment. More generally, donors could apply a 'development test' analysis to assess if development benefits are real. Factors to be considered can include economic growth, equity, development imperatives in developing countries, mitigation measures for ecological space calculations, and trade opportunities in unused space. Moreover this test may be used to offset environmental arguments through giving a strong case for the benefits of air-freighted produce from African smallholders and expanding the food miles concept to 'fair miles'.

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Donor responses to the challenge of GLOBALGAP in Kenya

John Humphrey

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Key messages

- **Aid donors in Kenya recognised the challenges GLOBALGAP posed for small farmers, and many of them implemented programmes to support these farmers.**
- **The challenge was defined largely in terms of small-scale farmers and the certification process rather than the management systems that lay behind GLOBALGAP.**
- **The goal of donor interventions has to be reducing rural poverty, not sustaining particular forms of agricultural production.**

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Pesticide store

Food safety has moved up the agenda in all industrialised countries in recent years, partly as a result of successive food scandals and their consequences for consumer confidence. Governments have tightened both product standards and standards for the processes through which food is produced, transported and processed. Business, too, has had to respond. It faces legal requirements to meet ever more stringent public food safety standards and the need to maintain customers' confidence at a time when global supply chains are becoming more complex. PVS developed by groups of companies are one response to this challenge.

The GLOBALGAP standard for horticulture is, however, intricately bound up with the development of European Union food safety regulations and with the obligations the European Union places on supermarkets (and other food business operators) to ensure food safety. It is also bound up with the management of horticultural value chains that link together and coordinate the activities of producers, exporters, importers and retailers. As a pre-farm-gate standard, GLOBALGAP extends the principles of risk identification and management to farm production, introducing internal audit and third-party certification to the preparation, growing, harvesting and on-farm packing of horticultural products.

In January 2005, GLOBALGAP's European supermarket members made certification obligatory for suppliers. This meant that all exports from Kenya to GLOBALGAP members in Europe would, in principle, have to come from certified farms. Kenyan fresh vegetables are sold predominantly to the United Kingdom and The Netherlands, where GLOBALGAP-member supermarkets have a dominant share of imported fresh produce sales. If the participation of small-scale farmers in this thriving business is to continue, they will have to be certified.

This paper summarises an Institute of Development Studies working paper by the author entitled: *Private Standards, Small Farmers and Donor Policy: GLOBALGAP in Kenya* (WP 308).

How do donors' priorities in supporting smallholders respond to the new risk of exclusion?

This challenge was recognised by numerous development agencies, and they decided to do something about it. For these agencies, the immediate challenge was to ensure that the implementation of GLOBALGAP in Kenya did not undermine their broader goals of reducing poverty and delivering pro-poor growth through promoting a vibrant small-scale farmer sector, including export horticulture. If small-scale farmers were excluded from export horticulture, this would have consequences for the incomes of small-scale farmers and for employment on export smallholdings, with broader knock-on effects in the non-farm rural economy. GLOBALGAP was perceived to threaten small-scale farmers and rural livelihoods because of the financial resources, agronomic techniques, management systems, and certification costs needed to implement it. However, GLOBALGAP seemed to offer a viable strategy for small-scale farmers through what is known as Option 2 (certification of farmer groups).

By late 2004, there was urgency about donor initiatives. In the words of one donor, there was the sense that donors needed to 'do something' and that hasty action was required if the marginalisation of small-scale farmers was to be avoided. A representative of the GTZ agricultural programme in Kenya described the sentiment prevailing in the second half of 2004: "We were panicking about

January 1st, of course. Everyone was doing some activity. All of us were running around, panicking. We did understand that there was going to be a deadline. We did understand that this was going to be an important thing."

The goal of the donors was not, in many cases, framed in terms of integrating small-scale farmers and farmer groups into those horticultural export value chains that required GLOBALGAP certification. Rather, it was framed in terms of making it easier for small-scale farmers, and particularly farmer groups, to achieve GLOBALGAP certification.

This had three consequences:

- First, the challenge was defined in terms of the certification process rather than the management systems that lay behind it. Certification is not the end in itself, but rather verification that a quality management system has been put in place.
- Second, the costs of certification, rather than the costs of maintaining the quality system, were emphasised. For farmer group certification, the GLOBALGAP requirement of a quality management system is particularly onerous.
- Third, the focus was on farmers and farmer groups – rather than on the value chain linkages in the export horticulture business and the critical role played by exporters in securing access to those buyers who required GLOBALGAP certification.

Understanding the evolving roles of value chain agents

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The value chain focus redefines the problem. Exporters have responsibility for sourcing GLOBALGAP-certified produce. If they want to retain the business of their customers, then they must ensure a supply of certified produce. If existing suppliers of fresh vegetables have difficulties in meeting the standard, then it is the exporters and importers who have to resolve the problem. If importers in the key northern European markets for GLOBALGAP-certified produce (the United Kingdom, The Netherlands and Germany) cannot obtain such produce, then they will be obliged either to switch to suppliers (exporters) who can supply the product, or they will have to work with their existing suppliers to enable them to meet the GLOBALGAP requirement. This is the price the importers have to pay to ensure that they keep the retailers' business. The retailers expect the importers to solve this problem.

As GLOBALGAP becomes a condition of market access, the pressure is transferred down the chain. If the exporters can grow this produce on their own farms, or work with large-scale farmers, the problem may be relatively easy to solve. Large contract farms and exporter-owned farms do not have much difficulty in meeting the standard. If, as in Kenya, small-scale farmers have been an important and cost-effective part of the export industry, then it is the exporters' responsibility to ensure that the value chain is adapted to the new requirements. If there is a gap between the new requirements and supplier capabilities, it is the exporters in particular who should be filling it. In the context of declining supplier competence relative to the new value chain requirements, exporters would either take production in-house, or work with closely-supervised 'captive' suppliers.

Donors can intervene in support of local-level adaptation. However, an analysis of the fresh produce value chain reveals the importance of changing the way the standard itself is defined and enforced. As a commercial organisation itself operating in the standards business, GLOBALGAP has an interest

in the widespread acceptance of its standard, and efforts to modify the standard and to establish equivalent local standards (ChileGAP, KenyaGAP, etc.) have helped to reduce certification costs.

Policy implications for donor agencies supporting smallholders' inclusion

The consequences of these findings for donor policy are clear:

- When working with global value chain agents, donors need to start from the business model for any particular form of value chain organisation. Working against business logic will be ineffective. Sustainable inclusion of small-scale farmers has to be profitable.
- The goal of donor interventions has to be reducing rural poverty, not sustaining particular forms of agricultural production. Small farm horticulture export may not be a viable business proposition. Alternatively, large-scale farming may be poverty reducing, as studies on Kenya and Senegal have shown.
- A value chain analysis identifies not only the key decision-makers at different points in the chain, but also ways in which value chains can be restructured in response to the new market challenges. Some effective donor interventions have targeted GLOBALGAP as an organisation and also the business services sector in Kenya, rather than small-scale farmers directly.

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Proactively complying with private voluntary standards: key findings of country case studies in Ghana, Kenya and Uganda

Ulrich Hoffmann and Rene Vossenaar

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Key messages

- **The wider use of good agricultural practices can bring both commercial and sustainable development benefits. However, these benefits are not specific to GLOBALGAP. To fully harness these benefits, developing country governments, the private sector and donors need to promote proactive adjustment policies, ideally within the framework of a national good agricultural practice programme that targets the most appropriate sustainability standards.**
- **Developing countries that have implemented proactive adjustment policies have coped well with more stringent public and private sector standards in key export markets and have expanded their market share, although this masks – to a certain extent – a shift from smallholder to agrifood estate production.**
- **Wage employment on commercial farms and in packaging and processing facilities may make a greater contribution to poverty reduction than by promoting production by small-scale farmers. Small-scale farmers can be successfully integrated into global supply chains, but as part of well-managed outgrower schemes or producer groups, with close links to exporters.**

PVS are becoming more frequent and complex and have both positive and negative effects on producers in developing countries. Some years ago, UNCTAD created the Consultative Task Force (CTF) on Environmental Requirements and Market Access for Developing Countries to help facilitate a dialogue between public and private stakeholders on the impact of, and adjustment to, PVS. So far, CTF work has focused on two sectors: i) electrical and electronic equipment and ii) horticulture, in particular fresh fruit and vegetables.

PVS can be broken down into different categories. PVS that are communicated to consumers can be used as an instrument for product differentiation and segmentation. These standards are proliferating (e.g., social and ethical standards) and some of them may lead to price premiums. Other PVS are used in the business-to-business context. In the latter case, retailers have attempted to harmonise specific elements through collaboration on core attributes and procedures (Fulponi

2007). These standards are characterised by a quality management system approach, with third-party audits to certify conformity.[21] One example is GLOBALGAP.

This paper draws on recent UNCTAD publications on the trade and development implications of PVS, in particular the GLOBALGAP standard for fresh fruit and vegetables, and proactive adjustment policies that can assist developing countries in coping with – and deriving possible benefits from – these standards. The publications cover three developing regions: South and Central America; the Association of southeast Asian Nations (ASEAN); and sub-Saharan Africa (UNCTAD 2007a; UNCTAD 2007b; UNCTAD 2008). This paper focuses on the experiences of sub-Saharan Africa, largely based on case studies carried out by experts in Ghana, Kenya and Uganda and a series of stakeholder dialogues in these countries organised jointly with the Food and Agriculture Organization of the United Nations (FAO).

Export markets for sub-Saharan African produce and PVS

The European Union (EU) represents a dynamic market for fresh fruit and vegetables: the dollar value of extra-EU imports almost doubled between 2000 and 2006 (an average annual growth rate of around 12 per cent). It is also one of the highest-priced markets for fresh fruit and vegetables. The EU market absorbs some 75 per cent of all fresh fruit and vegetables exports from sub-Saharan Africa (excluding South Africa). Exporting fresh fruit and vegetables to the EU market has contributed significantly to poverty alleviation in rural areas, export diversification, and often higher unit values compared to those obtained for traditional agricultural exports.

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Smallholder participation in exports is declining where PVS is a requirement

However, certain developments have affected the ability of sub-Saharan African producers to maintain their participation in fresh fruit and vegetables value chains. First, sub-Saharan African producers and exporters targeting the EU market face growing competition from other developing countries. Second, exporters are increasingly required to conform to PVS, which may pose greater challenges to sub-Saharan African producers than to competitors in other developing countries. Several studies published in the 'Fresh Insights' series show that the emergence of PVS has exacerbated the exclusion of smallholders from value chains. In many cases, small-scale export production has been replaced by larger-scale farmers working as outgrowers or by vertical integration, i.e., exporters sourcing a larger share of produce from their own production on agri-industrial estates.

Smallholders are still retained by exporters in outgrower schemes for their cost competitiveness in labour-intensive vegetable production and to spread the risk caused by weather extremes (Mithöfer *et al.* 2008). From a pro-poor development perspective, it should also not be overlooked that the expansion of agri-industrial estates offers increasing employment opportunities.[22] Sautier *et al.* (2006) suggest that wage employment on commercial farms and in processing plants may make a greater contribution to poverty reduction than by promoting smallholder producers. They

21. In discussions in the WTO Committee of Sanitary and Phystosanitary Measures, many developing countries have expressed concern that PVS can be both more restrictive and more prescriptive than government import requirements, and act as barriers to market access.
22. In Ethiopia, for instance, an average small-scale farm provides an income to the whole family of about 450 euros per annum, whereas a salaried job on a flower farm earns some 240-300 euros, and several members of the same family may be salaried (UNCTAD 2008:82).

estimate that in Kenya only 2 per cent of smallholder produce goes for export (with the share linked to global supply chains being even lower). Smallholders acting as outgrowers account for 25 per cent of those engaged in fresh fruit and vegetables export production, whereas farm labourers account for about 75 per cent.

It is difficult to know the implications, if any, of PVS on the volume and value of sub-Saharan African exports of fresh fruit and vegetables. In recent years, EU imports of fresh fruit and vegetables from sub-Saharan Africa continued to grow, but at a much slower pace than fresh fruit and vegetables imports from other developing countries. As a result, the sub-Saharan African share in EU imports from developing countries decreased. This could be attributed largely to the erosion of ACP (African, Caribbean and Pacific Group of States) tariff preferences,[23] the introduction of new varieties, and supply-capacity problems in sub-Saharan Africa. The larger penetration of PVS in the EU market and stricter application of GLOBALGAP in this period could also have affected fresh fruit and vegetables producers and exporters in sub-Saharan Africa, but more detailed analysis would be needed to assess such effects. The fact that trade performance has been uneven among sub-Saharan African countries[24] indicates that many other factors have played a key role.

In the case of large and traditional trade flows, producers and exporters in sub-Saharan Africa seem to have coped well with more stringent public and private sector standards although this masks, to a certain extent, a shift from smallholder to agrifood estate production. In some countries with smaller trade flows, and in smaller countries, problems in complying with PVS may result in export losses.

Of the three sub-Saharan African countries studied, Kenya, a traditional supplier of UK supermarket chains, has the most exposure to private sector standards, whereas Uganda, which largely exports to wholesale markets, probably has the least exposure. Ghana may be somewhere in the middle, as the competitiveness of Ghanaian fresh fruit and vegetables exporters has so far been based on supplying the lower end of the market, but this is likely to change as the focus shifts to supplying higher value-added products, in particular in the fresh fruit sector.

Harnessing the benefits of PVS – factors of success

All three studies demonstrate that the wider use of good agricultural practices can bring both commercial and sustainable development benefits. These benefits are, however, not specific to GLOBALGAP. To fully harness these benefits, sub-Saharan African governments, the private sector and donors need to promote proactive adjustment policies that will help developing country producers enhance their capacities to meet relevant standards – both public and private – in key markets. Targeted assistance should be provided to small- and medium-sized producers and viable producer groups in order to give them the capacity to participate in global value chains in a sustainable way. Increased employment of wage labour on agri-industrial estates may also contribute to pro-poor agricultural development. Nevertheless, there may be a need to explore alternative market outlets for those smallholders who cannot be integrated into high-value supply chains.

23. As of 1 January 2008, almost all sub-Saharan African countries receive duty- and quota-free access to the EU market under Economic Partnership Agreements.
24. Imports from Namibia, Senegal, the United Republic of Tanzania, Ghana and Ethiopia grew faster than imports from developing countries as a group. Imports from Zimbabwe, Swaziland, Côte d'Ivoire and Madagascar actually declined.

From the various case studies, it is clear that there is no 'one size fits all' solution for addressing the challenges of PVS and developing and implementing national good agricultural practice schemes. Kenya has successfully benchmarked national standards (KenyaGAP) to GLOBALGAP. Ghana has developed a 'roadmap' and is currently considering various options. In Uganda, developing and implementing national standards is quite a challenge, but the country's experiences in the flower sector and with organic agriculture may be very helpful.

When contextualising national programmes, it is important to realise that they need to be part of a development framework that emphasises both the commercial context (i.e., compliance with downstream market standards) and the non-commercial sustainability aspects, such as social, environmental and economic benefits. This is the rationale for using public (and development assistance) resources to support national good agricultural practice implementation.

In short, the factors of success for meeting PVS standards are:

- Enhancing awareness of the benefits of good agricultural practice schemes and promotion of their wider use.
- Improving infrastructure (e.g., cold storage facilities, transport), public–private partnerships, an enabling legal/regulatory framework to facilitate compliance with control points and compliance criteria, and extension services and support to private sector activities (e.g., in the area of support services and certification).
- Strengthening linkages between producers and exporters/importers.
- Supporting effective and stable producer organisations.
- Deploying tools and mechanisms to reduce compliance and certification costs to small-scale farmers.

For developing and implementing national standards the following issues are important:

- A clear understanding of the concepts and objectives; adequately reflecting smallholder conditions and market requirements (a modular approach may be needed).
- Assuring broad stakeholder participation and clearly defined roles of the government, the private sector and other stakeholders.
- An enabling policy framework that assures enforcement of mandatory food safety requirements and provides incentives to comply with PVS.
- Flanking/supportive measures to address constraints of implementation, in particular as regards small-scale farmers.
- Reliable and internationally accredited inspection, certification and laboratory services.

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Development practice, agrifood standards, and smallholder certification: the elusive quest for GLOBALGAP?

Stefan Ouma

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Key messages

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- **Smallholder farmers can achieve GLOBALGAP certification, but certification is challenged by organisational, managerial, and economic constraints as well as by the need for continuous system maintenance.**
- **Successful certification schemes are typified by strong exporter links and judicious use of donor funding.**
- **Donor organisations must have a clear exit strategy to ensure business incentives are both aligned and sustainable.**
- **Problems related to adjusting to GLOBALGAP must be considered as more than mere technical issues, but situated in the wider context of structural constraints; these are deficiencies in local production systems, the volatility of fresh produce markets (and thus difficulties for farmers to generate a stable income), and the flaws in the local institutional setting (e.g., lack of investment security due to opportunistic behaviour, public service provision).**

There has been a widespread fear among different international development organisations that the proliferation of GLOBALGAP would lead to the exclusion of smallholder farmers from high-value markets in horticulture-producing countries across sub-Saharan Africa. Accordingly, supporting smallholder certification to GLOBALGAP and related capacity development at both farm and institutional levels has been put on the development agenda by Gesellschapt für Technische Zusammenarbeit (GTZ), the Department for International Development (DFID), the United States Agency for International Development (USAID), the Comité de Liaison Europe-Afrique-Caraïbes-Pacifique and the Pesticides Initiative Program (COLEACP/PIP), and recently the World Bank in several developing countries, including Ghana and Kenya as prominent examples.

This briefing paper draws on results from a research project on the impact of GLOBALGAP on value chains in the horticulture sub-sector in Kenya (and to a lesser extent on preliminary results from a new project on Ghana[25]) with critical reference to the certification of smallholder farmers.

Background research questions to address

The following research questions guided the original research project in Kenya:

1. What reorganisation has taken place in exporters' procurement systems due to the proliferation of GLOBALGAP and what implications did this have related to sourcing from smallholder farmers?
2. What are the costs and benefits of GLOBALGAP certification and compliance for smallholder farmers, and is Option 2 a viable means for integrating smallholder farmers into high-value fruit and vegetables markets?
3. What are the major obstacles, apart from monetary costs, for integrating smallholders into high-value fruit and vegetables markets?
4. How far has the institutional environment been supportive of the integration of smallholder farmers into high-value fruit and vegetables markets, and what strategies are deployed in order to sustain the integration?
5. What role have donors played in the adoption of the GLOBALGAP standards, and what implications do the findings have for future development strategies?

The work in Kenya adopted a qualitatively orientated framework and is based on semi-structured interviews with exporters, importers, farmer groups, individual farmers, and various experts from development organisations as well as public and private institutions and agribusiness service providers. Furthermore a digital questionnaire was distributed to exporters (Figure 2) and a cost–benefit analysis was conducted, drawing on project data as well as on other secondary data available. This paper concentrates on questions 2 to 5 with particular emphasis on the field of development policy and practice and GLOBALGAP certification.

The mixed impacts of GLOBALGAP on the Kenyan horticulture sub-sector

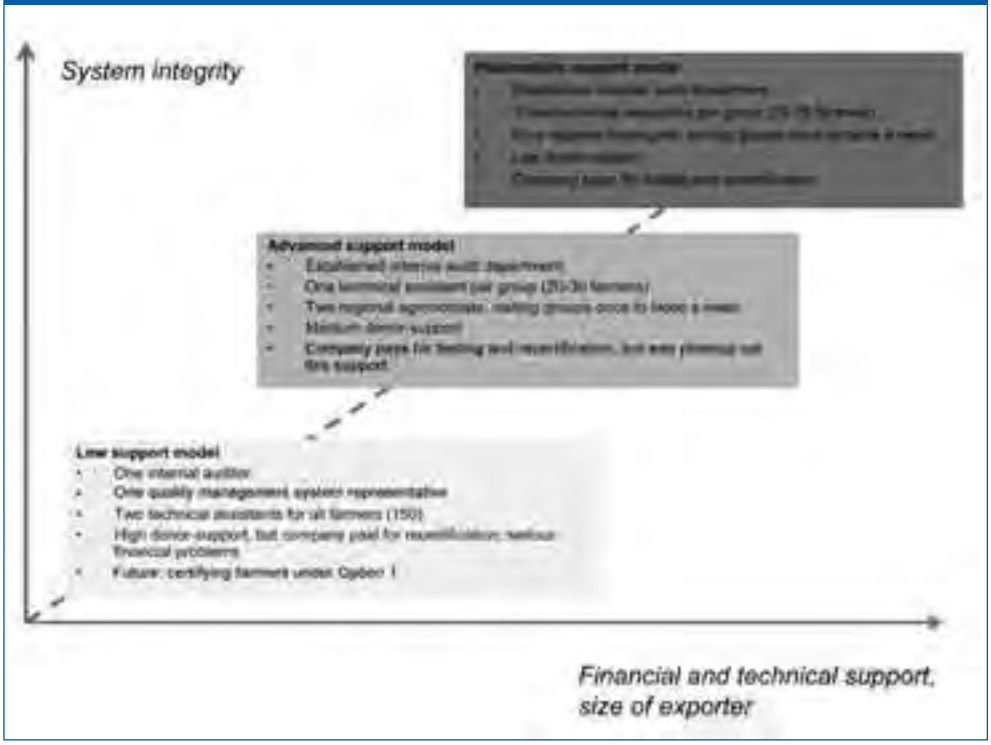
In the case of Kenya, the proliferation of GLOBALGAP has led to a significant restructuring of agri-value chains with regard to the organisation of value chains and the actors involved in these. Yet this restructuring cannot be exclusively attributed to GLOBALGAP. It is also related to other factors such as supply chain integration due to product and process innovation, or increasing economies of scale. In Ghana, for instance, most pineapple smallholder farmers have been pushed out of the market not by GLOBALGAP but by the introduction of the MD-2 pineapple variety.

Exporters in Kenya have shifted – or are in the process of shifting – to larger commercial farmers instead of integrating their business vertically, to the detriment of smaller growers who do not have the financial or managerial capacities to meet the requirements of the standard. Yet there is no single trajectory for the inclusion or exclusion of smaller-sized farmers; it depends on the individual corporate practices and relations between farmers and exporters. In successful cases, exporters usually pay for the audit as well as for system maintenance. These exporters have been

25. The empirical data in Kenya were gathered by the author between February and June 2007 for a Master's thesis at the University of Bayreuth, Germany. The case of Ghana is currently the focus of a research project on the rise of the Ghanaian horticulture industry (with a focus on pineapple and mango exports) coordinated at the Department of Human Geography, University of Frankfurt (2008-2011).

able to develop paternalistic support systems or cost-effective quality management models while spreading the costs of certification along the whole value chain (see figure 1).

Figure 1. Different support models of exporters for smallholders seeking GLOBALGAP certification

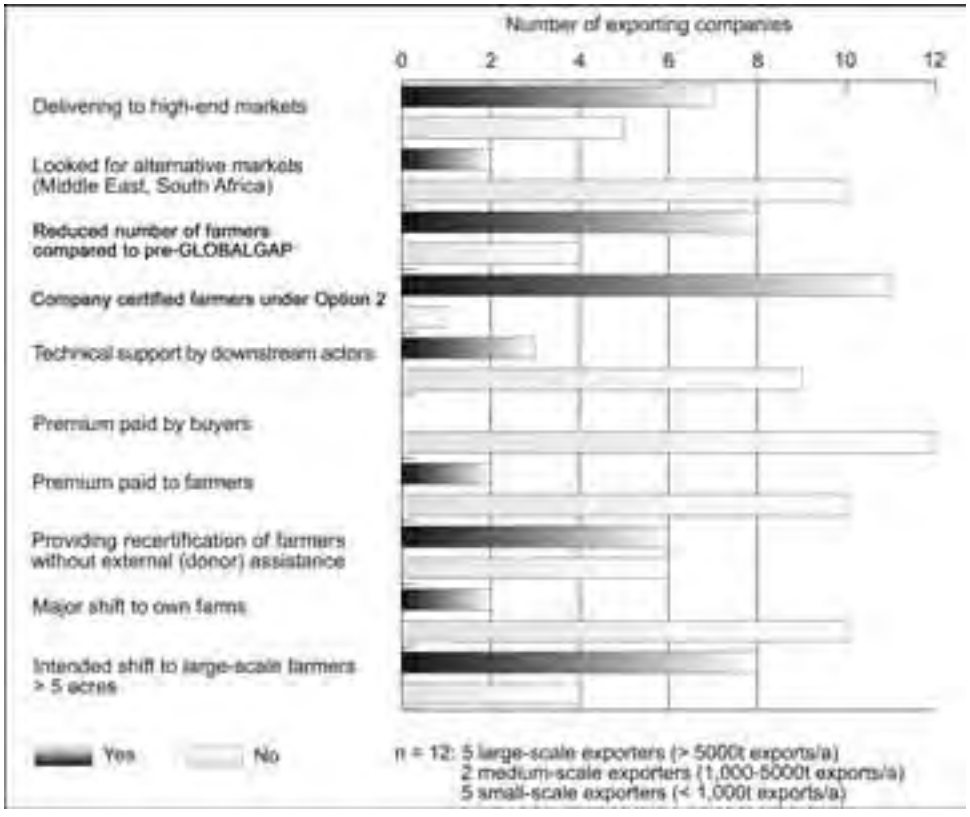


Source: Author's research.

Exporter-linked farmers have experienced mostly non-tangible benefits, ranging from less input use to higher productivity levels. In some cases, farmers received higher farm-gate prices and obtained a preferred supplier status where strong linkages with exporters were given. However, these were mostly more commercially orientated farmers with sufficient resources and skills at their disposal (see figure 2).

Most exporters received donor assistance, which can be helpful if carefully targeted. However, this has not always been the case. Donor projects were often uncoordinated and not informed sufficiently about the nature of horticultural markets and value chain relations. The 'green bean rush' and the call for the market inclusion of smaller players often resulted in the certification of groups that are no longer in existence today due to a breakdown or lack of exporter linkages, group mismanagement, or lack of funds. As empirical results show, sustainable certification of smallholder farmers rests on several determinants (nature of relation with the exporter, capabilities of farmers, group cohesion, farming skills), which must be kept in mind when supporting certification at project or programme level.

Figure 2. Reorganisation of exporters' operations due to the proliferation of GLOBALGAP



Source: Author's digital questionnaire.

Key lessons from Kenya and Ghana

- Smallholder farmers can achieve GLOBALGAP certification, but continuous maintenance is a problem due to the high costs of compliance, technical barriers to entry, and the need for a steady cash flow in a sector that is vulnerable to problems such as seasonality, water shortages or pest infestations.
- Certification is not an option for every farmer since there is a threshold of economic viability (e.g., size of land).
- Farmers cannot maintain the GLOBALGAP system without strong exporter linkages and significant external assistance support (in most cases through exporters).
- Donor projects that neglect market linkages and lack a clear exit strategy are destined to fail.
- The challenges posed by GLOBALGAP cannot be understood as a mere technical issue and must be placed in the wider context of agricultural development problems such as low-capital production systems, lack of supportive institutions, asymmetrical markets, and bad industry practices (such as side-selling). GLOBALGAP-related support must come as a comprehensive package rather than as scattered and short-term small-scale interventions.

Solutions for improvement and sustainability

From the empirical results from Kenya and Ghana the following implications for sustainable development support can be outlined:

- Pushing farmer groups into GLOBALGAP certification as a 'one size fits all strategy' is not a solution. Due to the need for continuous system maintenance, selected farmer groups (albeit enjoying sufficient resource endowments and solid group structures) still need a stable market and credit linkages in case of production breakdowns. Selected groups should have a good organisation and management structure as well as being familiar with farming as a business, which includes full awareness of the advantages of long-term business relations and a transparent outline of the costs and benefits of GLOBALGAP.
- There is a clear need to enhance knowledge flows in respective countries – in the public sector as well as the private sector – in order to ensure coordination of activities and avoid repeating mistakes. This also means providing locally-adapted solutions and taking standards 'out of the hands of consultants' through simplified solutions (e.g., low-cost pesticide stores as promoted in Ghana through the USAID-funded Trade and Investment Programme for a Competitive Export Economy).
- It is important to set out clear policy guidelines on the relationship between poverty alleviation and export-led development, which take into account potential trade-offs between certification of farmers delivering to high-quality markets and pro-poor smallholder development.
- Exporters have to be an integral part of all support initiatives; this is crucial because farmers need technical and financial support from exporters, but may also raise critical questions with regard to the ownership of the certificate. Donors should be aware of potential 'ownership struggles' and provide solutions for that.
- Supporting private–public sector fora helps identify key public investment areas to maintain competitiveness of the sub-sector and smallholder farmer market inclusion.
- It is important to ensure government support in terms of building up analytical capacities as well as developing a clear policy on contract farming, including the establishment of extra-legal dispute settlement mechanisms for tackling issues such as breaches of contract.
- It is essential to foster mechanisms of self-regulation in the industry to ban side-selling of produce – a major factor in undermining investments by exporters into the certification of smallholder farmers due to the fear of a lack of return.
- Despite the high annual revenue generated by export horticulture, venturing into complementary strategies is essential (e.g., in Kenya only 3 per cent of the annual agricultural output is destined for the export market). Encouraging alternative markets (domestic and regional markets) and diversification into other products or niche markets is one appropriate strategy in the light of new challenges imposed by private standards. This is particularly the case for smallholder farmers on 1 to 1.5 hectares or below (the economic threshold for GLOBALGAP certification for fresh vegetables in Kenya; this is a product- and country-specific estimation).
- It is important to give consideration to alternative certification approaches (as currently supported by the Dutch NGO NAC-Agro in Senegal and Kenya) and to incorporate them into the revision of the GLOBALGAP standard.

Fresh Perspectives 32

Are private standards important to small-scale grower project sustainability? A personal view

Steve Wright

Steve Wright is the Technical Manager for Blue Skies Holdings Ltd., which has small-scale growers supplying fruit to their Ghanian, Egyptian and Brazilian high-care factories. Over ten years Blue Skies has earned an excellent reputation for working fairly and in partnership with farmers, and in so doing has created sustained income and development. Blue Skies is market-orientated.

Key messages

- **Too often, development agency projects fail to connect smallholders to export markets since they are production-orientated – whereas private sector trading partners would invest in market-orientated strategies.**
- **Export businesses have clear advantages over development projects in building sustainable smallholder participation in export chains, drawing on strong leadership, commercial understanding of customer demand, and capable staff to deliver results.**
- **Small-scale producers and development agencies should rethink their goals towards a more market-orientated approach and value-appreciation of produced goods.**

Today, there is still debate about how to identify vulnerable groups, target resources, and design projects to increase the income and improve the quality of life of the very poor. A great deal of discourse, activity and funds have focused on connecting small-scale growers to international markets, examining and overcoming international market private standards, and attempting to make processes sustainable now and in the future. Yet despite so much close attention, all too often the withdrawal of support and donor funds signals project decline and eventual demise. The question is why?

Project sustainability success produces a rather different question: is the project 'production-orientated' – i.e., how can income be gained by trading local produce internationally? Or is it 'market-orientated' – i.e., what does the market want, and how can goods or services be created to meet market demand? Both approaches may end up using local labour and supplying locally-sourced goods/services to the international trade. This paper seeks to highlight how fundamentally different the basis, outlook and governing factors of each approach is, plus the respective outcomes of each approach. It also examines the perception and the role of private standards for each outlook.

Standards are constraints only in a production-orientated strategy

Unfortunately, several (well-intentioned) fresh produce development projects in West Africa have failed, not for want of standards but because development-funded farmer groups have been exclusively 'production-orientated'. The following case study illustrates this failure. In Ghana, farmer cooperative members supplied pineapples for export and expected to receive the premium price for them. Since the producers did not implement the necessary quality controls, their sea freight container contents were rejected on arrival at their destination. Incredibly, this was then repeated again and again – with increasingly poor-quality produce – as the cooperative became desperate for income. Standards in this situation were always seen as a barrier to trade, and were never properly supported at the top level or resourced. As soon as external support ceased, all attempts to uphold standards dropped away (as was soon evident in the quality of the produce being sent for export).

Interestingly, a pineapple export company in the same area continued to succeed even as the cooperative business disaster unfolded just down the road. The export company was 'market-orientated'. It took the trouble to understand the market and its customers' needs properly, and had geared the business to provide accordingly. High standards were found to be what the customer wanted; these standards were supported from the top and the company received reliable resources to produce to a high standard throughout the year. More pertinently, this export company clearly understood farmers got paid not for what they sent (i.e., the volume), rather for what was useable at the other end (i.e., the quality). Consequently smallholders took considerable care to load only what would travel and be of suitable quality on arrival.

To most Western minds, and indeed well-educated/internationally-versed local minds, the above discourse is self-evident. However, many small-scale growers, and also some development agencies, appear to favour the production-orientated strategy.

Smallholders have great trouble adapting standard requirements to their own realities

Actually implementing identified standards needs the right approach. While the control point questions might be international, the answers should be appropriate and practical at the local level. Today there is a very real difficulty interpreting clever control point questions designed for sophisticated developed country farms into questions relevant to the simple farming circumstances of most small-scale growers.

Export businesses have an inherent advantage: they are connected to industrialised country import firms, which often have technical staff and expertise available to work through the required standards, and understand what they mean and how they can be implemented. Smallholder groups may have development agency support, but development agencies rarely have practised expertise in the different standards and their implementation. This means small-scale growers struggle from the outset with schemes and fail to deliver clever (and appropriate) answers to control point questions. When external funding ceases and smallholders have no more support to maintain these standards, schemes often cannot continue to function. What is missing from small-scale grower groups is a driving force to implement standards and continue to develop them over time.

Development projects versus private sector initiatives

Perhaps another key difference between development projects and export firms is that development projects are based on natural groupings (community or geographical location) or project criteria (production type or income level for example), rather than recruiting the best person for the job. Export firms recruit individuals who show themselves to be most suitable for the roles and responsibilities that need to be undertaken to operate an efficient business.

Project groups are quite likely to be composed of individuals with different motivations, who are liable to have conflicts of interest (especially if donor funding permits a period of cushioning that delays the necessary decisions needed for success). Export businesses tend to be characterised by strong leadership, the necessary focus towards customer service, and a need to perform from the outset – this helps to ensure everyone aims for the same goal at work, no matter what their personal motivations may be.

In terms of people capability, focus, direction and strong leadership, export firms have a clear advantage.

Start with the market

Fundamentally, producer organisations should start by looking at the market: identify the customers, understand their needs and wants, and then organise supply to meet this demand. Organisations should align all their activities to contribute to delivering goods/services exactly as the customer wants, and deliberately cut out all activities that do not contribute to this end. Organisations should be ruthless about managing everything from start to finish so that the customer receives goods and services at the right price, of the right quality, and on time. Anything else is inefficient and needs either realignment or termination – or it will eventually result in unsatisfied customers and therefore no future business.

Essentially, all businesses are sustained because the goods or services they provide are valued by the consumer. In industrialised countries, the market has developed beyond product quality and price towards intangible attributes, which in the minds of the consumer may be as important as (or even more important than) the product itself. 'Fairtrade' promises 'fair' income to supplying farmers; it does not promise high-quality or low-cost products yet it competes well against low-cost similar products. Clearly, consumers 'value' the Fairtrade'ethos.

Development agencies must rethink their goals

Development agencies' goals tend to be towards increasing the income and quality-of-life standards of the very poor, and, in evaluating the knowledge and skills base of local people, thinking about connecting what local people already do with a wider (international) market. In the process of collecting enough goods/services together to become viable for trade, standards are then seen by these development agencies as an additional and unwelcome cost to entry, and an ongoing hindrance to business. However, no matter how laudable the objectives of development agencies promoting smallholder links with international markets may appear, an approach that neglects to give sufficient consideration to standards is simply destined to fail (and this scenario is played out in reality by a succession of development projects that flounder once support is withdrawn).

Sustained income generation, and all the benefits that develop from it, occurs as a result of paying attention to the market, not as a result of paying attention to production. This means development agencies need to rethink the goal of 'improved income for poor people' so that it becomes 'identify markets, customers, goods and services and align local resources to supply; the improved income that results then benefits the participants'. Simultaneously, decision-makers at all levels need to have their models and even beliefs restructured so that with the same local-level resources (and development agency support/funding) connections are better made, goods or services flow, and income-generation becomes sustained.

When the time comes to efficiently place funding, lever development agencies should always consider 'value' – how can local goods and services be valued by consumers in international markets? Taking this approach sidesteps the traditional treadmill of increasing quality for ever lower-priced farm products, and perhaps also means local people can engage with international consumers in their local region, using appropriate and practical means. The sisal woven handbag produced in Kenya has become an iconic international fashion item. One wonders if this hard-won success could have been facilitated and enlarged by 'value' thinking and better market connections rather than leaving it to slowly gain market interest from returning tourists over the years. What else could be in the pipeline just waiting for the right approach?

Building belief and understanding

The genuine difficulty in having small-scale growers engage with a sophisticated industrialised market with meaningful (and hopefully appropriate and practical) goods or services lies in creating and sustaining market connections. Long term, the profit motive from investors in a business structure appears to be the model that works consistently. Perhaps the single largest constraint in development work is belief (or rather lack of belief); belief it is possible, belief it is practical, belief that the project can work, belief that if actions are sustained then income will result.

Finally, the mechanisms of 'communication' should be considered. What are the 'dots', what are the connections between the dots, and what is the resulting picture? Participating small-scale growers should understand businesses need to operate in a certain way and connect with their customers effectively if they are to succeed. Connecting effectively means uncovering missing dots and misplaced connections, and bringing a different view in to create understanding and reliable and desirable outcomes. What we say and how we say it are vital parts in helping people obtain the full picture. In this light, one wonders: how much is 'project failure' down to miscommunication, not just an incorrect approach?

5.4 Researchers, standard-setters and service providers as tool providers to assess alternatives

Research is required to provide simple guidelines or tools to assist exporters to map the participation of smallholders in their supply networks. Such tools can also help exporters in understanding the development impact of their horticulture operations, and are a means to improve that impact within the commercial realities of business.

Alternative options are required for marginalised smallholders – such as non-certified or domestic markets. It is important to help secure the existing trade in non-certified produce for domestic, regional and wholesale export markets. Consideration needs to be given to helping farmers and exporters establish a simple system of traceability and crop record-keeping, thus helping the food service supply companies that audit their suppliers. Such a system would be much simpler than private sector certification such as GLOBALGAP, but it would give increased confidence to the food service sector and help with improving their 'due diligence'. Consideration could also be given to the establishment of a simple certification procedure for some segments of the sub-Saharan African regional market.

Researchers should continue to gather consistent and reliable field data – including both economic and social – to enable mapping of small-scale producer participation and creation of a methodology for analysing any development impacts. In particular, more robust long-term research is necessary to assess progress and build strong conditions for improvement and replication.

Standard-setters should appreciate that meeting supermarket standards has costs and benefits for all producers. Since costs are increasing and are squeezing poorer and smaller-scale farmers out of this market, they should take opportunities for cost reduction seriously. Notably, costs of compliance could be reduced without compromising the integrity of standards if revisions could base the level of control on a clear understanding of the risks associated with different crop types and production practices. Much can be done to improve the inclusiveness of procurement with minimal impact on risk. On food safety, for instance, most small-scale production for export in sub-Saharan Africa would fall into low-risk categories.

A methodology to assess the development impact of PVS should be applied to any standard. This would guard against crafting more complexity into PVS than is practical. Revisions to existing PVS are usually assessed in terms of financial costs and benefits and from the viewpoint of the buyer and the retailer. Thus the views of producers, and the non-financial benefits that producers and producer nations accrue, may not be fully represented in a financial assessment of the additional criteria. A producer voice in standard setting is vital. It is strongly recommended that the position of the Africa Observer in GLOBALGAP be strengthened and supported by GLOBALGAP members, in order that it is less reliant on donor subsidy.

Fresh Perspectives 33

Private standards: a personal perspective from a training service provider

Henry Wainwright and Louise Labuschagne

Henry Wainwright and Louise Labuschagne jointly run The Real IPM Company (K) Ltd., employing 70 people. It primarily focuses on crop protection and options for pesticide reduction and it undertakes training and consultancy for others as well as producing and promoting the use of biocontrol agents, mainly in the horticultural sector.

Key messages

- **The success of any producer group lies in its organisation and discipline, which will enable the group to function and meet a PVS.**
- **Farm practices have improved in the horticultural sector as a result of private standards.**
- **The exporter is a key component to implementing a private standard and to transferring knowledge and technology development to the small-scale producer.**
- **Small-scale producers can meet – and have met – the standards, and from our first-hand experience often to a higher standard than producer units in Europe.**

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The Real IPM Company (K) Ltd. is an associate member of GLOBALGAP and has four registered trainers with GLOBALGAP. As a company based in Kenya, we undertake training in support of GLOBALGAP with particular reference to:

- enabling companies to comply with the required criteria and checklists (e.g., training in the safe use of pesticides, field hygiene, integrated pest management);
- training company staff in the GLOBALGAP principles and practice; and
- internal audit training.

The Real IPM Company (K) Ltd. has extensive knowledge and experience of training, and has no involvement with certification or with any organisations that undertake this private standards function. Thus this briefing paper aims to provide a personal view on the impacts and conditions for success of private standards. The opinion expressed is purely derived from field experience and training implementation and is not the result of a systematic scientific study.

Failure of smallholders to join and comply with standards is often the consequence of a lack of discipline from producers

Private standards like GLOBALGAP are demanding on the producers. These demands can take the form of management time: the need for systematic organisation, preparation, system maintenance, increased time for staff training, development and maintenance of recording systems, and

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Rose scouting

development and financing of infrastructure, while still managing to produce a crop on time and of the right quality. Issues raised by the producers, especially when entering a private standard for the first time, are often related to the perceived complexity and worthlessness of bureaucracy. Yet many producers come back for a re-audit the next year, and negative opinions do decrease as benefits are seen and appreciated.

The successful smallholder group has a regular outlet, which is stable in both quantity and price. Many of these grower groups existed before private standards were developed, but these groups adopted private standards as part of their business evolution. However, the success of any producer group lies in its organisation and discipline, which will enable the group to function as a single entity. In Real IPM's experience, failure of a group to maintain a private standard is the failure of the group to function as a cohesive unit rather than due to the demands of the standard. What constitutes a successful group is complex, and cannot simply be related to physical characteristics like group size, location, etc. Groups can be formed by like-minded individuals; however, those that form spontaneously without any commonality will be limited. Groups need to be nurtured and supported, and this is a prime task of the exporter. The role of the exporter in maintaining the integrity of a group is quite critical here.

Exclusion of producers from the export market due to their inability to meet standards is a reality. However those who have been excluded are likely to be inconsistent producers who come and go from the market, often through a middleman. The negative opinions concerning middlemen (did not turn up to collect the crop, offered a very low price, only came when they were short of crops, etc.) have been replaced by the claim that private standards are excluding the small-scale producer from the market. Those who complained about middlemen are often those who complain about private standards.

The impact of private standards on quality is dramatic

For example, when training on pesticide use and safety is undertaken in the export horticultural sector compared to the coffee sector, the coffee sector has had little exposure to private standards and is much less aware of pesticide safety. However, up-and-coming coffee standards like 'Utz Kafe' have the potential to change this. Farm practices have changed for the better in the horticultural sector as a result of private standards. In the African context this was never achieved by legislation.

Single units have advantages over smallholder producer group

Another impact of private standards appears rather contradictory. First, we have seen the rise of well-organised and managed smallholder outgrower groups, loyal to an exporter and disciplined in their activities. Nevertheless the numbers of this type of group are limited. To meet demand for produce, exporters have moved towards large-scale outgrowers with 10 to 40 hectare production units. The argument for this development is that the exporter's resources and inputs needed to manage a single unit of 20 hectares are less than for a smallholder group of the same production potential. Also, the exporter has more control of production (such as the pesticides used), and the risk of illegal maximum residue levels can be minimised, for example. However the smallholder group cost of production is often lower than the large outgrower unit. Therefore the smallholder group certainly has a role in the production of export crops, and understanding what makes a successful group is a key component for the further expansion of groups.

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Key lessons to foster smallholders' inclusion

Group organisation: for smallholders to remain in the export industry, group organisation and discipline are essential. Further success might be achieved if there was better understanding of how to make a successful group and what support a group could be given to enable them to function effectively. This requires education and the development of self-help skills – for instance, education on the role of the group committee, or the development of trust within the group.

Exporter: the exporter is a key component in implementing a private standard and transferring the knowledge and technological development to the small-scale producer. Underestimation of their function will reduce the position of the small-scale producer in the export industry. Whilst the exporters must be able to choose their suppliers, private standards might be adapted to encourage working with smallholder groups (e.g., through the social welfare component of a standard).

Donor involvement: numerous donor interventions have been undertaken to support small-scale producers, which have been very well-meaning. From Real IPM's experience of their results there is remarkably little consensus on the best approach and on how future interventions should be made.

The role of donor support needs more careful comparative review and harmonised action plans that leave behind a sustainable industry.

Generic tools: training and skills development are key components in implementing private standards. Rather than donors paying for more training and certification, the production of generic tools (adaptable documentation) that are more widely available (downloadable from the internet) is potentially more valuable. The work by GTZ on its generic quality manual is potentially transferable and a valuable asset for others.

Comparability: the small-scale producers can meet, and have met, standards and from Real IPM's firsthand experience often to a higher standard than producer units in Europe – meticulously managed pesticide stores are regularly seen on very small Kenyan shambas (farms) that comply with a private standard. Therefore the challenge is to find ways to expand this best practice.

Implications for sustainable livelihood improvements among smallholders

Private standards will not go away. Therefore the solution is evolution and adaptation of standards rather than demanding their abolishment. Firstly, the adoption of a standard is a difficult process for any producer wherever they are. The British farmer was one of the first to have difficulties. However, this should not breed complacency about the impact private standards might have on the small-scale producer in Africa. Therefore, as standards are revised it will become essential to know the impact this will have on resource-poor farmers. Efforts to consult with smallholders about the impact private standards are having on African producers are noticeably increasing and should continue.

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GLOBALGAP is the most widespread private standard but the role of other socially responsible standards such as Fairtrade might have a greater benefit to Africa. Therefore in the future, Africa might have its own corporate social welfare standard designed primarily to benefit Africa rather than retailers in Europe.

Fresh Perspectives 34

Rethinking the value chain in the fruit and vegetables sub-sector

Amos Waweru

Amos Waweru is the lead consultant with Standards & Solutions Consulting Ltd. and has worked extensively with small-scale farmers in Kenya and other East African countries on certification to standards, market development, and business services provision.

Key messages

- **It can no longer be 'business as usual' if continued participation of small-scale farmers is to be sustainable.**
- **Small-scale producers must be able to operate as business units that are efficient and competitive.**
- **For this to happen, government and the other stakeholders in the supply chain must support them by providing an enabling policy environment and conspicuous incentives.**

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Service providers are third-party organisations that do not participate directly in delivery of goods in the supply chain. Rather they interact with buyers, exporters and producers to provide tools, advice and guidelines for supply chain actors to understand, monitor and quantify their business features and partners. Examples of service providers include government, NGOs, and private consultancy companies. Service providers act as important brokers in ensuring continued participation of small-scale producers in the fruit and vegetable export industry by facilitating a suitable policy environment, identifying and promoting incentives for exporters to interact with small-scale growers, and recommending innovative business models to ensure win–win scenarios.

Creating a win–win trading relationship

In order to better understand the interactions between different groups in the fruit and vegetables sub-sector, this paper adopts a value chain approach. This approach views the production and marketing of fruit and vegetables as an economic system that involves several actors, grouped in a chain (key among them are the small-scale farmers, service providers and exporters), who carry out a sequence of activities which lead to production of the goods that eventually reach the final consumer. These actors and the activities carried out are interlinked and the individual actors are interdependent.

To shape new ways of working it is paramount to first understand the current scenario pertaining to supply chain actors. This can be done using the following three processes:

Value chain mapping: this technique enables simple and rapid identification of key processes and agents within the supply chain. Value chain mapping is an important tool in its own right, and it is

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Wamunyoro certified farmer group

also a means of identifying and involving stakeholders. To the extent that the mapping exercise is able to analyse the characteristics of export markets, it may also identify new marketing channels and new potential stakeholders for the local upgrading process.

Identifying the challenges facing the three stakeholders in the chain: this is done most effectively through an analysis of critical success factors. The value chain methodology, drawing upon the well-established critical success factor approach, explicitly questions the accuracy of the assessments of both critical success factors in different markets and the extent to which the small-scale farmers are able to meet the requirements of the exporters. The firms at any particular point within a value chain do not necessarily fully understand the requirements of buyers, or the areas where they are exceeding, meeting, or failing to meet these requirements. This analysis links local production and producers to the broader context.

Considering the different ways in which the key constraints and gaps identified could be filled: once the value chain has been mapped and key challenges identified, a service provider is in a position to recommend guidelines and tools to support both the exporter with better inclusion of smallholders and the smallholder with a better understanding of the market.

Guidelines and tools for exporters to understand the development impacts of their operations

First, an understanding of development impacts is necessary. These impacts are either intended or incidental. The impacts can be mapped out into the following categories but are not limited to these alone and could include others or/and be grouped differently:

1. **Economic impacts.** This includes incomes earned by the different actors, and opportunities for employment and jobs creation.
2. **Market information**, technology transfer and skills acquisition along the value chain. This concerns how information from the consumer flows along the chain and back to the producer, and how the actors respond by acquiring skills and new technology to meet the demands of the consumer and continually satisfy their needs.
3. **Business skills development and upgrading**, particularly for the smallholder farmers as well as the other actors in the chain. This concerns how the small-scale farmers manage their production in a businesslike manner, which emphasises commercialised production activities rather than subsistence-orientated production and thinking.
4. **Social impacts.** Development of farmer groups as business units. Due to the rigorous quality requirements of exporters, the small-scale farmers, groups and individuals have been forced to become more efficient in terms of management in order to avoid being excluded from the chain. Therefore farmer groups have become the preferred business unit, one which is most effective in managing the complex needs and requirements of the exporters.
5. **Environmental benefits** arising from application of good agricultural practices such as the safe and effective use of pesticides. This mainly concerns the protection of waterways from harmful effects of plant protection products, health and safety of the small-scale farmers and their workers by lower exposure to these plant protection products, and hygienic farms and homes, which generally increases standards of living.
6. **Infrastructural development**, which increases the asset base of the chain to meet market requirements. This will include hardware and equipment such as collection centres, pesticides and fertiliser stores.

Based on these possible development impacts, the following would act as indicators for robust monitoring and evaluation that would assist exporters in mapping their small-scale suppliers and understanding the threats and benefits of the trading relationships.

1. **Contract duration:** the time that small-scale farmers are contracted to an exporter. This would provide an indicator of the kind of relationship existing between them, and the benefits accruing to the stakeholders involved.
2. **Numbers of small-scale farmers included:** increasing or decreasing the number of farmers who engage with the exporters. This can be tracked using the farmers' registers of the farmer groups contracted.
3. **Complaints tracking mechanisms in place:** exporters' complaints to the farmers are recorded and analysed in order to assess their nature (quality issues, contractual issues such as side-selling of contracted produce). Over time, these complaints are assessed in terms of how they change in relation to their nature and frequency of occurrence in order to determine how effective the farmers are in meeting the exporters' requirements.
4. **Surveys carried out:** exporters can carry out periodic surveys to gauge the impact that they have had amongst the small-scale farmers.

5. **Field days** with the small-scale farmers that would serve as a tool to obtain feedback from them and help the exporters respond to their needs.

Guidelines and tools for the small-scale farmers to connect with lucrative markets

1. **Good agricultural practice.** Small-scale farmers need to demonstrate their application of good agriculture practices to current and potential markets. This will be mainly through keeping records of all farm practices and particularly those concerned with the application of plant protection products and harvesting (among others). Also, self-assessment using the current checklists of existing standards – or modified versions of these checklists – will become increasingly important.
2. **Risk assessment.** Of primary importance are risk assessments carried out on food safety, but also of importance are those carried out in other areas such as the environment and workers' welfare (depending on the requirements of the markets). This is particularly critical when niche markets are being targeted, such as those of Fairtrade. The purpose of the risk assessment is to demonstrate to the markets that an evaluation of risks and their levels has been undertaken, and that, as a result, control measures have been designed and are at various levels of implementation.
3. **Easily comprehensible market requirements tools** that will enable the farmers to understand and respond to the criteria they are expected to meet, e.g., quality specifications, standards (if any), food safety regulations.
4. **Knowledge and skills levels guidelines** that will broadly detail what competencies are required for the small-scale farmer to access those markets. This will assist in building the capacities of these farmers. This knowledge relates more specifically to the application of good agriculture practices and crop husbandry practices.

This briefing paper has discussed the importance of service providers in facilitating exporters to be more inclusive of small-scale farmers when making decisions on which suppliers to use. With a 'business as usual' attitude, many more small-scale farmers are likely to drop out of these export markets. From the service provider perspective, it is important to explicitly inform the exporter of the development benefits that inclusion can have, as well as to work with the exporter to create business models that work for them. Part of this process is educating the small-scale farmers on good practices to better enable them to meet the high demands of dynamic export markets. The result is a business model that includes responsive small-scale farmers and works for sustainable development.

Fresh Perspectives 35

Mind the GAP. Why a user-friendly knowledge system is necessary to reconcile private standards and public responsibilities

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Agriculture is back. Until quite recently there was little global concern about the availability of food, and a general belief that technology would provide a solution to any supply problem. However now, a combination of rising populations, environmental degradation, escalating oil prices, and demand for biofuels suggests that the era of cheap resources is over.

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Government is back too. At least 29 countries have significantly reduced food exports in recent months, action to simply ensure that people have enough to eat. In the case of rice for example, India, Vietnam, China and 11 other countries have limited or banned exports. Fifteen countries have capped or halted wheat exports (Bradsher and Martin 2008).

The implications for the global economy are serious, as Joachim von Braun, Director General of the International Food Policy Research Institute, said: "If one country after the other adopts a 'starve your neighbor' policy, then eventually you trade smaller shares of total world production of agricultural products, and that in turn makes the prices more volatile" (Ryan 2008).

The World Bank *World Development Report 2008* portrays a more nuanced approach:

> 'The private sector drives the organisation of value chains that bring the market to smallholders and commercial farms. The state – through enhanced capacity and new forms of governance – corrects market failures, regulates competition, and engages strategically in public-private partnerships to promote competitiveness in the agribusiness sector and support the greater inclusion of smallholders and rural workers. In this emerging vision, agriculture assumes a prominent role in the development agenda.'

Roles and responsibilities

The time when agriculture was off the development agenda was an era of cheap energy, leading to outsourcing of production to low-cost countries. Standards arose as a way of assuring greater control over these long chains and a profusion of NGO activities and business models has arisen – often struggling with increased supranational regulations such as pesticide residues and, now, carbon footprint issues.

But an era of food and energy shortages is a dangerous time: the increased complexity of agrifood management and governance – a gamut of public, private and civil society bodies – risks a future of ill-defined responsibilities that may variously include cooperation, duplication, intervention and unilateral response to crisis.

The EU Economic Partnership Agreements now being signed will open up developing countries to more opportunities in Western markets as well as greater imports of food. But how will policies aimed at boosting aid-for-trade interact with food aid programmes and national food security issues?

There is already confusion in the minds of many farmers and their support institutions about which standards of sustainable production are best for them in the long run. There are also signs of confusion at the level of international policymaking too. The recent unrealistic assumptions surrounding biofuel policy, for instance, show a lamentable lack of understanding and due scientific process.

There is every sign too that the public does not have full confidence in the ability of governments to regulate food and the increased purchasing of organic and fair trade labels for assurance of purity is a clear signal.

Complexity

The focus of this briefing paper is complexity and how we deal with it; environmental parameters that we once considered immutable are now in flux and are interacting with a world crowded with multiple stakeholders holding diverse views and shifting policies.

Developing countries are faced with very difficult decisions. To what extent should they invest in risky long chains to export to distant markets and rely on food imports that can be rapidly cut off? How do they make the correct decisions based on the price of energy, other input costs, world food prices, environmental risks, land degradation and so on?

The processes and assumptions for decision-making at the national and international level are poorly known and opaque. Models, expert systems and the like may exist but are surely inappropriate and inadequate for the major responsibilities we now face. The deepening global economic crisis only confirms a general feeling that, when it comes to an understanding of how our world works and taking rational action, we do not seem to be getting smarter.

It is plain though that farmers, businesses, governments and NGOs are expected to work together and private standards are the clearest manifestation of this alliance. But while the number and complexity are increasing, the role of private and public actors in supporting implementation is unclear. NGOs carry out training to comply with business standards, often supported by public finance, but will this continue to expand and come to represent a force equal or superior to ailing national extension bodies? The interface with the farmer is a crucial point in the chain and we may be leaving too much to chance in this new age of uncertainty.

The sort of sustainable systems that we all want to promote imply a new way of working. Conventional planning and thought, based on agronomy and business plans, are not enough because truly sustainable production has to look much further into the future than we can manage with spreadsheets alone – we need to improve our thinking.

What next? Knowledge versus information

There is an urgent need to reassess fundamental decision-making. Who supplies the information and knowledge, and makes sure it is of good quality, up-to-date and comprehensible by a broad alliance of stakeholders? In an age of targets and auditing, do we even need an audit of our own decision-making? Surely too much is being left to chance?

We therefore need an accessible and user-friendly knowledge system to provide the best available information for decision-making by all stakeholders. At the most basic level, this would use the increasingly sophisticated climate models that give a state-of-the-art estimation of the fate of rural lands in the coming years. Built upon this could be a series of sustainable land management modules or overlays of available zonal information on soils, water and energy sources, cost scenarios and the like.

On top of this could be mapped a range of biotic risks and possibilities relating to plant and animal pests and diseases, state of infrastructure, labour availability and other social parameters.

A mix of databases, maps, models, simulations, expert systems and case histories could provide a list of technical possibilities seen as most likely to work over an agreed time span. Then, through a mix of dialogue, demonstration and participation, these could be placed into the public domain for universal consideration. The guiding principle would be that all have access to the same information and knowledge from which, ultimately, farmers, co-operatives and businesses develop viable business plans for their future. A high level of user-friendliness would be required.

At present such a system does not exist but can be developed. It would take time and resources to build and there would be initial failures and gaps in understanding that would help inform research agendas. But it would only get better through subsequent iterations. In the main, the resources would have to come from the public purse, but would easily be cost-effective because of improved understanding and reduction in waste of donor funds for future projects.

The irony is that we have far more information available to us than ever before, but we are not making the best use of it – as we say in CABI, the world is drowning in information but starved of knowledge. The brilliant Nobel laureate climate modellers have shown the way; we must simply try to build upon the foundations they have given us.

> "The problem of sustainable development is really a stalking horse for the grand debate in which science is now involved with broader society, much as the contentious motion of the planets was Galileo's stalking horse over 350 years ago for the then-emerging science of dynamics, which led to the breathtaking, all-encompassing sweep of Newton's physics.

This is a debate about how we should understand difficult things. Scientists have not joined this debate with society since the Renaissance, when Galileo confronted the church, and argued for a new physics – argued that the physical world could be understood through a rational and material process which came to be called the scientific method. This, in the end, transformed society and swept away the Middle Ages. We now face a debate of similar proportions and consequence." (Bradbury 1998)

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Concluding remarks

This project points strongly to the need for three chief agents to work together to recognise the costs and benefits of their actions, and of others, in order to ensure both the development potential and the sustainability of agrifood systems are maximised. The trends in this integrated pattern of operating agrifood supply chains are nascent but increasingly promising for all sub-Saharan African farmers. Donors and governments continue to promote and support small-scale producers' access to certified agricultural export markets in the belief that this leads to the generation of economic profits and livelihood enhancement. Private sector businesses are increasingly committing to the development agenda, sourcing from small-scale producers being a proactive answer to reputational risks as well as a profitable economic investment. And farmers are continuing to prove they can produce high-quality produce to exacting standards.

Indeed, although PVS are often perceived as a barrier to African small-scale producers, primarily because of the necessarily high farm-level investment in compliance, those who can afford to meet the standard requirements welcome the range of benefits from preferential market access including higher net returns, technology transfers, and access to upgraded input markets and services.

And the benefits are not limited to these compliant farms. Spillovers into the rural economy are an essential component of poverty alleviation, improved farming practices, and upgraded regional food quality. Complementary to focusing on PVS compliance of smallholders in export markets, efforts should also target developments in the domestic and regional markets. Much can be learned from the experiences of Asia and Latin America, where regional trade has played a significant role in economic development. The fastest-growing trade is occurring among developing countries or from industrialised to developing countries, whereas conversely orientation on PVS has always been from developed to developing countries. There is a strong need to build equally lucrative local and regional markets in Africa.

Assuming that the final goals are economic, development and environmental benefits, public and private partners should favour a comprehensive and consistent approach towards fostering trade in developing countries.

In the context of climate change pressure and food price concerns, sub-Saharan Africa increasingly needs to move away from the traditional paternalistic system. Importantly, this challenge will need to be backed by supportive and coordinated policies of both donors and businesses.