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Costs and benefits of EurepGAP compliance for African smallholders: A synthesis of surveys in three countries

IIED and NRI



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By: IIED and NRI

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1 Introduction

1.1 Export horticulture and African livelihoods

The production and processing of fresh produce for export to the European Union (EU) is an attractive market opportunity that is currently being exploited by 25 nations in sub-Saharan Africa (SSA) – see Table 1.

Table 1: SSA countries involved in fresh produce exports to the EU (major exporters in bold)

Burkina Faso	Ghana	Mali	Nigeria	Tanzania
Cameroon	Guinea	Mauritania	Senegal	Togo
Djibouti	Ivory Coast	Mauritius	South Africa	Uganda
Ethiopia	Kenya	Mozambique	Sudan	Zambia
Gambia	Madagascar	Namibia	Swaziland	Zimbabwe

UK imports of fresh fruits and vegetables (FFV) from SSA accounted for a declared value of over £200 million in 2005. The UK is consuming more produce today from Africa than ever before. Consumption of green beans has been increasing at 2.2 per cent per annum since 1990. Forty per cent of all air freighted FFV imports to the UK are from SSA. Poor African countries rely on the UK market to support their domestic industry and on air freight – Kenya air freights over 90 per cent of its exported green beans to the UK.

Exported produce from SSA to the UK bestows considerable direct benefits on poor rural economies. In many of these countries small-scale growers make a major contribution to export production and derive significant levels of income in return. There is an estimated 50–60,000 small-scale growers (SSGs) (see Box 1) plus an estimated 50-60,000 employees on larger farms who grow produce that is consumed in the UK. In addition there are an estimated 100-120,000 people employed in support services for these producers and employees. In total, there are an estimated 1–1.5 million people whose livelihoods depend on the supply chain linking production on African soil and consumption in the UK. In 2005 UK consumers spent at least £400 million on FFV from SSA, in other words, more than £1 million per day.

Kenya is a good example of how local economic development follows the development of export horticulture. Kenya was the first SSA country to develop systems for exporting high-value horticultural produce to the UK. Seventy per cent of green beans of exportable quality produced in Kenya are exported to the UK. Following on the success of Kenya, a number of other countries are now competing. However, 87 per cent of total UK imports of green beans still come from only five African countries.

In Zambia where rural household incomes are often less than £100 per annum, small-scale growers have made incomes of £1,000–7,500 from vegetable exports (figures for 2003-2004).

1.2 Private standards and EurepGAP

Prior to 2003 the majority of the export companies relied on casual purchases of vegetables from large numbers of small-scale growers via a system of brokers. But since then the compliance framework for exports to the EU has been getting tighter. The concern is that the tightening of regulations – both public and private – results in the exclusion of SSGs, with wider poverty implications for rural Africa.

The European Retailers' Protocol for Good Agricultural Practice (EurepGAP) for the production of fresh fruits and vegetables was initiated in 1996 by a group of 11 British and Dutch retailers, with the objective of creating a single private sector standard for quality and food safety of fruits and vegetables from seed through to farm gate. From the retailers' perspective persuading suppliers to prove compliance with EurepGAP would provide all parties with a due diligence defence under EU food safety regulations. Major growers in Europe were also interested in EurepGAP as it appeared to offer a way of reducing the number of private sector standards in the market place and thus manage problems with incompatibility of standards when trying to supply several retailers with the same product. In its first decade EurepGAP has developed into a global standard and the number of retailer members has increased to 31 in 11 countries (including one Japanese retailer). Concerns that EurepGAP is Eurocentric have been addressed by the development of national standards (Kenya-GAP, Chile-GAP, Mexico-GAP, China-GAP) which are modelled on the original EurepGAP protocol and must be benchmarked against the EurepGAP standard to ensure system equivalence.

What is a small-scale grower (SSG)?

The term small-scale grower (SSG) is rather polymorphous as it often lumps together people of very different educational backgrounds with considerable differences in financial and technical capacity to meet the requirements of the EurepGAP protocol. In effect the only thing that most small-scale growers have in common is the small area of land available for cultivation. Even land sizes and levels of infrastructure can vary widely. In Zambia land areas for export crops vary from one to four hectares whereas in Zimbabwe the Hortico Agrisystem's scheme operated areas of 0.1–0.2 hectares and in Kenya many of Homegrown's growers have 0.01–0.02 hectares.

In order to understand the challenge faced by smaller farms in meeting the requirements of EurepGAP, it is essential to understand the workings of the EurepGAP standard. In this report EurepGAP is taken to mean the Fresh Fruits and Vegetables Protocol 2.1, Jan 2004 that was introduced in September 2003 and became mandatory from January 2004. [Note that Version 3 has since been introduced]. EurepGAP is divided into 14 chapters and sub-divided 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. Each control point has specific criteria for measuring compliance, and measurement is carried out via independent audits on the farm.

To simplify the verification process 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. The final category of control points are highlighted in green and known as 'recommended controls'. Failure to comply with the recommended points cannot be used as grounds for withholding a certificate, but a few of the recommended points are linked to minor and major musts. EurepGAP offers four optional routes for achieving certification but only two of these are applicable to most developing country suppliers.

Most large-scale commercial growers go for option 1 of EurepGAP. However, most small-scale growers are unable to meet the requirements for certification under option 1, because they are unable to demonstrate compliance with all of the control points specified, as a result of inadequate technical and financial resources. The only option available to SSGs is option 2 whereby groups of small-scale growers are certified as operating under a common management system. EurepGAP uses the same set of control points as option 1 but farmers must be grouped under a primary marketing organisation (PMO).

The PMO takes legal responsibility for overall management of the scheme and compliance with EurepGAP, and each individual grower must sign a legally binding contract agreeing to comply with all of the requirements specified under the EurepGAP protocol. Annual audits are made of the PMO system and a number of randomly selected farm sites chosen by the auditor. For audits of schemes involving large numbers of growers the number of farm sites chosen for audit is often the square root of the total number of sites (the auditor may choose to evaluate more or fewer sites). If the chosen sites pass the whole scheme is deemed to have passed. Similarly, if one or more sites fail the whole scheme may be deemed to have failed depending on the seriousness of the non-compliance. If the auditor is satisfied that the scheme is compliant but one grower has failed on audit, that grower will be suspended from the EurepGAP scheme until the time of the next audit.

In September 2005 EurepGAP introduced a new feature for option 2 of the protocol in the form of a quality management system (QMS) checklist (Annex II of EurepGAP) and a checklist of requirements for internal farmer group inspectors. By September 2006 the number of EurepGAP certified suppliers in SSA was 1,980 (see Table 2). The QMS introduces a new level of complexity to the EurepGAP system. To pass the certification audit the farmer group must demonstrate compliance with 85 control points in the QMS checklist and nine control points pertaining to the farm inspector. The QMS covers issues such as legality of the farmer group and contractual documentation, and introduces the concept of an ISO compatible document control system. It also specifies the need for a Quality manual, HACCP manual and Quality Management System manual.

Development of these manuals is a major challenge: auditing requires that the management of the PMO is able to understand and explain the interrelationships between many different documents. This is the biggest challenge for small-scale growers. The qualification checklist for internal farmer group inspectors presents further hurdles as

many farmer groups in sub-Saharan Africa lack suitably qualified personnel and must look for external support. The QMS and farm inspector checklists are of vital importance for option 2 as the SSG group must achieve 100 per cent compliance with all control points on these lists; otherwise they fail the certification audit regardless of performance on the individual farm sites.

Table 2: Number of EurepGAP certified (options 1 & 2) suppliers of fresh fruits and vegetables in sub-Saharan Africa, September 2006

Country	No. certified suppliers
Cote d' Ivoire	19
Ghana	85
Kenya	386
Senegal	3
South Africa	1,448
Tanzania	20
Uganda	1
Zambia	4
Zimbabwe	14
Total	1,980

Notes: This does not represent the number of farms as option 2 schemes can represent anything from 10-2,000 individual growers per scheme.

1.3 Other risks are increasing

Concerns about climate change are prompting changes to those supply chain practices and processes that impact on African production and livelihoods. Upstream, growers and exporters are dealing with such issues as sustainable water supply, aspirations to enhance the value of less-thirsty crops, carbon emissions which have resulted in UK supermarkets using 'flown' symbols, and rising fuel prices. Downstream, market saturation is of increasing concern with evidence that green beans are losing their niche value among consumers and (more crucially) supermarket buyers.

2 Research

Much anecdotal evidence has been provided that EurepGAP compliance is resulting in the exclusion of small-scale growers (SSGs) in Africa who have traditionally supplied produce for the export horticulture trade with the UK. Of foremost concern are the poverty implications of such exclusion. With evidence that levels of trade in horticulture are on the increase, the issue appears to be one of distribution. Could EurepGAP be increasing the potential for trade with developing countries while reducing the potential for poverty alleviation by favouring larger, often foreign-owned, horticulture businesses. This study adds to the literature on this issue by quantifying the financial impact on these SSGs of current EurepGAP compliance in three countries at apparently different points on the continuum of export horticulture development.

2.1 Objectives

The overall objective was **to identify, quantify and assess the range of costs and benefits associated with compliance with the EurepGAP standard in order to design policies for donors and standard-setters that are pro-poor and sustainable**. The EurepGAP protocol for fresh fruits 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 SSGs in developing countries has great potential to provide poverty alleviation and long-term economic development and to complement current development aid budgets. This study is being conducted in parallel with other research, and with the engagement of stakeholders in the project ‘Small-scale producers and private voluntary standards’. Concerns indicated here will identify leverage points in the current EurepGAP texts.

Research questions addressed by these studies:

1. What is the impact on differently-resourced producers of standards imposed on supply chains for export horticulture in Africa?
2. What changes in industry incentives occur from rising standards?
3. What impacts on production result from rising standards at farm level?
4. What are the benefits of different business models for pro-poor procurement?
5. What are the keys to inclusion for small-scale producers in the light of rising standards?
6. What are valid forms of donor intervention, if any, to increase opportunities for poverty reduction in the long-term?

2.2 Methodology

For this research we define the SSA region geographically but omit South Africa, since this middle-income country is a special case in the region. Standards compliance was examined across a continuum of export market ‘maturity’, in ascending order: Kenya, Zambia and Uganda. A techno-economic research team was formed, which was made up of an economist working with a standards compliance expert, who conducted face-to-face semi-structured interviews along the supply chain in order to gather appropriate

information. The project team of IIED and NRI worked closely with in-country consultants:

- Zambia: NRDC-ZEGA Training Trust.
- Kenya: BSMDP and Esther Karehu (consultant)
- Uganda: Agribusiness Management Associates Ltd.

Research was conducted in March 2006 (Zambia), October 2006 (Kenya) and February 2007 (Uganda). Rather than using formal questionnaires, 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. From the analysis the viability of EurepGAP compliance for small-scale growers could be expressed as:

$$\boxed{\text{Viability of EurepGAP compliant crops to SSG}} = \boxed{\text{Turnover from crop sales (Exportable quantity = Harvest minus discards Price = actual price paid);}} - \boxed{\text{Initial costs of complying with EurepGAP Recurring costs of complying with EurepGAP [Costs of production; Credit deductions (for initial costs, recurring costs, or to fund inputs); Alternative crops net benefits (turnover minus costs); Increased labour costs].}}$$

In Kenya further data were collected between May and October 2006 from a survey of 11 out of 18 of the major exporters in Kenya. These data were concerned with trends in the participation of SSGs in the supply networks of: the four largest companies which control 80 per cent of produce exports to the EU; three medium-scale companies; and four of the smaller export companies.

3 Profile of smallholder export horticulture in each country

Kenya is the ‘leader’ country in the market for the region, followed by Zambia and Uganda (see Table 3). Each country is in the process of being transformed from a supplier of all markets to a niche player. With each country at a different stage along the export horticulture growth trajectory, analysis offers useful insights and enables learning across countries. Significantly, identifying a trajectory of export market development allows for prescriptive policy development. We begin with a brief introduction to the situation prevailing in each county.

Table 3: National export profile of three countries export horticulture sector, 2006

Factor	Zambia	Kenya	Uganda
Number of exporting companies	2	30	23
UK significance for export	100%	50%	30%
Volume exported to UK (t)	3,444	32,644	3,042
Air freight significance	100%	75%	7%
No. SSG exporting	10	5,520	2,060
Proportion sold into supermarkets	100%	75%	7%
Export horticulture crops ranking			
1	Baby-corn	Green beans	Scotch Bonnet peppers
2	Mange tout	Baby-corn	Chilli peppers
3	Green beans	Mange tout	Okra
Number of EurepGAP certificates	4	386	1

3.1 Kenya

Kenya was the first country in SSA to penetrate EU high-value markets. Indeed, horticulture in Kenya has been something of a success, with FFV exports increasing four-fold in real terms since 1974. In this way horticulture has become the third largest source of foreign exchange after tourism and tea. Since the 1970s exports increased dramatically (eight per cent per year from 1974 to 1990) for several distinct reasons. Firstly, rising global prices drove diversification into fruit and vegetables, with pineapples at the forefront.

At the same time exports increased because of the expulsion under Idi Amin of Asians from Uganda, many of whom settled in the UK and drove demand for ‘Asian’ vegetables. Crucially, the Asian diaspora formed a *de facto* co-ethnic network through which the trade in fruit and vegetables could be facilitated more easily by reducing information asymmetries, risk, and other transactions costs. In addition tourism began to take off in Kenya. The regular flow of passenger planes to and from the UK provided cargo space for these initially small quantities of high value fruit and vegetables. As exports grew dedicated cargo planes were eventually chartered. The horticultural industry has further benefited from the clustering effects which have made Nairobi a regional transport hub as expertise has grown in the production of high quality produce

for hotels and restaurants. Tourism has thus generated a domestic market for horticulture in Kenya.

An important feature of Kenyan horticulture is the increase in participation of smallholders. As far as SSG participation is concerned, the evidence indicates a rise in smallholder production during the 1970s and 80s. This was reversed during the '90s as a consequence of the associated costs and governance required. Significantly, during the '90s growth in the value of horticultural exports dwindled, although growth in volume remained strong, reflecting the competition that Kenya has faced in this sector, particularly from Egypt over green beans. Furthermore, during the '90s, supermarkets became the key players in the industry and standards began to emerge. Prior to 2003, the majority of the export companies relied on casual purchases of vegetables from large numbers of small-scale growers via a system of brokers. Only limited records were kept and thus it is impossible to determine accurately how many smallholders were involved in supplying exports to the EU at this time.

In the background there have been some highly significant trading agreements signed between the EU and Kenya. For example, the Lome Agreement was renewed for the period 2000-2005. This offers preferential access to EU markets.

3.2 Zambia

In Zambia the involvement of small-scale growers in export horticulture is a donor supported process that has gone through two phases. In the first phase (1999–2004) the SSGs were linked to a major exporter (Agriflora). In the second phase (since 2004) the farmers established an independent marketing cooperative (LACCU) to sell produce to both local and export markets.

The Agriflora Small-Scale Export Scheme was based on experience of systems used by Homegrown in Kenya and Hortico Agrisystems in Zimbabwe, with a very high level of management control by the exporter. It consisted of approximately 500 small-scale growers located within 50 km of the exporter's packing facility near Lusaka. Growers were organised into seven primary cooperatives, each with an input and produce handling facility, where inputs (seeds, fertiliser) could be stored, and produce collected and graded prior to shipment to the exporter's packing facility. The exporter took responsibility for appointing and training staff to manage the depots, to provide extension support, and control the application of crop protection products via professional spray teams based at the depot. In addition a central office, stores, and a training facility were established close to the exporter's packing facility. The central office provided all the management systems associated with a primary marketing organisation (PMO). Using this system Agriflora trusted farmers to grow high risk crops such as sugar-snap, mange tout peas, and baby-corn in rotation. This system proved successful and at the height of the Agriflora scheme (2003-2004) a group of 121 farmers were making incomes of between £1,000 and £7,500 per annum, with most growers achieving incomes of £2,000–£3,000 per annum.

During 2000 and 2002, Agriflora Small-Scale supplied baby-corn and peas to three of the major UK retailers. Although EurepGAP was not considered significant at this time, there were other standards in play, and all supplies from Zambia had to meet specifications stipulated by the individual retailers. In May 2002 it was proposed that EurepGAP certification should be a requirement for all suppliers within a year. Suppliers in Zambia realised that a large amount of effort would be needed to meet the requirements specified in the EurepGAP protocol, and Agriflora Small-Scale would represent the biggest challenge.

A new partnership was formed between Agriflora Small-Scale, the Zambian SSGs and a consortium of service providers jointly managed by the NRDC-ZEGA Training Trust (NZTT) in Zambia and NRI in the UK. Funding was obtained from the Crop Post Harvest Programme (CPHP) under the former Renewable Natural Resources Research Strategy (RNRRS) of DFID to conduct research on development and implementation of a cost effective management and control system to enable SSGs to meet the requirements of EurepGAP. The high level of support by Agriflora Small-Scale and existing depot facilities were taken into account when calculating viability at the start of the project in early 2003. Three depots and 64 SSGs (of 121 active growers) agreed to make the commitment to EurepGAP compliance.

Over the course of a single year, extensive upgrading of infrastructure, documentation and capacity of personnel took place, and new approaches to management and control in compliance with EurepGAP were developed and implemented. In May 2004 62 SSGs were deemed to be ready for certification, but the auditing process was disrupted by the sudden bankruptcy of Agriflora Limited in July 2004. The demise of Agriflora deprived the SSGs of market access and destroyed the PMO. EurepGAP certification became impossible, and most of the SSGs who had been working towards EurepGAP withdrew from the certification scheme as they realised that market access was not stable enough to ensure a return on their investment.

In July 2004 it seemed as though involvement by Zambian SSGs in export horticulture was about to come to an end. However, the growers had already been working to establish a secondary level management cooperative known as the Lubulima Agricultural Commercial Cooperatives Union (LACCU), which was obliged to take on the role of PMO and put in place EurepGAP compliant management and control systems in order to meet demands for compliance by October 2005. Three cooperatives and 32 growers remained interested in obtaining EurepGAP certification during the 2005 season. However, over the course of the year this number gradually decreased until only 10 growers were ready for certification in June 2006.

The data for these ten growers can be summarised as follows:

- All growers were situated within 25km of the exporter's packing facility;
- All growers were literate and 80 per cent had completed secondary level education;
- Only one grower had a formal agricultural qualification;

- Most of the growers were aged between 51 and 70 years;
- Land areas varied from 0.75 to 3.0 hectares but most growers were using approximately two hectares for export crops;
- Thanks to a loan facility all farms had access to borehole water and irrigation (overhead or drip-feed);
- Export horticulture was a secondary source of income for most of the growers and none of the growers relied on export horticulture as their primary source of income;
- The growers employed between four to 15 workers with an average of ten workers per farm.

In summary the Zambian growers are all well-educated, mostly retired or semi-retired professionals with relatively large land areas and excellent infrastructure, positioned close to the exporter's packing facility. There is no doubt that the education and professional background of the Zambian SSGs was a great advantage for dealing with EurepGAP. Access to irrigation made reliable production for export easier. It is interesting to note that access to an agricultural qualification proved a major advantage, as the only grower to possess such a qualification routinely produced yields twice as high as any other grower in the scheme and had much higher overall productivity due to better planning on crop rotations, thereby maximising use of available land.

3.3 Uganda

Ugandan exports have a different profile from those of Kenya and Zambia. The entire horticultural sector including the export sector is dominated by SSGs. Horticultural exports have shown steady growth from the 1990s until 2005, when an estimated 5,600 tonnes (worth approximately US\$5.6million) were exported by 23 companies to non-African markets. In addition, about 6,000 tonnes of produce (worth about US\$ 1 million) were traded regionally. The chief horticultural products exported include: hot pepper (Scotch Bonnet), matooke (East-Africa Highland banana), okra, chillies, avocado, pineapples (in dried and fresh form), and apple banana. Research by NRI (2006) indicates that while 97 per cent of Uganda's export horticulture trade to the UK is by air freight, less than ten per cent is sold in supermarkets, while the majority is sold in wholesale markets and through the food service sector. Unexpectedly, the growth in exports to overseas markets fell by 16 per cent in 2006 to 4,700 tonnes. Although two export companies had acquired EurepGAP certification (option 1) in 2004, there is little commitment from either the exporters or growers to make the system work. Significantly, these two companies have failed to renew their EurepGAP certificates in 2005.

4 Costs and benefits of compliance

4.1 Financial and non-financial benefits

All certified SSGs who were interviewed for this project reported general happiness with EurepGAP. The greatest benefit for SSGs is in the opportunities it provides for

preferential access. This includes access to markets, credit, trade credit, and quality inputs (high-germination seeds, high-nitrate fertiliser, etc). Benefits are widespread and it is difficult to gauge causality.

In addition, SSGs reported considerable non-financial benefits, and to some extent the use of income or profit margin as an indicator of success or failure is misplaced. Perceived advantages of EurepGAP include the production of quality produce, improved field hygiene, better knowledge of pesticide use, and wider farm management benefits. In truth, many of these so-called non-financial benefits are quantifiable; access to trade credit or higher quality inputs will improve farm efficiency and yields. However, without time-series data, it is difficult to give precise figures.

Farmers with EurepGAP certification reported clear benefits from the adoption of good agricultural practice, record keeping and improved hygiene. Yields were generally higher and input costs reduced as the growing process was better managed. Many farmers said that they were using EurepGAP records to understand their financial viability and run their farms more commercially. Proper handling of pesticides and improved food safety and hygiene had health benefits on the farms, and in addition most farmers said that they had transferred hygiene messages to the homestead with positive implications for family health.

Further benefits have been gained through supply chain relationships that might accompany EurepGAP certification. For example, contracts enable some SSGs to access trade credit through designated input sellers for seeds, fertiliser or chemicals. Such contracting is not always possible, however. It is notable that in Uganda, opportunistic exporters who do not have formal contracts with passenger airlines pay an extra 33 per cent for cargo space. The added cost of transactions with SSGs is one of the major drivers for cooperative producer management organisations – where one formal contract can be issued by a buyer, and where farmers’ names are placed on a list of preferred suppliers who can access particular products at set prices on credit from designated stores.

4.2 Costs

Our research has identified that ‘formal’ participation by SSGs in supply chains has fallen quite sharply since 2003. There may be markets supplied by SSGs which fall outside EurepGAP, but this is beyond the remit of the current study (see ‘Knowledge Gaps’ section, page 12).

There are at least three reasons for SSG exclusion from these markets:

1. Cost pressures;
2. Chain management pressures; and
3. Threshold effects

Cost pressures

No premium is paid for EurepGAP certified products and there was no evidence that higher prices were paid at farm level. One reason might be the lack of a local market for much of this produce, which is not often locally consumed.

EurepGAP compliance requires higher levels of capitalisation than many SSGs can afford. In all three countries the average maintenance costs of compliance for EurepGAP exceed half of the margin for SSG farmers (Table 2). This strongly indicates that research is needed into ways of modifying the current EurepGAP compliance, and points to the need for continued support for SSG participation in export markets.

Table 2: Financial costs associated with EurepGAP compliance, per farm, 2006

	Zambia	Kenya	Uganda [est.]
SSG sample	14	1,968	Est.
Chief vegetable crop	Baby-corn	Green beans	Chilli
Initial cost	£4,664	£1,145	£335
Proportion paid by SSGs	6%	36%	12%
Recurrent cost	£938	£175	£132
Proportion paid by SSGs	12%	14%	5%
Estimated turnover on EurepGAP crops	£413	£417-1250	£200-560
Recurrent EurepGAP costs as % of turnover	227%	21%	35%
Estimated change in SSG numbers in export	-97% since 2000	-60% since 2002	-40% since 2002

There are concerns about the viability of SSGs in the face of rising costs for compliance with private standards. A company technologist for one of the major exporters noted that until 2006, the standard required by UK supermarkets accepted cotton overalls for spray operators costing £14 per annum. However, the standard has since been changed and now requires spray operators to have a waterproof overall costing £40 per annum. This may seem like a small sum but for a SSG the spray suit alone would account for ten per cent of the typical annual income of £400 from the sale of export vegetables. The technologist also noted that since SSGs handle very small quantities of chemicals (max 15 litres per spray), a spray suit designed to meet the needs of tractor boom spray operators handling very large quantities of chemicals (several thousand litres of mix per spray) is an unnecessary expense.

In Table 2 there appears a well defined trend of falling SSG participation in export horticulture, yet the nature of this estimated change has yet to be analysed. These figures should be treated with caution as those SSGs no longer exporting continue to farm.

Many are selling to non EurepGAP compliant markets via other exporters and a few have managed to join new EurepGAP schemes, working towards compliance with different exporters.

Chain management pressures

Our research throughout the countries of this case study indicates strongly that many smallholders, even those with quite modest levels of output, are quite competitive: they can be as efficient as the larger farms in earning profits from export horticulture, even when the opportunity cost of family labour is considered. But EurepGAP generates new off-farm costs for SSGs that compound the on-farm costs. It is no longer adequate to be a good producer. Smaller producers face greater transaction cost barriers than do larger producers. Consequently, industry incentives are weighted in favour of large-scale producers or of bringing production 'in-house'. The tendency is for exporters to shift procurement away from SSGs.

Threshold effects

There is an economic threshold for the size of a scheme (i.e. numbers of SSGs involved) that exporters are willing to work with. Several exporters have developed policies on minimum farm size for sourcing according to EurepGAP compliance criteria. These range from two to ten hectares and relate to the perceived high cost of technical support per farm.

Successful exporters display positive incentives to maximise the number of SSGs supplying their export trade. Furthermore, the total amount invested by the exporter is a predictor of the health of the EurepGAP certified SSGs supplying it. More farms mean lower average costs per farm. Research confirms this clear and significant relationship with a highly significant correlation ($R^2 = 56$ per cent). Joint investment from donors and SSGs themselves is an undoubted lure: on average exporters account for less than half of total initial investment in SSG compliance costs.

Other investors, including donors and SSGs themselves, have diverse incentives, which are not always market-based. These include donor-led or government-led indicators or 'numbers' of smallholders that they wish to help or plan rent-seeking from exporters or SSG. Such incentives might help explain why there is such a big fall-out of farmers from schemes – unviable SSG benefit from investment.

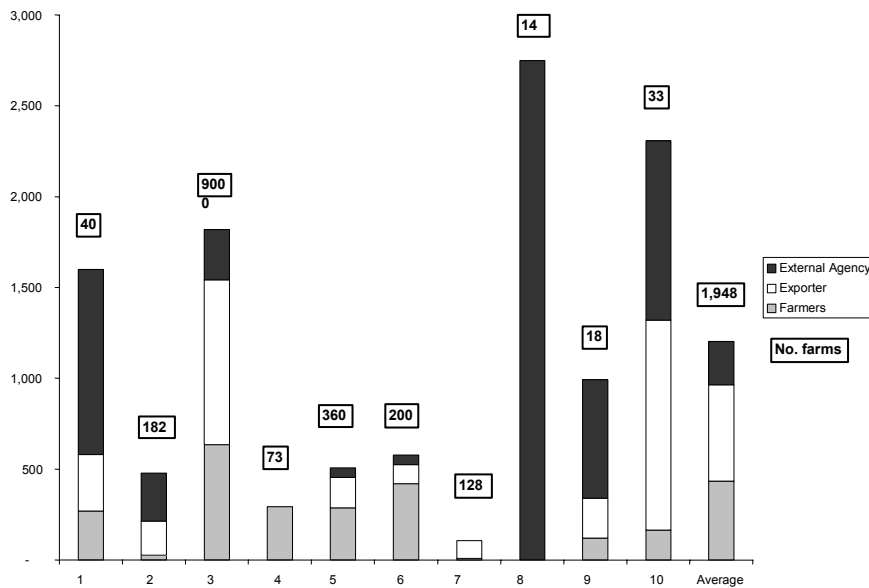
Initial investments are high and spread among stakeholders (see Table 4). There have been and continue to be significant investments in the necessary infrastructure for EurepGAP compliance. In our survey exporters who control over 50 per cent of the export horticulture market in Kenya were surveyed. All of these exporters were found to be sourcing some of their produce from SSGs in Kenya. A total of over £2.2 million has been invested in bringing these 1,948 farms to a position where they can be audited for EurepGAP compliance.

Table 3: Initial costs of EurepGAP compliance (1,948 farms) in Kenya, 2006

	Total Initial cost (£)	Proportion
SSG Farmers	805,999	36%
Exporter	996,517	44%
External Agency	450,943	20%
Total	2,253,459	

This is an initial investment of over £1,000 per SSG. Our data and NRI’s wider experience has shown that undertaking EurepGAP properly is a major investment. Systems like that operated by Homegrown are costly but the major cost is borne by the exporter. The distribution of funding is analysed on a per-farm basis, by exporter, see Figure 1.

Figure 1: Average initial costs for SSG EurepGAP compliance, per SSG, associated with ten exporters, Kenya, 2006 (UK£)



At the farm level there is considerable variation in average costs per farm and in the distribution of funding, illustrating a range of models and approaches to EurepGAP compliance management. There are also sequencing issues: some of these firms are new entrants to export horticulture and others have been pioneers of EurepGAP compliance for SSGs. Some firms access chiefly European supermarkets and others a diverse range of international, regional and local markets. Exporter investment at an average of 44 per cent of total initial costs or £530 is encouraging since this indicates commitment from the private sector in the EurepGAP compliance system. However, it is likely that the relative financial commitment is highest for farmers.

On average, farmers pay 36 per cent of initial costs. SSGs pay on average between £0.00 and £636 of the initial investment cost, and from 0-100 per cent of the initial costs of

EurepGAP compliance, an apparently high financial burden before any produce has entered EurepGAP.

Donor support has been significant in encouraging attempts to comply with EurepGAP. There are a large number of donors with multiple agendas and objectives. Donors have funded exporters, importers, SSGs, PMOs and business service development. Most donor input is both welcomed and justified. In Kenya, over £2 million has been spent in bringing some 2,000 farms to a position where they can be audited for EurepGAP compliance. For almost all SSGs, donor input has chiefly covered initial costs, often for built infrastructure.

Smaller export companies were found to be in a very different position; most had relied heavily on donor support amounting to between 40 and 100 per cent of establishment costs as compared to 15-28 per cent for the large companies. Smaller companies were more likely to push the greater part of the overall cost of compliance onto the farmer and to reduce costs through inefficient or technically unsustainable features. Some of these companies openly acknowledged that they did not see how the system could be maintained once donor support was withdrawn. Interviews with farmers associated with these schemes showed that they are more aware of the very high costs of compliance than those supplying large companies, and are unable to see how a compliant system can be maintained without a dramatic increase in income. All of the failed and failing schemes are associated with the smaller companies who lack the necessary resources to operate an efficient and sustainable EurepGAP compliant scheme.

External agencies have proved important in supporting this system and contribute an average of 20 per cent to initial costs. It is notable that farms appear to receive either a great deal of donor funding or very little. And for those with less donor funding lower overall costs are reported. This could indicate a range of issues relating to the levels or availability of donor funding. However, a number of participants in the survey mentioned an overall escalation in costs when donors are present. In addition the costs of independent audits appear artificially high in Kenya, commensurate with the cost of sending international auditors to conduct audits.

In Kenya the most successful supply chains to include SSGs saw exporters paying for significant proportions of annual run-on costs of certification. This is often because the SSGs cannot pay these costs themselves. Any further rise in standards will wipe out the margins for the exporter and isolate SSGs. Exporters perform two linked roles in this story, as providers of both financial and logistical support.

Another key role for the exporter is 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. The company was clearly fulfilling the role of PMO for the growers and was not only capable of providing the necessary managerial, technical and logistical support but was also able to represent the growers effectively during the certification audit. There was also evidence that the larger companies were in a better position to source high quality disease resistant planting

material and other agricultural inputs in bulk and hence at a more competitive price. In contrast, the smaller exporters had very limited outgrower management teams and in some cases the team was virtually non-existent. Training programmes were more limited in scope and some of the smaller companies hoped that the training programmes funded by donor agencies could be considered as ‘one-offs’ and would not have to be repeated at the exporter’s expense in future years.

Support from external agencies such as donors was most effective when applied to large companies with well resourced outgrower programmes where the donor support formed a useful adjunct to the establishment process, but the exporter could easily take over funding in the absence of the donor. With the medium-scale exporters there was concern that the company would not be able to afford to continue to fund activities once donor support was withdrawn. The smallest companies were unable to fund their compliance system properly and hence areas not covered by the donor such as infrastructure and outgrower management support were woefully inadequate in many cases. It was clear that these companies could not possibly continue the programmes started by the donors due to the lack of resources.

Export companies often complained that donor activities dealt only with short-term recurring costs such as training, laboratory analyses and certification audits and provided no infrastructural support for the farmers. This was not an entirely accurate statement although it could be applied to the work of the PIP. However, it would be wrong to imagine that simply investing a lot of money in infrastructural support will solve the growers’ problems. This was attempted unsuccessfully in Zambia where donor agencies paid for a high percentage of the infrastructural requirements including elaborate produce handling facilities. The missing link was the absence of an effective PMO following the collapse of the farmers’ original export partner. In Kenya an alternative appeared to rest between linking with a large export company and developing a vegetable marketing organisation (VMO).

4.3 SSG exclusion from exporters’ supplier base

Table 4 provides a summary of data from the 10 companies surveyed as part of this work. These companies belong to the top 18 companies in Kenya who control more than half of Kenya’s fresh produce exports. Four of the companies surveyed controlled around half of the fresh produce exports to the EU. A glance at the table shows that in 2003 when EurepGAP implementation started, the exporters sourced produce from 9,342 SSGs and this would have provided livelihoods for around 70,000 dependent family members and employees. By 2006, 60 per cent of these growers had been dropped from the EurepGAP compliance schemes due to problems with implementation of EurepGAP. Of the 40 per cent of SSGs retaining access to EU retail markets, 31 per cent had been certified for EurepGAP. 15 per cent of the farms that have attained EurepGAP certification have since been dropped by their exporter as the costs of maintaining certification were not matched by the level of income obtained by these growers from produce.

Table 4: Involvement of SSGs in the supply networks of the 10 top Kenyan exporters, before and after the implementation of EurepGAP

Exporter	Number of SSGs involved at the introduction of EurepGAP	Number of SSGs involved in 2006	Number of EurepGAP certified SSGs	Number of SSGs excluded since EurepGAP introduction
1	750	750	750	0
2	1,180	300	40	880
3	400	14	0	386
4	360	360	0	0
5	107	33	33	74
6	605	237	126	368
7	500	170	18	400
8	4,000	2,000	200	2,000
9	1,200	73	0	1,127
10	240	0	20	240
TOTAL	9,342	3,937	1,187	5,475

In general, those SSG farmers who are not EurepGAP certified can be excluded from some markets, particularly the supermarket supply chains. Increasingly, standards drift is being seen in the non-supermarket supply chains: In Uganda, it was reported that some UK, French, Dutch and Italian wholesale buyers had declined to buy fresh produce that was not certified.

5 Voices from the field

This section summarises the voices of all respondents from the three countries collected during this study on the crucial issues of costs, benefits and content.

5.1 Costs of compliance

In Kenya, all respondents stressed the importance of EurepGAP for food safety assurance, and farmers were especially positive about the advantages and benefits of EurepGAP compliance. But all believed that the costs of compliance were too high and unsustainable. Farmers believed that exporters should increase the price of produce and pay premiums for compliance. Only one company was operating a premium system for EurepGAP compliance at the time of the survey and the premium was not sufficient to compensate for the increased costs associated with standards compliance.

However, exporters rejected the notion of a premium and complained that the standard was too high in relation to the level of risk associated with fresh produce. Many Kenyan exporters reported that they had drastically reduced their involvement with the small-scale sector, as reported in Table 4.

Interestingly, in Zambia complaints over compliance costs were minimal as a result of the high level of financial and technical support provided by donors for SSGs.

5.2 Benefits of compliance

EurepGAP certification has raised exporters' confidence in their suppliers' ability to meet the requirements of EU retailers. But as a guarantee of product safety, EurepGAP seems less convincing. In Zambia the exporter minimised risk by restricting produce grown to baby-corn which is classified as a low risk crop from the point of view of chemical and microbial contamination.

The creation of centralised facilities by many of the schemes in Kenya was seen as beneficial by farmers who were able to save money on inputs such as seed, fertilisers, chemicals and protective clothing via bulk purchasing agreements. Schemes with centralised spray teams recognised the savings made on infrastructure and materials for crop protection. Further, in one of the schemes in Kenya, group organisation and improved management had been used to improve credibility for accessing credit for purchase of inputs.

In general, good agricultural practice in accordance with crop protocols has improved efficiency and profitability of farming operations as yields and product quality have increased and wastage of chemicals has been reduced.

Most farmers are capable of putting in place the required level of farm infrastructure (field toilets, hand-washing facilities, plot markers, field shelters and first aid kits). However, this is not the case for the very small farms which lack the finances to install

such facilities and would get no return on their investment. Consequently, several of the exporters in Kenya have eliminated growers with less than 0.5ha on this basis.

Ugandan horticultural exporters expressed mixed views about the potential benefits of EurepGAP certification. Whilst all expect to attract more buyers and to be able to export larger quantities of produce, there is less agreement about potential price gains. Some exporters seem to think that substantial price gains will be possible once they have obtained certification, but this may be based on limited research on their part. We estimate that a well established export company should be in a position to recover the extra costs related to EurepGAP through increased turn-over. On the other hand, small companies exporting about 100 tonnes or less per annum are likely to face financial difficulties if they attempt to meet EurepGAP requirements. It is likely that this will result in a process of consolidation with a reduction in the overall number of horticultural export companies to about 12.

5.3 Content of EurepGAP

All exporters interviewed had any concerns with the current content of the EurepGAP protocol, convinced of the benefits of good agricultural practice including: good vertical and horizontal traceability, improved hygiene (sanitary and phytosanitary), and better levels of worker safety.

All farmers raised concerns over the costs associated with compliance at farm-level as well as future sustainability of this system once donor support is withdrawn, pointing out that costs are often higher than the returns and personal savings have been exhausted.

6 Conclusions and recommendations

6.1 Rethinking ‘benefits’ and ‘costs’ of private standards

There is a need to rethink our concept of ‘**benefits**’ of private standards. As discussed, arguments that centre on the direct financial benefits from EurepGAP are disregarding the voices of the farmers who appear to value participation in EurepGAP for other reasons, for example: access to cheaper or more productive inputs, access to trade credit, and improved farm management.

We also need to rethink our concept of ‘**costs**’. On average, farmers pay 14 per cent of recurrent costs associated with EurepGAP and exporters (and/or donors) pay the rest. Rather than labelling exporter investments as unsustainable, it can be argued that this illustrates a healthy and functioning system with the two private sector investors sharing the costs and benefits as part of a sustainable business model. The distribution of recurrent costs appears more equitable than for initial costs. It is not useful to consider the sharing of costs among participants as a subsidy that has to be covered by farmers in order to prove ‘sustainability’.

6.2 Benefiting from of market-savvy collaboration between private sector, donors, and producers

The most positive examples of SSG inclusion occur when donors broker relationships between the private sector participants and help to reduce initial costs of EurepGAP while fostering the commercial environment for growth and mutual benefit. Donor assistance will be phased out and the key is to create as many positive incentives for sustainability during the two to four years of donor assistance without generating dependency. To this end, Kenya’s experience of phased withdrawal of funding and its insistence that exporters invest in SSGs has valuable lessons for all.

6.3 Fostering external service providers

Fostering development of the entire rural commercial infrastructure (in such spheres as finance, information, business services, as well as logistics) with the aim of extending services to all industry participants, is pivotal to promoting sustainability. Farmers are actively valuing those services brought about through EurepGAP compliance.

6.4 Capacity building of cooperatives

There is a large literature on the establishment and management of cooperatives, that points out how difficult it is to form a successful cooperative in developing countries and where one has not existed before. In the FFV trade in sub-Saharan Africa key principles for running cooperatives include the following: they must be democratic; they must work proactively for their members; costs and benefits must be distributed equitably; and they must develop and adhere to a business plan.

6.5 Lobbying standards-setters

Donors, private sector participants, and SSGs should continue to lobby standard-setters to ensure that the twin pressures of cost and supply chain management are included in the debate.

6.6 Modifying option 2

Concerns over the content of option 2 have been voiced convincingly by SSGs. They are seeking flexibility and amendments to ensure that, while the spirit of the certification remains, the compliance criteria are based on actual risk in the SSA context. For example, reducing audits to once every two to three years might represent a significant saving to the SSG without increasing the risk levels for buyers. It is also argued that there should be more flexibility to allow decisions on appropriate levels of risk (and hence inspection and testing) to be made a country level.

6.7 Comprehending the incentive structure

EurepGAP certified produce is only one aspect of a larger industry that includes local, national, regional and international opportunities and pressures for all producers. In order to fully comprehend the impact of EurepGAP and how to make the most of its positive aspects, more research into the nature and profile of the other markets is vital. It is also of crucial importance to ascertain what the future holds for those no longer supplying EurepGAP markets.

6.8 Understanding what happens to SSG who fall out

The number of SSGs supplying horticultural produce for export is undoubtedly falling. Yet what happens to these farmers remains unclear. From our research in Uganda, it was found that in late 2005 a major exporter stopped exporting fresh produce to concentrate on other aspects of business, leaving 200 outgrowers without a market for their produce. Over the next year there was an estimated 75 per cent drop in produce sales from these outgrowers as 50 per cent stopped growing for sale altogether, and 50 per cent reduced their production for sale by half. It is unclear how representative this is.

Clearly, a key piece of our understanding on the interconnection between these markets is missing. Do SSGs turn to another exporter, regional markets, urban markets or local markets? And does their production profile change, focusing instead on traditional food crops such as maize, matooke, beans and livestock? Perhaps more significantly, has the compliance process for EurepGAP equipped them with skills that are transferable to these other markets and products? This is the subject of a separate study 'An exploration of farmers' decision-making and reasons for participation in, and subsequent withdrawal from GlobalGAP' (NRI, Real IPM and IIED, November 2007).

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