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Smallholder Compliance with International Food Safety Standards is not a Fantasy: Evidence from African Green Bean Producers

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Globalization of world economies has opened a window of opportunity for many African countries. With the failure of structural adjustment programs to spur reasonable growth, many developing countries turned to production of non-traditional agriculture exports (NTAE) to diversify their agricultural exports and increase foreign exchange earnings (Singh, 2001). The early movers in Africa included South Africa, Cote d'Ivoire, Senegal, Egypt, and Kenya with Zambia, Ethiopia and Madagascar registering comparatively recent growth in such exports. In most of these countries, generally smallholders dominate the production of NTAE.

The growth in NTAE 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 among other things: the rise in incomes that has made consumers able to pay for safe food; technological improvements which makes it easier to measure food contaminants and document their impact on human health and; the various international food 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 legislations relating 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, packer hygiene and traceability and require large investments and third party certification (Hatanaka et al., 2005; Okello, 2007). Compliance with these international food safety standards (IFSS) 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 marginalized by IFSS (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 IFSS necessarily need not marginalize smallholders. It summarises a study conducted between December 2005 and February 2006 using value chain analysis (see Okello et al, 2007). It involves personal interviews with various participants[1] in the green bean value chain and is based on case studies looking at smallholder's[2] role in green bean exports from Kenya, Zambia and Ethiopia to Europe. Greens bean is 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 IFSS. Kenya for instance has a long history of smallholder-based systems exporting to the EU, whereas the exporting of green beans by smallholders from Zambia and Ethiopia is a fairly recent occurrence (Harris, 1992; Harris, et al., 2002; Freidberg, 2004; McCulloh and Ota, 2002). Furthermore, Kenya began exporting to the EU and developing the infrastructure and institutions (involving smallholders) before the inception of private food safety standards and traceability guidelines. In contrast, Zambia and Ethiopia entered the supply chain after the IFSS system was already in place.

Initial impact of IFSS:
Suppliers of leading European retailers responded to IFSS by integrating backwards or tightly coordinating their supply bases (Dolan and Humphrey, 2000). Tightly-coordinated value chain worked against the smallholder because it: i) creates a problem of information asymmetry, ii) entails costly monitoring of

[1] Specifically the interviewees included farmers, leaders of producer marketing organizations (PMOs), relevant government authorities and extension workers, exporters and their field staff, industry associations, EurepGAP third party certifiers, European retailers and their buying agents, and researchers. The interviews were supplement by quantitative data collected by lead author in 2004 and information from secondary sources.

[2] The definition of smallholders differs by country. In Ethiopia and Kenya, smallholders are defined as having up to 2 acres of beans, while in Zambia, smallholders may have up to 5 acres of beans.

geographically dispersed smallholders and iii) requires establishment of costly quality management systems. Hence most exporters withdrew from smallholder sourcing with the advent of IFSS. 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 perceived as being incapable of meeting the standards. The number of smallholders thus fell initially in all the three countries (Okello, 2007; Dolan and Humphrey, 2000; Jaffee, 2003).

The survival strategies:
Kenya, Zambia and Ethiopian have used three strategies to maintain participation of small-scale farmers in the high value market namely re-orientation of destination markets, collective action and public private partnerships.

Re-orientation of destination markets
This strategy was used by Kenya and Ethiopia. In Kenya, smallholders who could not comply with IFSS switched to supplying 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 them that mainly used to grew fresh beans for export market were now supplying one of Kenya's leading green bean canner. In Ethiopia, exporters avoided the demanding UK retailers and instead supplied the less demanding continental European wholesale markets. However, it is to note that Ethiopian exporters did so to allow them time to develop the infrastructure required to comply with IFSS.

Collective action and producer contracts
Farmers in the three countries organized into producer marketing organizations (PMOs) and supplied exporters under contract. Through the PMOs, 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 own technical staff to monitor members' compliance with pesticide residue and hygiene requirements and; implemented traceability system. The PMOs 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 in form of handouts, training and field extension services by buyer field staff and, improved seeds and protective clothing under interlinked credit arrangements.

Public-private partnerships
Public-private partnerships (PPPs) had a significant influence on small-scale farmers' compliance with the requirements of IFSS. Donor-government, donor-donor, and donor-exporter partnerships helped mobilize and train farmers in PMOs at lower costs. They also provided the infrastructure (e.g., grading, parking and cooling facilities), training and capacity of horticulture industry business service providers (e.g., extension agents, internal auditors and even a GlobalGAP certifier (AfriCert)), GlobalGAP audit and certification of farmers under different options. Donor-exporter partnership 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., exporter implemented the system but with donor support).

Conclusion and lessons learned
IFSS can negatively impact the participation of small-scale farmers in high value fresh export business. However, there are strategies that can be used to minimize these impacts. The cases presented demonstrate that through re-orientation of target market, contracting and collective action (CA) in the form of PMOs and PPPs, smallholders in Kenya, Zambia and Ethiopia have been able meet IFSS requirements and maintain their participation in high value chains. They have achieved this by focusing on less demanding markets, jointly investing in the facilities needed to meet the IFSS, and through support from private and public sectors. To what extent these initiatives are sustainable or can be scaled up remains to be researched. CA among small farmers has been useful in meeting IFSS and helping small farmers attain scale economies and meet traceability requirements. However, it truly has not been sufficient without supplementation with several PPPs

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 farmers meet IFSS and to complement the role in other strategies.

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