

ABBREVIATIONS

ACDI/VOCA	Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance	HACCP/ISO	Hazard Analysis and Critical Control Points/International Organization for Standardization
AGENT	Agribusiness Entrepreneur Network and Training programme of CARE (Zimbabwe)	HCDA	Horticulture Crops Development Agency (Kenya)
AGRA	Alliance for a Green Revolution in Africa	HR	Human Resources
AKL	Afro Kai Ltd (Commodity traders)	IBMs	Information Board Managers
ASTI	Agricultural Science and Technology Indicators	ICCO	International Cocoa Organisation
APF	AgriProFocus	ICT	Information and communications technology
B2B	Business to Business	IFAD	International Fund for Agricultural Development
BEE	Black Economic Empowerment	IFDC	International Centre for Soil Fertility and Agricultural Development
BOAM	Support to Business Organisations and their Access to Markets (Ethiopia)	IFDC	International Fertiliser Development Centre
BS	Blue Skies	IFPRI	International Food Policy Research Institute
BSOC	Blue Skies Organic Cooperative	IIED	International Institute for Environment and Development
CAADP	Comprehensive Africa Agriculture Development Programme	IMF	International Monetary Fund
CARE	Cooperative for Assistance and Relief Everywhere	Incaju	National Cashew Institute, Mozambique
CASE	Competitive Agricultural Systems and Enterprises	IPER	Initiative pour la Promotion de l'Entrepreneuriat Rural (Rwanda)
CIAT	International Centre for Tropical Agriculture	ITRA	Institut Togolais de Recherche Agronomique
CIDR	International Centre of Development and Research (French)	KHCP	Kenya Horticulture Competitiveness Project
CLUSA	Cooperative League of the USA	KIT	Royal Tropical Institute (Amsterdam)
CPRC	Chronic Poverty Research Centre	KTDA	Kenya Tea Development Agency
CTA	The Technical Centre for Agricultural and Rural Cooperation	LCB	Local capacity builders
DALDOS	District Agricultural and Livestock Development Offices (Tanzania)	LINTCO	Lint Company of Zambia
DANIDA	Danish International Development Agency	LLL	Linking Local Learners
DFID	Department for International Development (UK)	MFEC	Mogabiri Farm Extension Centre
ETB	Ethiopian Birr (currency)	MOFA	Ministry of Food and Agriculture (Ghana)
Eurep GAP	European Retailer Partnership Good Agricultural Practices	MSHP	Mara Smallholder Horticultural Project
FANRPAN	Food, Agriculture and Natural Resources Policy Analysis Network	MSU	Michigan State University
FAO	Food and Agriculture Organisation of the United Nations	NARO	National Agricultural Research Organisation (Uganda)
FAOSTAT	Food and Agriculture Organisation of the United Nations (Statistical service)	NEPAD	New Partnership for Africa's Development
FCFA	West African franc	NF	Nununa Federation (of shea nut producers in Burkina Faso)
FLO	Fairtrade Labelling Organisation	NGO	Non-governmental Organisation
GGBL	Guinness Ghana Breweries Ltd	NPK	Nitrogen, Phosphorus and Potassium (fertiliser)
GlobalGAP	Global Good Agricultural Practices	NRA	Net Rates of Assistance to Agriculture
GoR	Government of Rwanda	OAF	One Acre Fund
		OCIR-CAFÉ	Rwanda Coffee Development Authority

OECD	Organisation for Economic Co-operation and Development
PrOpCom	Promoting Pro-Poor Opportunities in Commodity and Service Markets
RARP	Rural Agro-dealer Restocking Programme OR Rural Agricultural Revitalisation Programme (in phase III)
RIC	Rural investment climate
SAACOs	Savings and credit cooperatives
SAARI	Serere Animal and Agricultural Research Institute
SD	Standard Deviation
SFMC	Savannah Farmers Marketing Company
SITC	Standard International Trade Classification
SN	Soja Nyo (Togo)
SNV	Netherlands Development Organisation
SPPO	Service Provider and Producer Organisation
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBK	Tea Board of Kenya
UGPPK	Union of Women Producers of Shea Products of Sissili and Ziro
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VAT	Value Added Tax
VHL	Van Hall Larenstein, University of Applied Sciences (Part of WUR)
WASCD	West African Sorghum Chain Development programme
WBDA	World Business and Development Awards
WDR	World Development Report
WUR	Wageningen University

Supply chain

The links that connect inputs to farm and then on to storage, processing, transport and distribution to consumers for a given product through a single chain.

Value-chain

The value-chain may consist of several supply chains for a particular product. It includes the supporting services that allow the supply chains to operate. It may even be taken to include the factors in the economic environment as well.

UGANDA POTATOES

CASE 1

Potatoes for Nandos in Kampala, Uganda

SOURCE: ALIGUMA ET AL. 2007.

In 1998, a group of smallholders in south-western Uganda, **Nyabyumba United Farmers Group**, linked to researchers to grow seed potatoes in an area of high-potential land, at altitude. The initiative started after farmers, 60% of them female, had begun to co-operate in farmer field schools. By 2003 the market for seed potatoes was saturated, so they began to look for a better market. They contracted with Nandos in Kampala to supply 10 tonnes of potatoes a month year-round to satisfy the demand for chips in Nandos restaurants. With farms located 450 km from Kampala, transport is quite costly, although proximity to a tarred highway that links Kampala to Kigali, Rwanda, helps.

The key production issues are potato quality in terms of size, variety, and freshness, required for marketing purposes.

The link in this case is largely that of marketing. Additionally, support on technology, production and business for the farmer group has come from Africare and the International Centre for Tropical Agriculture (CIAT). Inputs and finances were arranged by the group, which was able to launch the business with collective and community savings, with investments coming from cash flow. While links to banks were mentioned, it is not clear what loans have ever been taken.

The Nyabyumba Group has grown in its functions, but appears to persist with less external backing and now has 6 or 7 years of experience of supplying Nandos.

Two key problems were overcome: first, improving quality to meet requirements, which the group was able to do thanks to participatory research in production by the research station; and second, after CIAT ceased support in 2007, Nyabyumba ran into problems supplying Nandos and may no longer serve them year-round, but rather coordinates with other farmers groups in the locality.

While the group may face competition from other farmers in the region, there appears to be scope for expansion as potatoes occupy only a fraction of land in the uplands.

Farmers involved are small-scale, many with less than 1 or 2 hectares, but the programme is not inclusive of the poorest or most vulnerable.

In conclusion, the links are effective – potatoes are sold in Kampala – although marketing still suffers from high transport costs. There are reports of much increased potato production, higher incomes, more spending on hired labour and people investing in land and cattle.

Differing impacts among farmers are not known. In terms of fairness, Nandos holds the balance of power, with reports that not every month are 10 tonnes wanted.

Furthermore, outcomes are felt in the rural economy, with extra demand for labour as growers work more on their own land and hire in help.

Accounts credit two key features for the success of this programme:

- Group unity, discipline and organisation – thanks in part to their prior existence as farmer field schools;
- Capable analysis of the market chain when looking for a new outlet.

It is also hard to imagine that this could have happened without the intermediation of Africare and CIAT, or the close technical engagement of Uganda's National Agricultural Research Organisation (NARO).

Sorghum partnerships producing Eagle Lager, Uganda

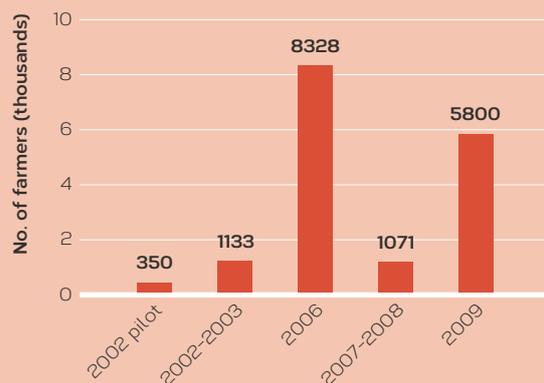
SOURCES: JAFFEE ET AL. 2011; BAYLA, 2007; VAN WIJK AND KWAKKENBOS, 2012.

In 1995, Serere Animal and Agricultural Research Institute (SAARI) developed Epuripur sorghum which has good lager brewing properties. The Eagle Lager¹ partnership began in 2003, including AKL, a commodity trading company, the Ugandan government, and SAARI. A local NGO, Enterprise Uganda, is also involved in farmer training.

Most farmers involved are smallholders – having less than 5 acres (2 hectares). Numbers of farmers involved have varied over the course of the programme – see Figure A3. In 2007/08, 90% of the around 1,000 farmers supplying sorghum under the scheme were smallholders. To cope with the large numbers of farmers involved AKL do not enter into direct forward contracts with farmers, but deal with district farmers’ associations.

Figure A3 | Farmers growing sorghum for Nile Breweries in Uganda

SOURCE: DATA FROM JAFFEE ET AL. 2011



The Government played an enabling role, at first removing excise duty paid by the SABMiller subsidiary on Eagle Lager. Though the duty rose to 20% in 2006, it remained below levels paid on other beers (some 60%), helping Eagle Lager’s competitiveness. The commodity traders AKL coordinated contracting farmers to supply Epuripur Sorghum where Nile Breweries had previously stumbled over challenges outside its core competencies. They helped identify suitable production areas, select farmers, form working groups, arrange input supply (including giving farmers’ credit), plan logistics around delivery, and dealt with much of the technical detail.²

Getting the right number of farmers was a key challenge faced by the programme. Before 2006 not enough were recruited, but in 2006 a new recruitment strategy resulted in oversupply; more than double required. Contracts were honored and farmers informed sorghum wasn’t required the next season, when instead they were supplied with maize and rice seeds. A strategy of identifying of specific communities in which to build up long-term relations has enabled them to achieve a more optimal supply level. Side-selling can also present a challenge, though Nile Breweries is the largest buyer of Epuripur sorghum.

Key impacts on farmers come through regular and predictable income. In the four years ending 2007/08, farmers earned a supplemental yearly income of around US\$250 per farmer over subsistence farming amounts; each farmer supplying on average 14 tonnes of sorghum per year. Some used funds to pay for school, food and medical care. Some expanded assets or took on more workers to help with planting; for these farmers, productivity and output increased. Strong links filter to the rural economy, with on average seven extra seasonal jobs per farmer. Unfortunately, some relationships between men and women have been adversely affected by the contract farming when men are paid for work largely carried out by women, or there are conflicts for women’s time. Inclusion of poor or marginalised farmers is not an objective of this enterprise.

The links are effective, though it is not clear how sustainable they may be. AKL is not optimistic about the long-term feasibility of relying on smallholders, as they quote: “Sustainable long-term operations at risk since production is in the hands of smallholder growers” (Bayla, 2007). Nevertheless the scheme is successful – it has even expanded to Zambia.³ Schemes like this remain small in terms of national sorghum production. In 2006/07, 6,000 tonnes of Epuripur sorghum produced for Eagle Lager in Uganda were 13% of national sorghum production of 448,000 tonnes. Demand is a constraint to scaling up in this example. Factors contributing to its success include: SABMiller’s strategy, informed by their previous experience of contracting schemes in South Africa; and partnership with competent local partners, including government.

1. Eagle Lager was created by SABMiller to use Epuripur. In a few years Eagle Lager became the 2nd largest brand for SAB Miller in Africa.
 2. Storage, grain cleaning, linking farmers to help mobilise them, supplying seeds (these are multiplied and distributed via farmers organisations, as well as government and NGOs), arranging farmer visits, distributing bags, transport, cleaning, drying, etc.
 3. In 2005 a similar operation began in Zambia, operating almost entirely through an outsourcing model benefiting around 2,600 producers in 2007/08. [Partners in the initiative in Zambia include CARE, Cooperative League of the USA (CLUSA) and CHC commodities, a grain dealer and brokerage firm]

UGANDA SUNFLOWER

CASE 3

Sunflower contract farming by Mukwano industries, Uganda

SOURCES: CONILH BEYSSAC ET AL. 2012; JAFFEE ET AL. 2011; ELEPU AND NALUKENGE, 2009.

Mukwano Industries, an oil seed crusher, with help from SNV, has contracted more than 54,000 small farmers in northern and central Uganda to grow sunflower. Many of the growers are distant from Kampala, sometimes in regions with poor roads, though agriculturally they are medium to high potential areas with 2,000mm of rain or more a year. Population density of the areas is around 100 to 200 people per square kilometre and there are large areas suitable for sunflower growing with ample scope for expansion.

Sunflower is a relatively straightforward crop, but hybrids have better oil than open pollinated varieties. The seeds are crushed in mills, and quality is an issue. The company offers access to hybrid seed and technical assistance, in return for a promise to buy oilseeds. The hybrid seed is imported, but in short supply, and not all growers are supplied with it. Mukwano Industries also claims to supply chemicals and fertiliser, but very few farmers in a 2007 survey were applying these.

While there is some mention of links to banks – facilitation of bank loans for equipment and draft animals – the suspicion is this part of the process is not working well. A survey in 2007 showed less than 3% of farmers were obtaining formal credit.

Mukwano dominate oil processing, with 70% of Uganda's market – but other enterprises compete for seed. Furthermore, there is a rapidly growing domestic market for sunflower oil, 9% growth a year, which is replacing imported palm oil.

Much of the contracting with Mukwano seems to have come from a policy platform set up for oilseeds with donor/NGO/government prompting. Company extension staff form farmer groups, and Mukwano offer contract growers written contracts to buy seed.

Links appear to be effective. Farmers plant sunflower because guaranteed sale is appreciated, and returns are attractive, though these appear to be modest: in 2007, returns to contracted farmers were reported as Ushs205k [US\$12] an acre – so perhaps US\$30 a hectare. Contracting seems to work, although side-selling is an issue – affecting some 40% of production.

In terms of fairness, Mukwano has dominant role in the market, but needs to keep mills operating in a market where local seed is scarce, and thus apparently pays good prices. There are claims that the price for sunflower trebled between 2004 and 2007. Inclusivity of the scheme is unknown. Differing impacts among farmers are not known, and links in the rural economy are not reported.

Three points stand out in conclusion:

- Contracting is marginal and incremental, with low risks and costs to participating farmers.
- Mukwano and its allies, such as Uganda's NARO and SNV, have made heavy investments in getting the system in place – facilitated by a decade or more of donor-supported efforts to promote sunflower, and the creation of a sector-wide platform to exchange information, discuss issues, and co-ordinate actions. Motivation seems to be high domestic demand and hence the profits to be made in oilseeds.
- To reach 54,000 plus farmers, farmers are first organised into groups of up to 30, then aggregated into High-Level Producer Organisations, combining 5 to 10 clusters.

SOURCE: BIÉNABE AND VERMEULEN, 2008.

Rural franchise SPAR stores are sourcing a portion of their fresh vegetables from local smallholders. This case looks at two stores some 500km from Johannesburg in Limpopo Province, in a good agricultural area with many smallholders and commercial farmers. Farmers supplying the scheme are smallholders (South Africa defines smallholdings as up to 20 hectares). Each store operated a different model. Store A bought mainly spinach and cabbage, up to 20% of requirements, though with occasional glitches like oversupply. Store B was more organised, planning production, placing orders before deliveries and avoiding oversupply. They also procured more types of vegetable (reaching up to 30% of fresh produce needs), and exploited networks; for instance linking commercial farmers to smallholders whereby the larger farmer helped the smaller in return for a share of profit. Quality requirements were low: studied stores were in 'emerging markets' targeting low income rural dwellers and less-affluent consumers don't demand expensive fresh produce from the supermarkets' central distribution system. Basic quality needs were demonstrated to farmers with examples.

Stores are credited with good communication, long-term commitment, organising technical support and interest-free farm loans (where farmers decided on repayment time frames). They also reportedly wrote off loans if repayment failure was linked to weather, making loans a risk coping mechanism for farmers to overcome initial or periodic cash flow problems, recover from natural disasters, invest in irrigation and reduce reliance on seasonality. Neither store used formal contracts, preferring verbal agreements with farmers. Prices vary little. Prompt and convenient payment arrangements exist, going out once a week. Links become more effective the longer the farmers supply the supermarkets. Schemes are sustained because of long-term commitment on both sides, and farmers with longer involvement are preferred.

For farmers, the main benefit is a stable market which boosts household income. Improved vegetable quality and yield linked to investments facilitated by SPAR also

boost incomes. Tailored technical assistance improved farmers' technical skills, their ability to use resources efficiently and produce better quality vegetables. Links to the rural economy are not great. Evidence suggests the farms that consistently supply don't use much hired labour (8% compared to smaller farms which use 25 to 33%). Furthermore, the programme is not inclusive. Supermarkets are concerned with regular and appropriate supply, not with involving the most marginal. A study of farmers grouped into three categories – those who supplied supermarkets but stopped, those who occasionally supply, and those who consistently supply—found farmers consistently supplying the stores had on average 14hectare of land, far more than the 1.3ha held by farmers who left the scheme, or the 2.5ha of occasional suppliers.⁴ Consistent suppliers produced more diverse crops than the other farmers, had more education, better access to transport,⁵ more sophisticated machinery and irrigation and used less hired labour. Less than 10% of consistent suppliers were female, while about 30% of occasional suppliers were female. Consistent suppliers produce on a larger scale and are fulltime farmers. Many smallholders do not rely on farming as their main source of income and many farmers exited the scheme because they stopped farming to take up other jobs. For suppliers who left the scheme, hawkers are the most preferred market outlet (they deal on average with 23 hawkers). 'Occasional' suppliers also prefer hawkers. For the 'consistent' suppliers, SPAR is the main market and also the most preferred.

In this case start-up costs are absorbed as part of the procurement model. The costs might be expected to reduce as they become familiar with local suppliers and local supplier groups. Potentially, outside help could help replicate the scheme. South Africa has some public tools to a) target technical assistance to small-scale farmers,⁶ and b) provide credit access.⁷ Another key issue is the sharing of risk between government, credit suppliers (in the case of non-government and non-supermarket credit suppliers), the supermarket, and the farmers.

4. Also far higher than the normal allocation of land under collective tenure in South Africa of traditionally between 1 and 4hectares

5. Farmers consistently supplying were actually slightly further from the supermarkets, but their better access to transport compensated

6. Examples of a) The extension services of the local branches of the Department of Agriculture or the initiative of the National Agricultural Marketing Council through which training is provided to small-scale farmers with potential by external parties on a consultancy basis.

7. Example of b) Initiatives of the Micro-Agricultural Financial Institution of South Africa (MAFISA)

SOUTH AFRICA

FRUIT WINE

CASE 5

Thandi fair trade wine and fruit, South Africa

SOURCES: EWERT ET AL. 2006; THANDI WEBSITES WWW.THANDI.COM; WWW.THANDIWINES.COM.

The business Thandi (a Xhosa word meaning 'nurturing love') was established in 1995. Its model relies on partnerships between workers, growers, wine and fruit export business, retailers and the state. Farm workers who were formerly excluded from owning land are involved (large scale commercial farms with at least 25% ownership by black workers and/or local communities), as are emerging small-scale producers. No detail is available regarding the number of smallholders involved, however.

Thandi wine was their first product. When this was successful, fruit farming was added under the Thandi brand, with South Africa's largest fruit exporter, Capespan, coming on board to contribute technical knowhow, mentorship, infrastructure and marketing expertise.

Thandi began in the Elgin Valley, on a farm in the Langkloof, but it is now influencing communities from the Swartland to the Northern Cape. On the initial farm, 134 farm workers obtained full ownership of 240 hectares. Since then, five more farms across South Africa have joined Thandi, producing fruit while developing the surrounding communities. Detail on the size of the farms or how smallholders are involved is not available. The project is part of a BEE (Black Economic Empowerment) movement designed to address some of the unfair legacy of apartheid, so there are requirements on ownership of land to participate in the project. There is no information about how inclusive of particularly poor or marginalised groups this initiative might be.

Grape production for Thandi wines expanded considerably as the brand flourished and requirements expanded. The lions' share of Thandi wine is exported – in 2005, more than 95%. Between April 2005 and March 2006, total exports amounted to 42,755 (nine litre) cases. Local sales are reportedly growing, but remain a small part of the total. Competition is increasingly fierce. While Fairtrade accreditation is a commercial advantage for the wine, Thandi

Fairtrade branding in the fresh fruit area of the business has been less successful. Sales of fresh unbranded fruit to the domestic market though are reportedly good.

Existing supply chains and a marketing network of established businesses in the South African wine and fruit export industries helped position Thandi as a successful brand. Assistance from funders, including DFID, also helped Thandi wine to establish itself in the market. DFID support would reportedly be removed if it didn't break even within 3 years.

Links are apparently effective as the project has expanded and been successful, particularly for wine. The Thandi project is a success in that it has been able to grow and sustain itself for 10 years. In terms of fairness, some farmers appear to have better deals than others. For instance, some of the grape growers don't get paid for up to 3 years as reportedly they must wait for some of the wine to be ready for sale before they see profits from their grapes. Some grape farmers receive prompt payment.

Other effects of the initiative include that Capespan, South Africa's biggest fruit exporter, created the Capespan Foundation to help facilitate Thandi Fruit's empowerment and land transformation agenda. The Capespan Foundation is responsible for mentorship, financing, skills transfer and capacity building of the Thandi initiative.

In conclusion, the process evolved over a long period of time – some 10 years – and continues to evolve. Much of the initial scheme was driven by political will of large scale farmers and existing business to engage in partnership with adjacent communities.

Also critical for sustainability of the project is ensuring workers are represented, provided with information and educated, and that processes are transparent.

Brokers buying smallholder green beans, no contracts, Kenya

SOURCES: JONES ET AL. 2010; MINOT AND NGIGI, 2004; IRWIN ET AL. 2005; HORTICULTURAL JOURNAL OF KENYA, 2011.

Green beans in Kenya are the most popular cash crop among smallholders owing to their short growing period and more consistent cash income. Independent smallholders have 1 to 5 hectares but only plant a fraction of this with green beans. In 2005 there were approximately 20,000 to 50,000 smallholder growers supplying green beans to brokers without contracts. Some of these are exported, making up 5 to 10% of exports. Green bean growers without contracts use less purchased inputs, often recycle seed, and sell at lower prices owing to differences in quality and/or variety.

Many agri-input companies operate within the main green-bean production area; drip lines, irrigation pumps, fertilisers, pesticides and technical information are available to farmers. Government has played a role, investing in education and improving infrastructure which has increased the industry's competitiveness. In 1999 a new fresh produce terminal was built at Nairobi airport – in a public-private partnership. The main green bean producing region's proximity to Jomo Kenyatta international airport also makes it possible for the produce to arrive in Europe within 48 hours after harvest (Horticultural Journal of Kenya, April 2011). Kenya's Horticulture Crops Development Authority (HCDA) helps with certification schemes – though once it was involved in vegetable trade, it has switched to a more facilitative function.

In the 2000s, supermarkets drove increased demand for higher quality standards, different varieties, organic and low-chemical residue produce. Exporters have heavily invested in growing their own high quality certified vegetables to take advantage of the increased opportunities, resulting in a shorter supply chain. The value-chain is characterised by low levels of information sharing, inaccurate records of chemical use during

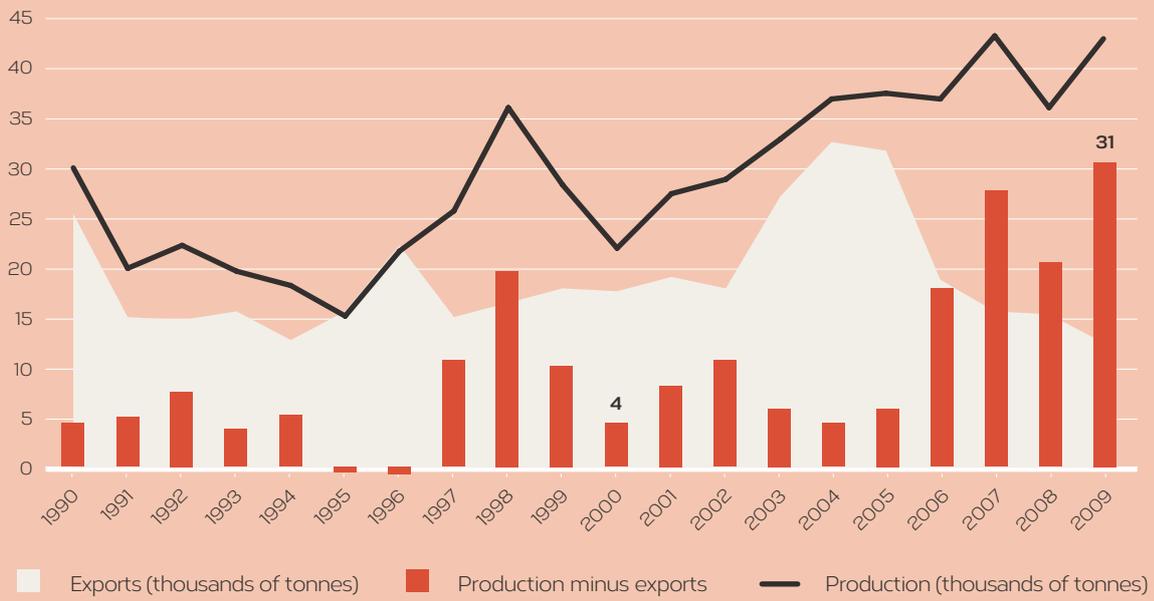
growing that leads to problems accessing European markets. Smallholders sell beans to brokers and small and medium exporters, but have very little in the way of technical assistance and so forth in return. Minot and Ngigi (2004) wrote: "Kenyan horticultural exports are indeed a success story: horticulture has become the third largest earner of foreign exchange, more than half the exports are produced by smallholders, and smallholders gain from producing for the export market. At the same time, the total number of smallholders producing for export is relatively small, and trends in European retailing may shift the advantage to larger producers."

Production and export data in recent years suggests the domestic market has grown rapidly, as the export market is not taking as much as it was in the mid-2000s, see Figure A4 overleaf.

Though smallholders' lack of contracts can be a risk, links appear effective. The green beans market seems to be growing, with many farmers involved. The main links are for marketing purposes: there is very little in the way of technical assistance. The suspicion is that while smallholders are involved, they aren't the poorest, most marginalised or vulnerable. The lion's share of smallholder production goes to the domestic rather than the international market. Horticultural markets are competitive and export competitiveness can shift quickly.⁸ Minot and Ngigi (2004) concluded: "This experience suggests that it would be difficult for the government to "pick winners" in order to target assistance toward crops with high potential. Export comparative advantage evolves continuously in response to changes in markets, technology and other competitors. A better strategy would be to provide infrastructure and other public goods and facilitate investment in general, allowing private firms to test the competitiveness of each sector."

Figure A4 | Green bean production and exports in Kenya

SOURCE: DATA FROM FAOSTAT



8. While Kenya was reportedly squeezed out of some horticulture product export markets (for example, pineapple products, avocado, courgettes), it has found new markets and expanded exports of French beans, Asian vegetables, and cut flowers.

Smallholder contract growers of green beans, Kenya

SOURCES: JONES ET AL. 2010; MINOT AND NGIGI, 2004; IRWIN ET AL. 2005; HJK, 2011; FAIRTRADE FOUNDATION, 2012.

Large exporters often own farms, but some also contract with smallholders to supply export markets. The example here is Homegrown, which gets 10% of its exports from farms it doesn't own. It works with 600 smallholders. Interviews with four leading exporters suggest that 18% of export vegetables come from smallholders.

Farmers with contracts may commit a larger portion of their land to beans than those without. In Kenya nationally, the Rural Household Survey found green bean growers on average had 2.9 hectares, of which 0.8 hectares were planted with beans. Three-quarters of the green bean growers had less than three hectares of land and 86% planted less than one hectare of beans. Inclusivity of the poorest and most marginal groups is not an objective of large exporters. Contracted smallholders tend to be those with a bit more land. A survey of farmers on a main road near Nairobi found horticultural export growers had an average of 2.7 hectares, compared to 1.2 hectares for other farmers in the area. Out-growers are small-scale farmers who have mostly organised into self-help groups or farmers' associations but lack the systems and structures to be certified under international standards such as Fairtrade for small producer organisations.

In 2005, some 4,000 small and medium enterprise farmers, small out-growers, and farmer associations were closely linked to 15 to 20 exporters in Kenya, with exporters typically providing inputs to ensure quantity and quality of products. For the small and medium farmers on contract, the exporter provided seed and perhaps chemicals on credit. Homegrown is the largest horticultural exporter in Kenya, while 90% of its crops are from its own farms it also works with 600 smallholders.⁹ Homegrown buys beans (and other vegetables) from small-scale farmers from 10 areas in the higher rainfall areas in Kenya. Twenty three groups in Mweiga and 11 in Meru supply Fairtrade beans. Each group has a membership of between 2 and 20 farmers, representing a total of 343 farmers. Farms are up to 5 acres (2ha) and use family labour and seasonal casual labour.

Part of Homegrown's business involves supplying Fairtrade in the UK, helping some smallholder out-growers to access benefits of the Fairtrade brand by supplying Fairtrade certified plantations. Homegrown

gives the groups the necessary technical support and training to ensure their produce is grown to the standards demanded. This includes providing seeds and chemicals at subsidised prices. Fairtrade (2012) gives an example of a family farmer who rents 4 acres (1.6ha) and grows vegetables on three of them (1.2ha). His main cash crops are fine beans, garden peas and baby corn, which is planted between the fine beans to maximise land use. Despite rises in fertiliser costs, this farmer cites lack of water, unfavourable weather and unpredictable demand as major problems for farmers and the wider community.

Under the Fairtrade vegetable certification, the benefits to out-growers include:

- payment of at least the Fairtrade guaranteed minimum price, calculated to cover costs of sustainable production
- the additional Fairtrade premium to invest in business and community improvements of their choice
- payment within seven days (instead of up to three weeks)
- support to build and strengthen the capacity of their farmers' organisations.

Linkages to the rural economy are also significant. Small and medium farmers hire about 15 labourers per hectare of green beans planted. Increasingly success is a result of market segmentation, investing in certification, adding value via packaging, servicing niche markets and investing in marketing. Smallholders can earn the equivalent of US\$7 per day. The example farmer cited by Fairtrade can save for secondary education for his daughters (primary education is free but few children continue to secondary education) He says: 'I would really like to invest in my children, particularly in their education. I would really like to give them the best education possible. And then they can go to greater heights.'

Ensuring compliance with food safety and quality requirements are reportedly squeezing smallholders out of the export markets. Increasingly the trend appears to be for large exporters to grow their own.

9 It also employs nearly 8,000 seasonal employees for its processing operations

KENYA SNOW PEA

CASE 8 Vegpro contracts with smallholders for peas, Kenya

SOURCES: IFC, 2012; USAID, 2012; USAID, JAN 2012; VAN DIJK AND TRIENEKENS, 2012; VEGPRO WEBSITE: [HTTP://WWW.VEGPRO-GROUP.COM/HOME.HTML](http://www.vegpro-group.com/home.html)

Vegpro began in 1979 in Kenya and grew steadily to become a large exporter of premium and prepared vegetables conforming to global standards. Vegpro works in parts of Central and Eastern province. They export vegetables, fruit and flowers to Europe, including the UK. They have six of their own farms and manage around 3,500 smallholder farmers in the 4 major producing areas of Kenya.

They grow and pack a wide range of vegetables all year round, and are involved in added-value lines such as stir fries. On the national scale this type of enterprise it is still quite niche.

Ninety percent of Vegpro's produce comes from company-owned farms, but Vegpro does use partnerships with small-scale farmers. One example is the Liki-out-growers Self Help Group, which it partners with to market sugar snaps and snow peas. This partnership began in 2001. The small-scale farmers are located around the Mount Kenya region with individual groups distributed in areas around Naromoru, Matanya (sweet waters area) Timau and Meru. In the early 2000s, Vegpro had contracted 1,300 farmers in 25 groups for pea production (this is an average of 52 farmers per group), with each farm being one acre on average.

The government extension service has helped farmer groups connect to Vegpro. Over time, partnerships have grown: in 2007 Vegpro was purchasing snow peas from 3,500 smallholder farmers organized into 50 self-help groups.

Initially, Vegpro paid farmers a fixed year-round price that exceeded the average market price over the course of the year, though this created a hurdle. When the market price was below the fixed price offered in contracts, farmers sold to Vegpro, including uncertified produce from their neighbours. When the market price rose, farmers would side-sell to local traders. Vegpro reduced side-selling by employing field supervisors and switching from annual fixed prices to weekly prices set in relation to the market price.

Farmers benefit from a guaranteed market. Also, because vegetables must conform to specific standards, Vegpro are helping the smallholders to achieve Global Good Agricultural Practices (GlobalGAP) certification though a partnership with USAID-KHCP (Kenya Horticulture Competitiveness Project) running from April 2011 to March 2013. This partnership also plans to help transfer greenhouse tunnel technology.¹⁰

Inclusion of poorest and most marginalised groups is unknown; however the links that exist appear to be effective. VegPro is expanding its work with smallholders. Both government and donors are playing facilitating roles. Furthermore, the success of the model means it is expanding in to Ghana, where they will grow vegetables better suited to Ghana than Kenya.

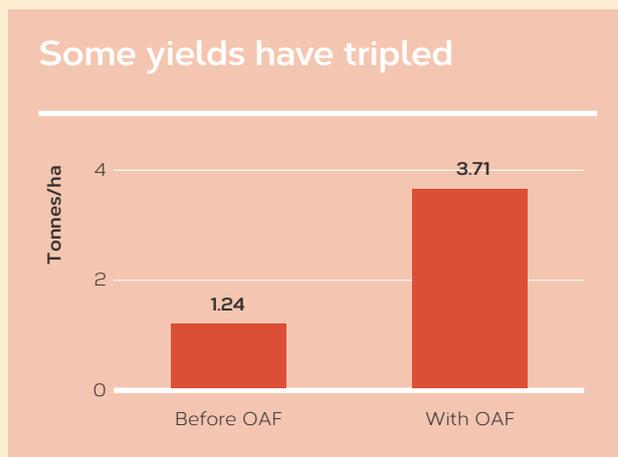
10. Early results of this programme are encouraging; pod yield of snow pea and sugar snaps grown in tunnels were 48% higher than in the open field. Furthermore, where only 15% of crop in the open fields were marketable given high disease infection, 98% of that grown in tunnels was marketable. Potentially 10x the income could be generated under tunnels than in open fields.

One Acre Fund supplies inputs to maize and beans farmers, Kenya

SOURCES: ONE ACRE FUND (UNDATED); OAF STAFF, PERSONAL COMMUNICATION.

One Acre Fund (OAF) is an NGO that provides a simple package of inputs – hybrid seed, nitrogen fertiliser, technical advice, credit and perhaps also insurance and crop buy-back guarantees – to smallholder farmers. Farmers in groups assume liability for this and pay back in kind.

OAF began working in Western Kenya, in areas with very heavy pressure on land; where food crop production is critical. They have since expanded to Rwanda and Burundi. As the name suggests, farmers involved contract with OAF for inputs sufficient for about one acre. While this suggests all OAF's farmers have less than 1 hectare, this should be qualified. Although official data isn't available (OAF records how much land their loans are meant to provide for, but not total farm land), OAF staff estimate on average the farmers involved with OAF in Kenya have about 2 to 5 acres (0.8 to 2 hectares), still very small-scale.¹¹



In Kenya, the farming system promoted by OAF is simple – maize and beans, nothing else – grown primarily for home consumption. OAF provides hybrid seed, N-fertiliser – apparently applied by micro-dosing – and some credit. Farmers are formed into groups of around 200 to 250, and these groups are formed around

women's groups. OAF assigns a local field officer to each group: 10 of these report to a field manager; and 10 of the field managers report to a District manager. The resulting pyramid is lean and low-cost, using locals who are farmers as far as possible.

Links appear to be effective –and OAF stresses monitoring, as well as trial and error. This apparently works. There are reports of yields tripling from 0.5 tonne an acre [1.2 tonnes per hectare] to 1.5 tonnes per acre.

In terms of efficiency, OAF covers 80% of its costs of operation from repayments.

OAF also appears inclusive of many poorer farmers, with a particular focus on women farmers, as the groups are formed around women's groups.¹² The NGO provides the start-up costs and funds the expansion, though as yet there is no explicit exit strategy.

They have negotiated a learning process with costs, particularly as they expanded beyond Kenya. Originally when they began in Kenya in 2006, they were relatively inexperienced with how to proceed and set prices too low. In Burundi where they only recently started they set prices higher and farmers are still willing to pay, so while only now after several years in Kenya are they 83% sustainable, they are 86% sustainable already in Burundi. In Kenya (and probably Rwanda) they originally offered overly cheap services so it became difficult to subsequently raise prices.

Different impacts among farmers are not known, but OAF has mass coverage. Links in the rural economy are not known.

In conclusion, OAF appears to be a programme that is top-down, directed to a large number of small and poor farmers. It promotes simple, tried and tested technology: in effect dealing with failures of credit and input supply, encouraging people to try known technology.

A key innovation seems to lie in OAF's tight control of management that keeps costs down, as well as making it possible to replicate rapidly.

11. Farms they are working with in Rwanda are reportedly much smaller, where overall farm size is smaller.

12. Many of the smallholders OAF works with are female, however precise figures are not available.

KENYA TEA

CASE 10

Kenya Tea Development Authority/ Agency and tea smallholders

SOURCES: OCHIENG, 2010; GESIMBA ET AL, 2003.

The Kenya Tea Development Authority (KTDA) was established in 1964 as a parastatal to foster small-scale tea growers. Almost all Kenyan tea is exported. From one initial factory serving 19,000 growers and only 4,700 hectares of tea, in 2002 KTDA had 51 factories spread in 24 districts. By 2012 there were 63 factories. The factories are owned by 380,000 who cultivate 92,800 hectares of tea (2002 figures). Tea farmers in Kenya are overwhelmingly smallholders. KTDA was fully liberalised in 2002 to become the Kenya Tea Development Agency Ltd, a private company owned wholly and exclusively by smallholders.

Smallholder farmers were involved on the KTDA board from relatively early on in the process, though not without a struggle. Initially, KTDA argued that farmers with less than 0.8 hectares were too poor to be helped. They withdrew credit and tried to prevent this category of smallholders from participating, but the farmers found ways around this: planting tea illegally, relying on friends and relatives to buy plants on credit instead of paying cash— aided by KTDA field officers who didn't enforce the rules. By the 1970s, more illegal than legal farmers existed and KTDA granted an amnesty and re-absorbed the smallest farmers.

KTDA integrated vertically after 1974, taking over processing functions in its new factories—against the advice of senior political and international advisors. The KTDA general manager and smallholders on the board pushed for it, taking the matter to the president, whose support was essential. The government again played a key role in ensuring KTDA privatisation (in 1996) would benefit smallholders: 'Instead of a competitive bidding process or public flotation of shares through the Nairobi Stock Exchange, which had been the medium of choice for previous privatisations of state-owned enterprises (for example Kenya Airways in 1996), the government restricted the sale of KTDA shares to smallholder tea growers only.' (Ochieng, 2010). Before privatisation, KTDA had already provided links, particularly in extension services. KTDA also implemented more labour-intensive quality requirements including the harvesting of two leaves and a bud (as opposed to 4 leaves and a bud common with multinational companies). A power shift came with privatisation¹³ and its factory companies.

The factories took on a greater role in husbandry, extension, collecting leaves, transporting and processing, where previously KTDA had been involved in extension, transport and processing, it became concerned only with financial, engineering, IT, marketing and insurance and warehouse services. Overall however, links are effective as KTDA contracts expose smallholders to modern technologies, access to premium tea markets (because of higher quality standards), and regular cash flow which improves welfare. This is a relatively inclusive case in terms of size of smallholders, though more detailed information about marginal groups such as women farmers is unavailable.

Clear positive outcomes show up in national statistics with tea yields growing from 1 tonne per hectare in the mid-1970s to over 2 tonnes per hectares from about mid-1990. KTDA farmers produce the lions' share of Kenyan tea – in 2002 they had 71% of Kenya's tea growing area. Kenya is a dominant force in world tea production – the leading exporter in terms of quantity, and second after Sri Lanka in value. Kenyan exports grew rapidly, overtaking India and Sri Lanka which were historically high. From 1961 to 2009, Kenyan exports grew faster than China's (average annual export growth rate was 6.4% for Kenya and 4.4% for China). Kenya overtook China as the top producer by the mid-1990s. Lately its quantity exports have been higher than Sri Lanka's.

Some links in the rural economy are negative, with forests being destroyed for wood for tea curing. There was a ban on procurement of curing fuel from forests, which drove up costs of fuel (because they had to be bought from tree farms). On the plus side, wage rates reportedly rose. Kericho labour costs are twice those in Uganda. Since 1990, the basic wage has risen 10 times, from 1998 to 2002/03 it went up more than 50%. Daily rates paid by smallholder growers in rural areas are half those offered in estates.

Smallholder participation ensured that the process, which took time, was fairer. There were also incidences of key political decisions. Furthermore, the government operates the Tea Board of Kenya (TBK) which ensures maintenance of rural access roads and creates an enabling environment for expansion of tea markets.

13. KTDA also had to pay corporation tax for the first time, reducing annual profits (payments to smallholders) by up to 35%.

Improving existing links between dairy farmers and consumers, Kenya

SOURCES: VERMEULEN AND COTULA, 2010; DE VRIES, 2012; EADD, 2010; MAINA ET AL, 2010; HOOTON AND OMORE, 2007; TECHNOSERVE, 2008.

About 70% of Kenya's 1.8M dairy farmers are smallholders, most operating mixed crop-livestock systems. In 1999 the state-owned processor, Kenya Cooperative Creameries, collapsed, improving competition in the sector; but industry capacity utilization was low at 40% (EADD 2010). The old Dairy Act, modified in 2004, made it difficult or illegal to trade in raw milk. The new provisions were more liberal, making licensing possible for small vendors of milk, subject to improving the hygiene of milk handling. Dairying is dependent on roads being passable year round. Electricity helps if milk is to be chilled or processed. Kenya's most productive and commercialised dairying is found in central and highland Rift Kenya where fertile soils, high rainfall and relatively cool temperatures make conditions for dairying excellent. Furthermore, the large market of Nairobi is close, as are secondary and growing towns. Demand is growing from Kenya's urbanising population. Milk is a staple and a higher-value product people tend to buy more of as they move from low to modest incomes.

Farmers typically have very small farms, often less than one hectare. Dairy cattle are kept in stalls and fed by fodder grown especially for them. Dairying requires seed for fodder, as well as veterinary supplies and artificial insemination services (AI). Discipline in feeding and care is also necessary if the cows are to be kept healthy, reproductive and yielding milk to potential. There are few economies of scale: most cows are kept in herds of less than half a dozen. Processing can be simple: pasteurising and chilling to conserve freshness.

Marketing takes place along two channels: one the formal, that chills, pasteurises and packs fresh milk, and produces butter, cream and yogurt for middle class consumers; and a second, the informal, that moves raw milk from farms to low income consumers – who know that milk needs to be boiled. Roughly 80% of milk takes the informal route, sold at prices that are around half of the formal, processed prices. Two interventions are noted. One is the effect of a smallholder development programme promoting discussions along the chain and with political leaders to reform the Dairy Act to allow informal traders to operate legally. The other is the promotion of dairy hubs. These are small-scale chilling hubs where milk can be delivered and inputs, services credit and savings provided. The examples here are: first, a cooperative venture in Kieni, Nyeri, and second, two

groups in Lessos. Nandi. Kieni Dairy Products Limited (KDPL) is a farmer-owned company formed in 1995 when 6 co-ops joined, in 2010 it had 3,600 shareholders. KDPL chills milk, with the long-term goal of making niche products. Members produce and bulk 16,000 litres per day, and expect the chilling hub to handle 15,000 litres per day in its first year of operation. Lessos is a cooperative that has long produced milk, though it and much of its dairying collapsed in the early 1990s. In late 2008 they approached SNV to help reactivate dairying; SNV proposed the dairy hub model. A co-op would run a chilling and bulking point, and a point to deliver inputs, technical advice, AI, other services and bank credits. By March 2010 they had 2,700 producers in two groups. Links are apparently effective. Lessos claims that their farmers are achieving higher prices – by up to 18% more – and producing more – by 50% or more. Inputs are provided on check-off credit from milk deliveries. It is not clear though how much the processing centres pay prices that improve on those received via informal channels. There is little information on efficiency or fairness of links available. In the Lessos case, governance also improved, evidenced in improved transparency in management and leadership, participation of membership in decision making and meaningful participation by women.

Lessos producer groups have provided direct employment for 25 people, as well as employing 75 new people in transportation. Analysts estimate that for every 2000 litres of milk sold, an extra job is created at the farm level. Furthermore, links in consumption in the rural economy are thought to be good. Milk is a good candidate for improving links. It is a fresh and perishable product, it has high demand in urban areas. It can be produced at low cost owing to the excellent conditions for dairying in highland Kenya. The daily milking means that earnings can be regular, that transactions are frequent, and trust and competency can be built. The challenge is then to improve on production, while keeping any increased costs of production commensurate with prices that might be gained in the higher-value, processed channels. It is not clear how large the market for processed milk and niche items may be. Currently 20% of produce goes through this route, but how much more could be processed to be sold this way? It may be the case that the 80% of raw milk sales in informal channels go to consumers who cannot afford industrial processing.

GHANA SORGHUM

CASE 12

Guinness Ghana and TechnoServe, sorghum contract farming

SOURCES: VAN WIJK AND KWAKKENBOS, 2012; KUDADJIE, 2006; THE CORPORATE GUARDIAN, 2009.

The Guinness–TechnoServe partnership in Ghana ran from 2006 to 2011, under the West African Sorghum Chain Development programme (WASCD). The main partners are Guinness Ghana Breweries Ltd (GGBL) and the NGO TechnoServe. The latter supports smallholder farmers in Ghana’s Upper West, as well as the nucleus farmers who act as grain trading intermediaries between the farms and the brewer. The Upper West region is in North-western Ghana, bordered by Burkina Faso to the north. The Ghanaian government participates through its Capital Venture Trust Fund that is related to the SINAPI ABA Trust, and which provides credit to smallholder farmers.

The partnership was established after an attempt to establish a sorghum supply chain in Northern Ghana by Guinness had failed.

“In 2001, Guinness Ghana tried to set up a sorghum supply chain in Northern Ghana, but failed completely. The company had facilitated farmers in acquiring fertilizer, agrochemicals, as well as certified seeds of a new sorghum a variety, Kapaala, but had to reject most of the grain one year later because of low quality (Kudadjie, 2006). The harsh climate and limitations in the institutional business environment hindered the African farmers to integrate into a modern value chain.”

KUDADJIE, 2006

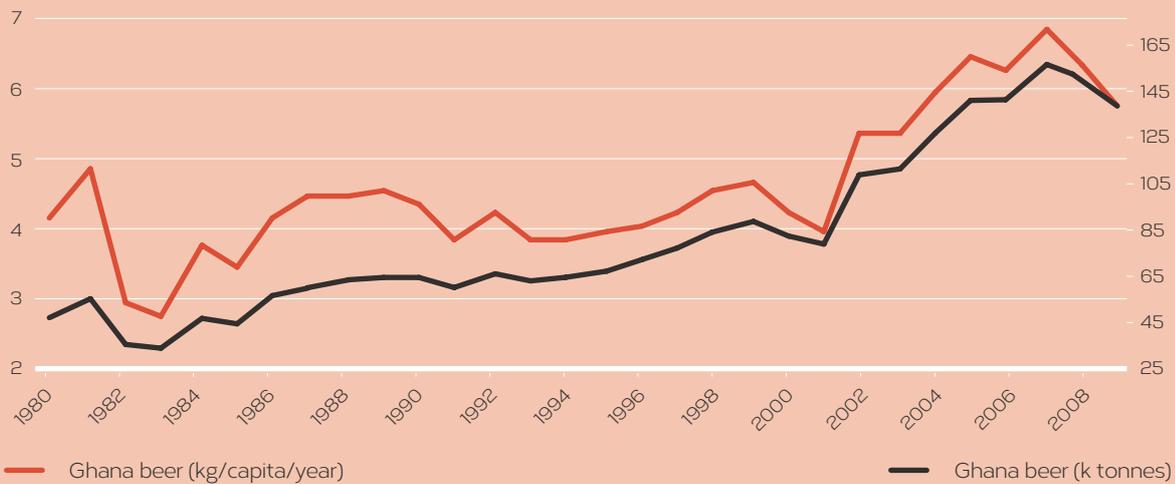
The multinational brewers thus sought partnerships with NGOs and government agencies to help overcome the challenges. The new sorghum development scheme is based on an agreement whereby the brewery agreed to buy sorghum produced under the partnership for a period of five years at a price that could vary within a certain band.

In 2009, they reported significant progress had been made, achieving 1,300 tonnes of sorghum from the project in the 2008 financial year. Yields had reportedly doubled in Guinness Ghana’s project areas.

As a result, GGBL widened its investment in the area, with support from Diageo, its parent company and main shareholder. TechnoServe staff cite this case as a successful example of NGO facilitation of private sector development. The private sector is keen to develop brands in this area as the domestic market for branded beer is growing.¹⁴ Ghana’s per capita consumption of beer went from about 4kg per person a year in the 1990s to about 6kg per person a year in the late 2000s, see Figure A5.

Figure A5 | Growing domestic consumption of beer in Ghana

SOURCE: DATA FROM FAOSTAT



14. Though growing, it is still small. As discussed in the Eagle Lager case, the African informal market for artisanal beers, wine etc (made from local ingredients) is an estimated 4 times larger than the formal sector, with a value of US\$3 billion. Heineken, Guinness and SABMiller have to compete with the African home-brew market.

Blue Skies Pineapples and 'joint effort enterprise', Ghana

SOURCES: VERMEULEN AND COTULA, 2010; DANNSON ET AL. 2004; ROSS, 2009; FF, 2008, DFID, 2011; WOLTER, 2008; BLUE SKIES, 2012.

Blue Skies (BS) is a private agro-processing company (the plant is about 25km north of Accra), established in 1998 by a British national, to process fresh fruits – mainly pineapples – for supermarkets in Europe. National initiatives exist to help agribusinesses like BS. There is a policy for rural electrification, and special loan facilities for private sector development. The tax regime is a difficulty (32% tax on profit) however, with lack of tax incentives cited as a key constraint. High inflation and a lack of both loans for farmers and readily available information on prices and markets also hinder the process. Roads can be poor, particularly in to farms. To navigate this, BS has improved some road conditions near farms and built collection points.

Most of BS pineapples are supplied by contract farming with farmers in the Akuapem South district. The company deals with individual farmers, and those in Blue Skies Organic Cooperative (BSOC), a producer association covering 4 villages that has been dealing with BS since 1998. In 2008, BSOC had 80 pineapple farmers (4 women). BSOC members', with an area totalling of 112 hectares given over to organic pineapples, produce a total of 45 tonnes of pineapples per week, of which 15 tonnes (33%) are supplied to BS. The remainder is bought by women traders from Accra who sell them to local markets. The members depend on pineapples for 85% of their cash income. Most of their farms are around 3 hectares, with 2 hectares under pineapples producing around 30 tonnes a year.¹⁵ Exports from BS were 780 tonnes in 2003 and 1,560 tonnes in 2004. Some of their quick growth in the early 2000s was put down to good extension services, farmer training, and a higher price offer. BS grew processing from 1 tonne per week to 35 tonnes per week.

The company invested in Eurep GAP (now GlobalGAP) certification for 18 farms; in return these farms are obliged to sell to BS. The company also helped BSOC farmers get certified organic (Soil Association) and Fairtrade. They don't provide credit to farmers or link them to financial agents, but prompt payments plus higher prices encourage farmers to save and invest

in farms. 'Committed and loyal' farmers can also hire purchase inputs and equipment interest-free. BS has overcome obstacles; training for instance helped develop production skills. With pineapple exports hit by a slowdown in the international market in recent years, BS is working on growing domestically, selling pineapple juice to the growing middle-class for about 3 times the price of a Coke.¹⁶ Ross (2009) wrote: "The local sales will probably not compete with the overseas orders but at least the workers on the juice line have kept their jobs, the machinery has not been mothballed and it should be a useful cushion against fluctuating sales in Europe." In 2011 BS was looking at rapidly developing sales within Ghana and looking at the regional market.

Extra income boosts living standards for farmers and communities. In BSOC communities, by 2008, two boreholes had been made using funds from the Fairtrade Premium, the additional investment by BS, and the Dutch retailer, Albert Heijn, in order to solve acute water supply problems in the four communities. The BSfactory employs 1,500 people and is responsible for 5% of Ghanaian non-traditional exports. The site has a clinic, library, internet café and subsidised canteen and the business contributes £2.5 million in to the local economy through salaries. Furthermore, BS was one of 11 winners at the 2012 World Business and Development Awards (WBDA) in recognition of the 'Joint Effort Enterprise' model.

Inclusion of marginalized or vulnerable groups in the supplier pool is not known, but the business actively works to improve its community. BS pays farmers promptly and offers a higher price per kg of pineapple than all the other companies dealing with pineapple in the Nsawam area. Fairtrade certified farmers in BSOC get a premium over the price they agree to pay BS – though BS already pays more than the minimum Fairtrade price. The links are mutually beneficial as the farmers market is assured and the agribusiness ensures supply. A large part of BS success seems to have come about because of its leadership and inclusive work ethic. It is also responding well faced with external economic challenges.

15. BS growers have average yields of 15 tonnes per hectare; more than double the national average of around 6 tonnes per hectare. The remaining 1 hectare is usually ¾ used to grow maize and cassava and ¼ used to grow vegetables.

16. In March 2008 they were reportedly taking about \$145 per week from juice sold in Ghana, but by March 2009 they were taking US\$7000 per week and anticipating by end of 2009 US\$14,000 per week.

GHANA

MAIZE, RICE, SORGHUM, SOYA

CASE 14

AGRA breadbasket programme, Northern Ghana

SOURCES: GYEBI, 2012; SELBY, 2011; MOFEP, 2012; KARUJA, 2012.

The Alliance for a Green Revolution in Africa (AGRA) is working to develop capacity in crop cultivation, area, and yield of Ghana's Northern Region. In 2010 a three-year programme to double yields and increase food security and incomes for 250,000 smallholders was launched. Ghana's rural road network suffers from poor connectivity (recent attempts to improve Northern Ghana's feeder roads did not progress as hoped).

AGRA is supporting Ghana's MOFA (Ministry of Food and Agriculture) to implement at community level. Farmers are required to have at least one acre of land to access credit facilities from the bank to acquire farm inputs (fertilisers and quality seed¹⁷) from agro-dealers (few can afford these without a loan). They grow maize, rice (fairly major staples for Ghana¹⁸) and sorghum, and soya (more niche). Through AGRA they learn better practices with fertiliser, ploughing and sowing to see higher yields.¹⁹ AGRA also gives some manure for free and teaches farmers about application, and pays for local plough services for farmers who cannot afford it. Farmers are encouraged to move from subsistence to a business focus. AGRA acts as guarantor for loans (from banks) and, at harvest, farmers pay for inputs and services, like ploughing, by selling some crop. AGRA accepts payments in kind if farmers are unable to market produce. If yields are low and they aren't able to pay back with crop or cash, AGRA foregoes payment. AGRA has partnered with SFMC to help farmers sell crops in a transparent and independent marketing chain. SFMC buys promptly from farmers at fair market prices. AGRA also works with the International Centre for Soil Fertility and Agricultural Development (IFDC), which have market linkages to companies like Yedent Agro Processing Ventures in Sunyani, which process fortified maize-based products with high nutritional value. They also provide warehousing for farmers lacking sufficient quality storage.

To respond to fertiliser supply challenges, AGRA organised training of 200 agro-dealers in the Northern Region and gave grants for them to expand their reach. AGRA hopes partnerships forged between agro-dealers, marketing

companies and financial institutes will contribute to programme sustainability beyond the original 3 years. Links appear effective, though there have been setbacks, such as some of government subsidised fertiliser being smuggled to Burkina Faso. Poor feeder roads have delayed timely delivery of fertilisers, which only reached farmers when crops were already 7 weeks old and stunted. The extent to which particularly vulnerable groups have been included is unknown. Start-up costs are borne by AGRA and the Government of Ghana. The exit strategy is not explicit; however, the programme is still underway, if time-bound. The efficacy of any exit strategy is yet to be seen.

Positive testimonials so far suggest progress. Examples include: farmers from Gushegu reported better yields owing to improved techniques of fertiliser application; previously subsistence-level farmers gaining enough income to send wards to school; and a farmer with 2 hectares who saw yields of maize jump from 890kg per hectare in 2009 to 1,835kg per hectare following interventions from MOFA on composting, spacing and fertiliser, as well as accessing credit from a bank to buy inputs from local agro-dealers, including fertiliser subsidized at half the normal price. Education levels of farmers, reportedly very disparate, affect how well better practices are adopted. Links to the rural economy exist. The initiative aims to help 250,000 smallholder farmers, and is to create 15,000 jobs in agriculture-related sectors including agro-dealership, marketing, transport and processing. For example, extra farm production is sometimes going to extended family and neighbours, or allowing farmers to buy land. Some agro-dealers are able to employ more people as profits rise in some cases by as much as 60%.

While the case is difficult to evaluate beyond anecdotal evidence, it appears to be creating positive links for farmers and rural agro-dealers. Partnerships too appear to have been crucial. The investment from AGRA has been high, and sustainability is unknown. For instance, this study was unable to find for data on how many loans were waived or what proportion of involved farmers felt the scheme was a success.

17. Eg. improved maize variety crossbred with a local one yielding 3-4 times more and faster-maturing at 110-120 days instead of 150 days.

18. Ghana is mostly self-sufficient in maize but imports a large fraction of rice. Though rice harvests in Ghana have grown 75% from early-2000s to recent times, import dependency has moved from 50% to 70% as use has grown faster.

19. Methods introduced include cropping with or alternating with soya to fix nitrogen and grow leaves for livestock in the dry season, and planting maize in lines with appropriate spacing in lieu of random scattering.

Labour-intensive cashew processing plants, Mozambique

SOURCES: AKSOY AND YAGCI, 2012; CHIPEMBERE ET AL. 2010; JONES AND WEBBER, 2010A, B; PAUL, 2008.

Mozambique faced policy turbulence in the 1990s over bans and taxes on exports of unprocessed nuts. Cashew processing had collapsed in bankruptcy before this case, which describes the setting up of small processing plants using intermediate and labour-intensive methods to process cashew. While it is not clear this offers farmers any great advantage, it has created local jobs in small towns with multipliers.

Cashew farmers in this case are in Nampula Province, in areas of poor roads and minimal provision of services. The Coastal Littoral of Nampula has around 800–1200mm of rainfall annually. Population density is light, at less than 50 people per km². While the area remote from main cities with few roads, Nacala port is no more than 150km from most parts of the cashew triangle of Nampula.

Cashews are grown mostly by smallholder farmers on small areas. Cashew trees once planted grow with little attention, but yields and nut quality are affected by disease, so spraying is necessary. There is a good market for export-quality nuts, either exported processed to Europe and the USA or sent to India for processing (where spare capacity may exist).

At most it seems that the small farmers involved get some technical assistance on how to produce and harvest good quality nuts. There are no reports of inputs being advanced.

A key change reported has been the promotion of small-scale, semi-mechanised processing units in the cashew triangle since 2002. These have allowed direct export of nuts to the Netherlands, creation of a local brand name for such export, plus an added-value industry that is labour intensive and provides additional jobs in an area where other opportunities are limited.

Farmers reportedly get more from processors for their raw cashew than they do from traders who may export to India for processing there. Processors have formed their own alliance to improve some collective functions such as exporting, packing, and branding.

In terms of effectiveness, the few links appear to work in that farmers can sell their cashew. Some inputs are available through Incaju (Mozambique's National Cashew Institute) – seedlings, as well as some subsidised chemicals – but it is not clear how many farmers get access, or what the mechanism for distribution might be. Efficiency is not known, but costs in the chain are likely to be low in cash, if demanding of time.

In terms of fairness, at least half a dozen processors buy nuts, but given the size of the territory it is not clear how much choice farmers have. They can also sell to local shops or traders, however. Inclusion of marginalised or vulnerable groups is not known.

Farm production, productivity and farm incomes seem to have changed little. The main impacts are felt through links in the rural economy. Small-scale processing plants provide valued jobs and develop multipliers – but all within the framework of a low income economy, so that tiny improvements are welcome.

In conclusion, changes to the supply chain are scant in this case; it is largely about effective action to re-start processing with new enterprises, using a more appropriate technology.

However, this is only one part of the chain. Smallholder farmers with their cashews face difficult problems with aging trees and disease attacks that make it hard to respond to higher prices. Lack of cash and inability to wait for new plants, coupled with too little information and the limited capacity of Incaju mean that many farmers cannot invest to try and improve their returns to cashew. This case also takes place against a changing context: a price collapse internationally in 2001, an appreciating exchange rate, and an intense and polarised debate in the late 1990s over World Bank plans and recommendations.

By the late 2000s, SNV were working more with farmer groups to improve their quality and quantity of production; in some cases to benefit from a Fair Trade premium paid by European importers.

RWANDA

HONEY, RICE, MAIZE, POTATOES, CASSAVA, WHEAT

CASE 16

Rwanda Agribusiness cluster

SOURCES: AFP, 2011; AFP WEBSITE.

Smallholders dominate Rwandan agriculture with half of farm families cultivating less than half a hectare of land. Rwanda is landlocked with costly access to the rest of the world – although increasing opportunities are appearing in regional markets. Farmers in Rwanda tend to be very small-scale, often poor and with few assets. In 2008, the International Cocoa Organisation (ICCO), Agriterra (an NGO promoting farmer entrepreneurship) and Terrafina²⁰ created an Agri-hub programme called IPER (*Initiative pour la Promotion de l'Entrepreneuriat Rural*). SNV, IFDC, Oxfam/Novig, WUR, KIT, and VHL²¹ provided support. An AgriProFocus (APF) hub is built around the IPER, and the network is supported by a team of dedicated facilitators, based in the Netherlands. In every Agri-Hub country, a coordinator or coordination team supports the local network. There are a suite of national programmes that aim to stimulate innovation and improvement along particular supply chains.²² IPER is the Rwanda case. Its aim is to enable trainers and facilitators who work with groups of farmers to improve production, access to inputs, finance and links to markets and processors through focusing on value-chains with multi-stakeholder encounters. It includes a small fund to underwrite start-ups and pilots.

The idea is to facilitate meetings between actors in value-chains to help resolve common problems. Specifically, they train local facilitators of clusters, who work mainly for local NGOs. They identify Cluster Leaders from local farmer organisations, and help them run a multi-stakeholder workshop with actors along the value-chain. This then allows key issues to be identified with action plans to improve. Clusters also establish small funds for quick actions such as consultancies and study trips. By 2009 IPER had started 15 Clusters in 6 value-chains (honey, rice, maize, potatoes, cassava and wheat); by 2011 there were 30 Clusters, with 250 cooperatives and 7,000 households engaged. The various members of APF serve different functions including facilitating the agribusiness clusters and learning-by-doing processes, supplying inputs, access to finance, ensuring gender and social inclusion, capacity development and innovation. As this involves clusters of different actors along various value-chains,

the type of enterprise varies. The focus is however mainly on staples for domestic markets. Supply chain approaches also vary depending on the chains, with an approach potentially covering all areas.

Positive outcomes for farmers include: increased production in all clusters; ten clusters reached new markets, increasing margins by 20%; contract farming used in three clusters, with opportunities to export to Congo and Uganda being explored over the last few years; eight enterprises improved seed quality; two financial institutions developed new financial products to cater to needs expressed by farmers; five cooperatives developed new products; twenty producer organizations accessed loans (amounting to €1,000,000) following coaching in business plan preparation; and three farmer organizations initiated their processing companies, with one rice cooperative managing to get other chain operators as co-shares in a new rice processing miller.

The programme partners are trying to institutionalise and nationalise the effort, seeing interest in the Ministry of Agriculture. The Ministry of Commerce and Industry is interested in cooperatives. Meanwhile, there is a fund of €300k for 30 Clusters. By 2012 this initiative had been running only 4 years, so it is early to test how long-lasting it may be. It is a good example of the value-chain: the idea that with training, facilitation and bringing people together, it is possible to make progress without capital injections. Having several pilots allows for learning across experiences. In addition, there is a question of shifting attitudes; from having NGOs provide things, to stimulating entrepreneurship in order to avoid the need for donor-led, budget-led initiatives.

In Rwanda, where it is to be expected that productivity on farm and in the chains is low, and where market failures are probably significant if not severe; it is easy to see plenty of scope for improving production and marketing. Nevertheless, much depends on the ability to overcome market failures: to get inputs, to deal with credit needs, to get technical assistance to farmers and to create functioning links.

20. Terrafina is a microfinance programme for Africa, jointly set up by ICCO, Oikocredit and the Rabobank Foundation.

21. Wageningen University, Royal Tropical Institute (Amsterdam), and Van Hall Larenstein, University of Applied Sciences (Part of WUR)

22. In Benin, Burundi, Ethiopia, Kenya, Mali, Mozambique, Niger, Rwanda, Tanzania, Uganda and Zambia.

National strategy to improve coffee competitiveness, Rwanda

SOURCES: JONES AND WEBBER, 2010; EASTERLY AND FRESCHI, 2010; BOUDREAU, 2010; MUREKEZI AND LOVERIDGE, 2009.

In the 1930s, colonial government policies for coffee, including high export taxes and controls on prices and who could buy, created a "low-quality/low-price trap". Post-colonial governments continued similar policies, helping ensure a national distaste for coffee; even today most Rwandan coffee is exported. In 1964 the Government of Rwanda (GoR) launched OCIR-CAFÉ (Rwanda Coffee Development Authority). OCIR-CAFÉ distributed inputs for free or dramatically reduced prices. Growers sold semi-washed beans to RWANDEX – the monopoly responsible for dry milling and exporting coffee. The GoR was a majority owner of RWANDEX, setting prices until 1998. Coffee producer associations did exist but they did little more than distribute inputs.

In 2001, Rwanda received about 18¢ per lb for coffee – on average below the cost of production – when global prices were 52¢ per lb. Following Rwanda's 1994 genocide, the industry was wiped out. In the 1990s, Rwanda's commodity grade coffee fetched about 54¢ per lb, but by 2001 its price had decreased to 18¢ per lb. Some research finds transport costs from farm gate to the port of Mombasa amount to 80% of producer price, while within Rwanda, transport is 40% of producer price. With reduced transport costs, access to markets would improve and rural poverty reduce: a 50% reduction in transport costs in rural areas is estimated to yield a 20% increase in producer prices for coffee, reducing poverty levels among coffee farmers by over 6%. The GoR implemented the **National Coffee Strategy** to promote specialty and higher quality coffee production. This Government-led initiative aimed to improve the competitive position of Rwandan coffee, beginning with coffee-sector liberalisation strategies, including lowering trade barriers. A strategy of targeted production of high-quality coffee was then launched.²³ Concurrently, international donors funded technical assistance and training. Key steps to achieve the shift from commodity to specialty grade coffee were: a) distributing improved inputs to boost production, supporting associations, replanting coffee, and constructing wet-mill stations in Rwanda's top 50 coffee districts; b) improving quality by educating producers, establishing quality-control mechanisms, investing and technical assistance in

wet-mill techniques and operational and financial management, improving infrastructure, strengthening cooperative and association management, strengthening existing institutions like OCIR-CAFÉ, and providing financial mechanisms along the coffee value-chain; and finally c) by promoting the Rwandan brand through set-up and improvement of market linkages using trade show visits, sharing information with the private sector, and instituting other innovative promotional activities. Before 2001, Rwanda was an unknown in the specialty coffee sector, and now it supplies specialty coffee to Europe and the USA and Rwandan specialty coffee is winning international competitions and commanding some of the world's highest prices. More competition amongst buyers came with liberalisation.

Links were effective in boosting production and quality, and promoting the Rwandan brand. The coffee industry is creating jobs, boosting small farmer spending and consumption²⁴, and fostering social reconciliation by reducing "ethnic distance" among the Hutus and Tutsis who work together growing and washing coffee. New wet-milling stations created 4,000 jobs and 5,000 rural households saw their incomes more than double. Wet milling was a particularly essential technology, without which Rwanda wouldn't have been able to improve from ordinary quality to specialty qualities. Furthermore, if Rwanda only tried to maximise profits and reduce costs within its value-chain without repositioning, it would not have seen the same results.

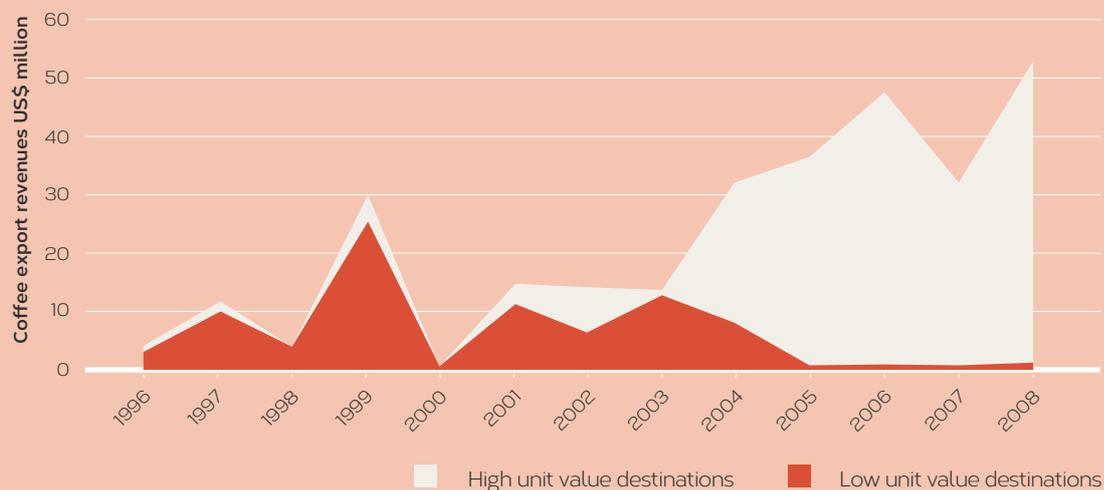
'By liberalizing this important sector of the economy, the Rwanda government has created a wider and deeper space for positive entrepreneurship: a space being filled by thousands of Rwandans, from smallholder farmers to local exporters. Adding value to the coffee supply chain is adding direct economic benefits and important indirect social benefits to the lives of individuals and to the health of communities in Rwanda.'

BOUDREAU, 2010.

Crucially, the case is a success as the GoR axed policies that had hindered the sector's growth for decades.

Figure A6 | Rwandan coffee export revenue by unit value of destinations

SOURCE: FROM EASTERLY AND FRESCHI, 2010.



- 23. High quality coffee prices tend to be stable even when industrial-quality coffee prices fall.
- 24. Panel data showed farmers benefited from coffee reforms by increasing their consumption. Efforts to promote the production of high quality coffee should improve food security and the overall consumption expenditures of coffee growers (Murekezi and Loveridge, 2009).

SOURCES: KONATÉ, 2012; ROYAL TROPICAL INSTITUTE, 2012; HARSCH, 2001.

Shea, sold as kernels (90 – 95% of the market) or butter, is typically collected and processed by women from trees growing wild. This is the case of the Nununa Federation (NF) of shea nut producers, who improved their business model to become shareholders in a shea nut processing enterprise. NF brings together 4,000 women shea producers from two provinces of Burkina Faso: Sissili and Ziro. In 1994, though the exchange rate devalued, producers were not able to take advantage by exporting as the industry was not positioned to benefit. Burkinabè women were in an especially weak position to benefit from economic opportunities as an estimated 88% of rural women are illiterate, and had limited ability to technically improve the quality of shea butter, to find information about markets or to access formal credit.

The producers in this case have been organised for some time. Before they were NF they were a group of smaller producer groups. In 2003, the cosmetics company L'Occitane began collaborating with two unions of shea nut producers in the two provinces (then with 600 members). Interest from L'Occitane, coupled with support from financial and technical development partners, helped the groups transform into a Federation of 92 groups – the Union of Women Producers of Shea Products of Sissili and Ziro (UGPPK) emerged, with 3,929 women. Production of butter rose from 8 to 300 tonnes owing to the creation of six production centres where women could bring kernels to turn into butter using the equipment. A study in 2009 found NF could improve competitiveness, mainly by lowering production costs, and SNV helped identify market-based solutions. This included construction of a small factory for industrial processing of shea butter, improvements at commercial level and a different organisational model for NF. With funding from the Agridius Foundation, they installed a more efficient production facility. NF is now a profitable semi-industrial processing unit with diverse export avenues (they expanded beyond cosmetics into food for regional and international markets), and where the members are the shareholders. Mechanisation has created a comparative advantage for the NF because it is unique in Burkina Faso and also reportedly in the West-African region. Harsch (2001) reported: "In 1997, a tonne of unprocessed shea

nuts sold domestically for CFA70,000 and externally for CFA100,000. But the same tonne, when processed into shea butter, fetched CFA148,000."

Efficiency has improved as production capacity rose from 300 tonnes to 600 tonnes, and production costs per kilo of butter fell by 95% (from 1.68 euros per kg to 0.86 euros per kg). The production process has been modernised to reduce costs, improve profits, and remove the arduous nut processing. Four thousand women retain ownership and benefits, receiving fair prices for the nuts gathered. Full involvement and active participation of the women in decision making, transparency in management and financial benefits means NF is a stand-out example of good governance.²⁵ In terms of impacts, women have earned more from selling kernels – there was a 95% increase in income from shea production for NF members. With more money and time they could afford to diversify by producing and selling sesame.²⁶ The women and their families are benefiting from social activities stimulated and financed by the NF, including health insurance and education. Some women have been trained to become highly skilled employees at the processing unit. NF also gains producer loyalty by redistributing profits and financing social initiatives. They created a mutual health insurance scheme to which Federation members could subscribe. Overall, the new model has changed the lives of more than 24,000 people.

For the success of this case, involvement of producers at all stages, making decisions and retaining ownership were key; as was the involvement of the Agridius Foundation and SNV. The Nununa Federation could be vulnerable to competition from new entrants in processing if much of its progress has been driven by conversion to better mechanical processing. If traditional methods of extracting butter remain so prevalent, there should be much room for scale-up. Some sources say that while Burkina Faso's output is around 50,000 tonnes annually, it could be around 850,000 tonnes (a shea producers' representative quoted in Harsch, 2001). Statistics from FAO show that Nigeria (and Mali) grew from similar levels of production to much greater ones since the 1970s.

25. Still, there is little documentation about which women are included, or how easy it may be for new women to join. It seems likely the women owning the plant would not be the most vulnerable. Protection of the forests containing the shea trees, while environmentally sound, may exclude some women, as the producers in NF are said to have exclusive access to shea nuts in these protected areas.

26. Sesame may be replacing shea as second most important export for Burkina: 'In Burkina Faso, it [sesame] has become the second-most important export crop after cotton.' (Royal Tropical Institute, 2012). Incidentally, the national statistics for sesame are showing a remarkable upsurge in recent years, growing from around 7,000 tonnes in the early 2000s to over 90,000 tonnes in 2010 (FAOSTAT).

BENIN RICE

CASE 19

Promoting the rice value-chain for export to supermarkets, Benin

SOURCES: VECO/VREDESEILANDED, 2012; VECO, 2011; VECO, 2010.

Rice accounted for 13% of average calorific intake in 2009 in Benin. Some rice farming began following the collapse in cotton markets. Smallholders tried selling rice to Niger and Nigeria as a way to gain income. Rice farmers traditionally deliver individually to local traders, though farmer groups exist. Wholesalers from markets in Togo travel between villages collecting paddy and dictating prices. There was some coordination in sales before 2004/05 when farmer groups sent bags of rice for export to Niger and Nigeria, but Nigerian consumers preferred a different type of rice, with fewer impurities, and they lost the market.

In 2002 a Belgian supermarket, Colruyt, began trying to source Beninese rice as a niche product. They went to the central region of Collines, where 90% of the population is active in agriculture on small-scale family farms with plots between 0.5 and 1.5 hectares. The NGO Vredeseilanden/VECO, in partnership with Colruyt, is working with Beninese farmers' organisations. While rice production has grown nationally in recent years, the VECO/Colruyt project exporting to Belgium is relatively small-scale.

In 2003 there were 200 farmers involved. By 2009 this had grown to 8,508 farmers, each with an average of 1.14 hectares, see Figure A7. For the first two years VECO focused on improving quality and establishing an internal quality control system. In 2004/05 the programme expanded into 3 new areas and began cooperating with farmers' groups. To help with quality they relied on the technical expertise of Bosto – a company specialising in the handling and processing of rice, with machines that process rice to a good standard. A third partner came on board – Trade For Development²⁷ – to help with exporting, and with attaining Fair Trade certification. A considerable premium can be achieved if selling Fair Trade to export markets (536 West African francs (FCFA) per kg compared to an average of 370 FCFA per kg for local

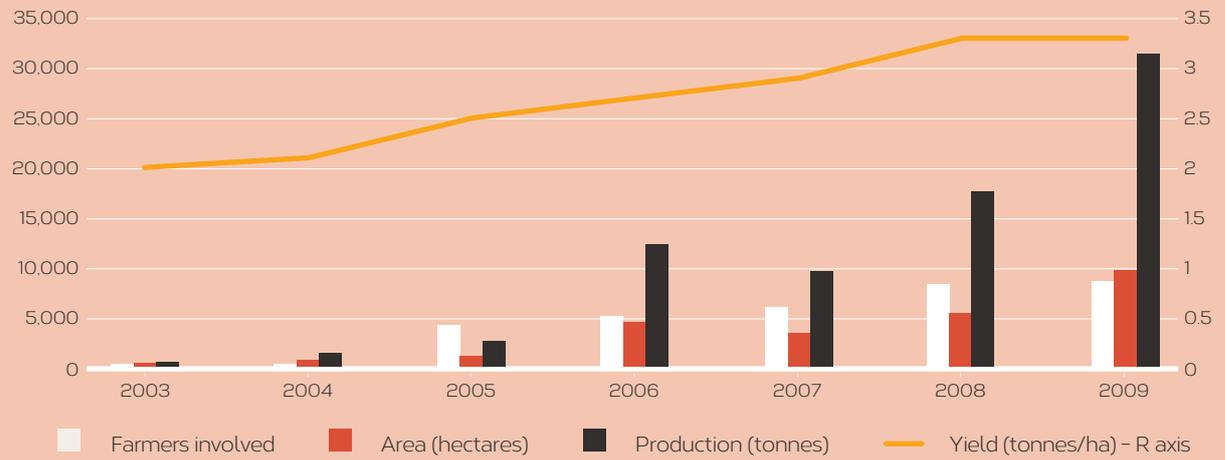
market long grain rice) – though results are tentative as only a small amount of product has been sold as Fair Trade (24 tonnes) – the revenue for Fair Trade certified rice is in theory 147% higher than for the same rice sold on the local market.

Links appear to be effective. The hulling, grading and packaging adds value to the product. Yield has increased from about 2 tonnes per hectare in 2003 to 3.3 tonnes per hectare for project farmers in 2009. Positive impacts for farmers include better prices, better access to inputs and a lower proportion of broken rice with fewer impurities. Some farmers have reportedly used their extra income to pay school fees, buy health care, motorcycles, cement and roofing, and pay for family celebrations or ceremonies. Testimonials include: "It has completely changed our lives as producers: we now earn more". Better food for the family, the children go to school, we are building, everything has changed" and "Before we only ate rice at celebrations...now it's becoming more and more our staple food... if they take advantage of this potential, family farming can make a profit and be sustainable."

Hulling is mostly done with the new machines, and the rice has to be parboiled beforehand. Some women have specialised in parboiling to make rice available at local markets. Finally, the quality improvement promoted is not only needed for export: it also has advantages for local markets, particularly in cities. While the programme is relatively small-scale (only 24 tonnes of rice were exported to Belgium in 2010), it does show potential for being scaled-up. The domestic market exists, but local rice must compete on cost and quality with Asian imports. More vertical integration (hulling facilities to sell the rice milled) is a large initial investment, but pays off. This is in line with a broader national push for rice production, evidenced, for instance, by the state's recent instalment of 2 rice hulling stations.²⁸

Figure A7 | Changes in VECO project over time

SOURCE: DATA FROM TABLE 3 IN VECO 2011.



27. A part of the Belgian technical Cooperation who financed initial phase of the project

28. In fact national average yield per hectare reported by FAOSTAT in 2009 was 3.7 tonnes per hectare compared to the 3.3 achieved by farmers in the Colyrot programme.

TOGO SOYA

CASE 20

Growing soya with a service provider and producer organisation, Togo

SOURCES: PERNOT AND DE ROMÉMONT, 2007.

In this case, a Togolese company Soja Nyo (SN), a Service Provider and Producer Organisation (SPPO), is including small-scale producers in the soya commodity chain. SPPOs create agrifood and service companies offering producer services. They interface between producers and markets, finding stable and lucrative outlets. SN was established with support from the NGO, CIDR (Centre International de Développement et de Recherche). SN was Togo's first SPPO, set up in 2000. SPPOs help farmers to participate in markets that would be too hard to enter otherwise. Over time they intend to shift the status of farmers from supplier to shareholder. The government granted SN exemptions on Value Added Tax (VAT) and companies' tax. Furthermore, the Institut Togolais de Recherche Agronomique (ITRA) supports SN through services including seed certification, technical support, analysis of processed goods and training on quality procedures.

SN operates in the region around Notsé, a town around 95 km north of Lomé. Farmers have smallholdings of 1 to 5 hectares. Participating farmers are not the smallest and are estimated to cultivate on average 2.87 hectares, of which 0.69 hectares goes to soya. Most of the farmers grow a range of crops, including corn, cotton, yam and sorghum, and only started with soya upon joining SN. Like many Togolese, farmers involved were hard hit by the cotton crisis, making a switch to soya attractive. The only producer organisations existing at the time SN was set up were for cotton. Farmers are organised into 'tontines' of about 15, of which there were 48 in 2007; so around 720 farmers in total. Tontines negotiate with the SPPO at the start of the growing season and make sure their members deliver according to the contract. Each tontine has officials responsible for coordination.

SN targets growing urban markets, selling roasted soya for animals and some soya flour for people. They also help develop new products, provide improved seed on credit, technical advice and training, help to mediate any tontine conflicts, and to collect produce. They are responsible for sales and grew from buying 10M FCFA worth of raw material in 2000 to about 66M FCFA worth in 2006. Mechanisms exist to discontinue links with groups that underperform. There are also bonuses for good performers; tontines that meet goals can attract small premiums. SN took 2 years to become financially autonomous and in 2007 had 10 salaried staff. Decentralising responsibility to the tontines helps.

SN distributes shares among the company's salaried staff, shareholder tontines and CIDR. In 2007 relative distribution of shares across these 3 categories were: 30%, 23% and 47%. Most of the wealth created goes to producers. Farmers often manage risk by planting more than declared or sub-contracting out to trusted neighbours or family members, but agreed prices can go up if there is a major problem (for example, in 2006 there were weather problems and SN offered a better price). Contracts are implicit and not legally binding, though they have a moral value. Very few farmers with a shortage of labour or with small subsistence farms are included, being seen as less likely to be loyal.

Farmers surveyed reported financial benefits, the mainly more secure income (71% of those surveyed), while 33% reported higher incomes; 86% changed their stocking strategy of other crops, mostly maize, avoiding the need to sell in the hungry season. Non-financial benefits included better nutrition (40%), time saved growing soya instead of cotton (13%), and improved soil fertility (40%). Incomes were used for school fees (46%), invested in inputs, land, equipment or housing (27%), invested in savings, livestock, or lending (19%) and spent on emergencies (36%). Some report better social capital within tontines. There is little call for waged labour on most of the small family farms, but where there are occasional labourers they do receive a share. Also, farmers who have learnt to grow soya have passed this skill to farmers who are indirectly involved. Reportedly, 370 farmers interviewed worked with another 211 others—another 57%. These producers share most of the advantages of tontine members though they aren't able to benefit from social capital that develops within groups or to become shareholders. About 3 women per village where tontines are located have started processing soya to make donuts or tofu that they sell to local markets to supplement their income.

Good returns are effective in reducing problems that might otherwise arise like side-selling. The autonomy of tontines is key, and some function better than others: those with specific mechanisms for ensuring commitments are better at delivering. Tax breaks and technical support from the government helped, but providing rural public goods (regular electricity or a policy of supporting local produce) would also. Replicability has been tested to some extent as SPPOs are present in other African countries, for products like rice and milk.

Inclusive honey business and sector development for exports, Ethiopia

SOURCES: DESALGNE, 2012; ACDI/VOCA, 2012.

SNV, with Embassy of the Kingdom of the Netherlands support, facilitated honey sector development via the programme 'Support to Business Organisations and their Access to Markets' (BOAM). A national programme promoting Ethiopian honey exists. Ethiopia attaining the status of 'Third Country with an Approved Residue Monitoring Plan' removed a barrier to exporting to the EU, though it took three years. Honey exports are still a niche earner, but have grown in a few years, from about 1 to 5 tonnes in the early 2000s, to 615 tonnes by 2010.

While donors have promoted modern beekeeping in Ethiopia in the past, most focused on production to the exclusion of the wider value-chain context, and the impact of their investments was low. In this case, out-grower programmes of the 8 leading exporters directly trained 8,193 smallholder farmers, which increased production by 23%. Capacity support was delivered in four areas. First, *sector or institutional development* involved 'meaningful dialogue' generating sector-wide interventions and win-win partnerships with key public and private stakeholders. Sector associations²⁹ were established or strengthened (with assistance from BOAM). Second, *business development* saw BOAM develop capacities of private sector processors for business planning, Hazard Analysis and Critical Control Points/International Organization for Standardization (HACCP/ISO) certification, product diversification, and traceability. Business to business (B2B) arrangements were facilitated between 8 processors with export partners and 8,139 beekeepers in out-grower schemes. Four beekeeper cooperative unions (with 19,000 members) were strengthened with management, business planning, and Fair Trade Labelling Organisation (FLO) certification. Transitional beehive technology³⁰ was promoted. Third, to *strengthen service providers*, BOAM helped nine with coaching, outsourcing, and integration into the value-chain to support service capacity development. BOAM also forged partnerships with international organisations like FLO to enable fair trade exports. Finally, for *knowledge development and learning*, BOAM helped develop and share results of innovative pilot projects.

BezaMar Agro-Industry was one company involved. They tested establishing out-grower schemes in 2007/08 with 349 beekeeper out-growers. In 2010 they

had almost 1,000 out-growers. BezaMar trains and runs demonstration sites. With a loan from a commercial bank they were able to provide more services including inputs like hives on loan. Five other processors followed their example, resulting in total export of 298 tonnes of honey over the 2008-2010 period from only 8,193 out-growers.

Though uptake has not been as fast as expected, links are effective. Use of transitional beehives increased by 483%, use of framed beehive increased by 146%, while use of traditional beehives remained constant. Out-grower programmes of the 8 leading producers increased production by 23%, and revenue by 27% (US\$) – or 83% in Ethiopian Birr (ETB) – over the last 3 years. Household production increased on average by 50% over the time, as did their annual incomes. About 10% of honey is consumed by households. The quality of honey significantly improved. For BezaMar this is a cost reduction of US\$0.36 per kg, making it possible to pay out-growers an extra 30-50¢ per kg. With extra income, farmers are able to improve the living conditions of their families and send children to school. Based on its 122% growth in export value and 107% growth in share of the world exports, Ethiopian honey export has been awarded a *star* category by the International Trade Centre for structural performance.

About US\$0.46 to US\$0.57 was spent on each kilo of honey post-purchase for certification, accreditation and renewal, processing, packaging, transport, insurance, and delivery at port in Djibouti. In terms of fairness, honey is one of few sectors that is very inclusive with a large resource base and low barriers to entry. Moreover, with increased use of the transitional hive, women become more engaged (traditional hives are men's business, mounted on trees in forest areas whereas transitional and framed ones are in the backyard).

Links to the rural economy exist, with an extra 72,000 beekeepers experiencing indirect and smaller effects on their income from the training. Though exports seem small in global terms, considering that they are only produced by about 8,000 smallholders, potential for up-scaling is good. SNV and the donors hoped to start a new programme in mid-2012 focussed on commercial financing and building local capacities.

29. Eg. Ethiopian Beekeepers Association; Ethiopian Honey and Beeswax Producers and Exporters Association; Ethiopian Apiculture Board.

30. This increases productivity by 100% to 200% compared to traditional beehives. They can be made of local materials for about US\$5/hive.

ZAMBIA COTTON

CASE 22

Zambia cotton: contract farming with a way to reduce side-selling

SOURCES: WEBBER AND LABASTE, 2011

Dunavant cotton wanted cotton supply for its gins, in a Zambian context of more processing capacity than production leading to much competition for cotton. To capture supply, Dunavant introduced a model of contracting out-growers using local farmers as distributors of inputs, with costs deducted from payments on delivery of cotton. This has apparently much reduced side-selling of cotton.

The cotton farmers involved are mainly small family farmers, in an area of medium potential land, with low population density. Transport costs are often high given long distances, but then cotton is relatively high value to weight.

Cotton is an annual crop, often needing chemicals to defend it against weevils and other pests. The first stage of processing is ginning to separate lint from other matter in the boll. This can be small-scale and relatively simple. A key issue with cotton is quality: notably, dirty cotton lowers overall quality of processed lint.

From the late 1970s until 1994, Zambia's cotton purchasing, processing, and marketing was controlled by the state-owned Lint Company of Zambia (LINTCO). During that period, LINTCO purchased seed cotton from an estimated 140,000 small farmers at a fixed price and extended services such as the provision of certified seeds, pesticides, sprayers, bags, and advice on growing techniques. LINTCO was the principle buyer of seed cotton, the sole provider of extension services, and the sole distributor of inputs on credit.

With liberalisation, LINTCO's role was filled by private companies, Clark (later Cargill) and Lonrho (later Dunavant). These use their own extension agents to advance inputs to growers, with costs deducted from payments for delivered cotton. In the later 1990s additional ginners entered the market and processing capacity exceeded cotton supply. Ginners scrambled for supplies leading to chronic problems of side-selling and default on inputs advanced.

Dunavant entered in 2000, taking over Lonrho. Dunavant did away with the Lonrho model of 800 extension agents on the books which was a major overhead. They recruited distributors who conveyed inputs to farmers, typically around 65 of them, on credit in return for cotton. Paid on commission, they got more the higher the credit recovery rate, with commission going to as high as 21% if there was no default at all.

The distributors were required to be locals and cotton farmers. They were given training in production, but also in credit management. The model worked: within 3 years, Dunavant was recovering 93% of its advanced credit.

Links are apparently effective. Private deals are struck between Dunavant and growers, both in business, so presumably reasonably efficient.

Little is known regarding fairness. It does not seem as though any special effort has been made to include the poorest or most marginal.

In terms of productivity, cotton production and exports increased in the 2000s, but with notable variations. Differing impacts among farmers or links in the rural economy are unknown.

Why did Dunavant's model work? It seems to be a case of incentives at principal-agent level. By paying distributors entirely on commission, incentives are entirely with growers to make the system work. By choosing local farmers, resident in the communities growing cotton, they may have reduced information costs for knowing who was credit-worthy, to monitor performance and avoid side-selling through personal contact. A question this raises is why others did not follow the same model. Clark kept their paid staff.

This suggests that for the dominant companies in the supply chain, it may not be the form that matters, so much as just how it operates and how it is managed.

SOURCES: VAN DEVENTER AND HALLALE, 2009; VAN DEVENTER, 2006; VORLEY ET AL. 2007; SHOPRITE, 2012; EMONGOR AND KIRSTEN, 2006.

Small-scale farmers supply to Freshmark, a big supermarket brand for fresh produce, part of Shoprite. Freshmark began in South Africa, and has since expanded to other countries in Africa. This case has some examples of their working in Zambia, where Shoprite is the largest supermarket retailer. The example is a cooperative in Chamba Valley. Smallholder farmers in Zambia are supplying supermarkets with vegetables such as rape, tomato, impwa (local egg plant), sweet potatoes, onions and brinjals.

In the 14 countries outside South Africa where Freshmark works, it was, in 2009, linked to 358 smallholder farmers. Freshmark tries to source the majority of produce from local producers, negotiating production contracts with some 459 large- and small-scale farmers in South Africa and as well as 354 suppliers in another 11 African countries. Freshmark caters to a range of customers in terms of wealth. In South Africa, the wealthiest group only represents about 14% of the retailer's market – though the rent value is about 22% of market value. At the lower end of the market there are people who earn only 900 rand (119 Euro) a month, representing roughly 34% of the market. In Zambia, Freshmark buys fresh fruits and vegetables from local producers, mainly large-scale (90% of produce in Freshmark's Zambian operation is sourced from large-scale farmers), but some smaller scale – especially the more affluent – and some who negotiate through cooperatives. For Shoprite stores in other parts of Zambia, arrangements are made for local farmers to supply fresh vegetables directly to the stores – the model sounds comparable to the SPAR cases described in the earlier case study 4. The case here is a Shoprite store in Chipata, 550km from Lusaka.

“Planting and planning together is the key to enable smallholders to enter the market. Planning together – row for row, basket for basket – is very well possible with small-scale farmers. We don't want to plant a hectare full of cabbage, we only want two rows. But we want these two rows every day. Therefore, our suggestion is no full specialization, but a more fine-tuned system that delivers two rows every day, with the guarantee that we will buy the produce. This guarantee enables farmers to intensify production, and it enables us to dispose of a whole variety of products for the customer.”

VAN DEVENTER, 2006

Freshmark have signed a memorandum of understanding with the Chamba Valley Growers cooperative, negotiated via an NGO – the Partnership Forum, based at University of Zambia – to supply rape, sweet potato, and impwa. Suppliers are given posters with pictures of products in real size, so that they can see what the buyer demands. Links appear moderately effective. There were 150 farmers in the Chamba Valley co-op when the Regoverning Markets survey was conducted, but only 15 were supplying to Freshmark. Major constraints cited were lack of irrigation and capital. A model of factors influencing farmers' participation in supermarket fresh fruit and vegetable supply chains in Zambia found four significant factors: the first two were positive – ownership of a tractor or vehicle and labour; while the second two were negative – distance from the farm to an urban centre, and membership of a farmer's organisation. Farm size, household head gender and household head age were not significant in their model. That membership in a farmer organisation would reduce likelihood of participation seems strange, but many cooperatives in Zambia were still young at the time of the research (2006), helping farmers access inputs and information but not selling products collectively.

Links may not be entirely fair, with the supermarkets holding the balance of power. Most supply agreements between small-scale farmers and Freshmark are verbal only. This increases flexibility for supermarket buyers – allowing them to change purchase prices according to trends in market prices. Freshmark contends verbal contracts give smallholders more flexibility as they are often not in a position to be able to meet volumes and terms of the type specified in real contracts. Smallholder production can be erratic, particularly if investment in irrigation is erratic. Verbal agreements are not always honoured which builds mistrust between the parties. Farmer interviews revealed they would prefer written contracts. Inclusion of marginalised, poor or vulnerable groups is not clear. Cooperatives are likely to give small farmers a better chance than they would have alone, but there is no indication the most marginalised are included.

Freshmark reportedly helps to equip emerging farmers with the knowledge and skills to produce and meet international GlobalGAP standards, but it seems like this is more the case for larger farms. Shoprite, like SPAR supermarkets in the region, appears to work mostly with farmers who have a few assets and not the smallest.

ZAMBIA RICE

CASE 24

Linking smallholder rice farmers to processors in Zambia

SOURCES: MUFARA, 2009.

SNV is working in Zambia's Northern Province to link smallholders to local processors. SNV helps convene price negotiations between processors and farmer groups. They try to arrange for others, such as banks and input suppliers, to provide finance. They also work with farmers to raise productivity.

Locally produced rice in Zambia has to compete with cheap imports. The Northern Province is remote from Zambia's main markets of Lusaka and those in the copper belt. Roads are critical to keeping down transport costs between the Chambeshi floodplains and rice mills in Kasama. There is a tarred road not that far from Chambeshi but for individual smallholders, much depends on rural access roads. The land is of medium to low potential, but there is flood plain irrigation. Population density is low.

Rice production in Zambia is at the moment a low-productivity enterprise, with few inputs used and poor seed. Processing can be local and small-scale, but costs are inflated by a lack of market for bran by-product. In marketing, quality is an issue. Local rice can have a good aroma, and also trades on local origins, but poor quality rice has alienated some consumers. Nonetheless, rice production in Zambia does appear to have accelerated in recent years, see Figure A8.

In terms of the state of the market, national demand is good and growing, but there is strong competition from imports. In terms of supply, there is a lot of land available that could be used to increase rice production. In terms of competition, rice processors compete with traders.

In this case, seed and fertiliser are apparently commercially provided. SNV provides technical advice. It also helps with negotiations on prices between the farm organisations and rice millers. Furthermore, it has promoted national stakeholder forums on rice, leading to a national rice strategy; though it is not clear how this may have practically improved things.

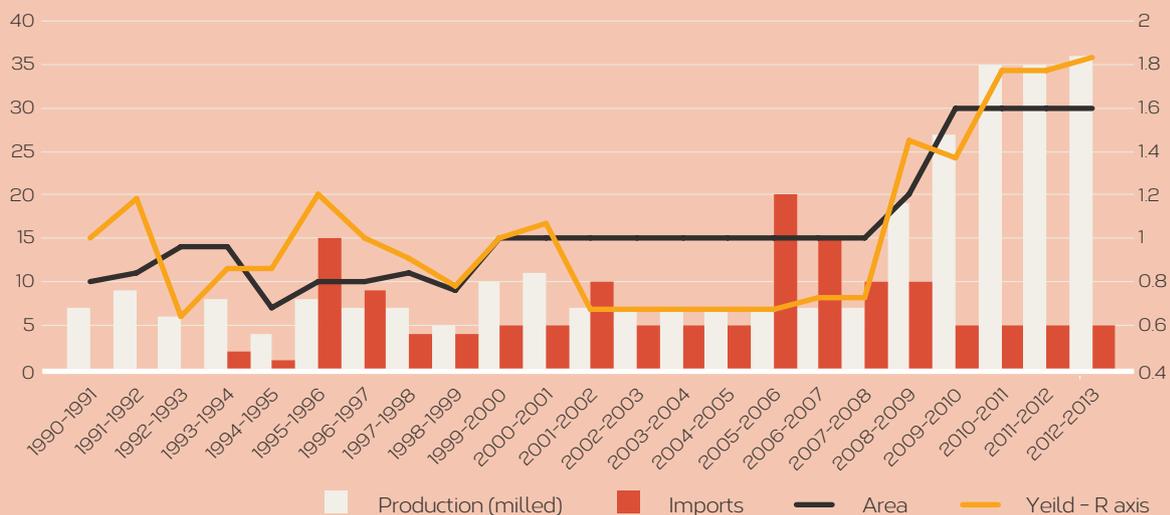
In terms of effectiveness, part of the rice harvest is now sold on direct terms: but more than half continues to be sold to traders. Efficiency has improved but is not outstanding. High costs in production, transport and milling remain a problem, even if the programme has reduced them.

Not enough is known about fairness. SNV sees farmers as expecting margins that are too large. In terms of outcomes, there is some evidence of rising yields, which have improved from under 1 tonne per hectare to 2 tonnes per hectare. Prices achieved are also much higher than those from selling direct to millers. Differing impacts among farmers are not known. Nothing is reported on links in the rural economy.

In conclusion, this seems a challenging intervention, since costs in the chain are so high, they need major reductions to compete with imported rice. This intervention takes place in a relatively remote part of Zambia with few services to hand. While there has been some success, it seems tentative and fragile. Farmers remain far from levels of productivity at which they can compete with imports. Millers are still small-scale. It is not clear that they can improve their efficiency, cut costs and contribute to the development of a sustained domestic rice sector.

Figure A8 | Rice in Zambia, 1990/91 to 2012/13 est.

SOURCE: US DEPARTMENT OF AGRICULTURE FOREIGN AGRICULTURAL SERVICE DATA.



Improved seeds: smallholders out-grower model, Zimbabwe

SOURCES: MAUNZE, 2012; HIVOS PEOPLE UNLIMITED, 2012.

The seed company Agriseeds, with help from SNV, contracted smallholders near Harare to produce quality seeds. They used to rely on commercial farmers with irrigation to produce mostly hybrid seeds, but under the land reform programme commercial farming collapsed. With high quality affordable seeds in short supply, Agriseeds turned to smallholders as a production base, and approached SNV to facilitate a smallholder out-grower scheme. The scheme produced certified sorghum, cowpeas and groundnuts seed. The farmers also receive improved maize seeds to plant for their own use.

In 2010/11, 1,457 farmers participated, with an area of 1,797 hectares, on average 1.23 hectares per farmer. The company decided only farmers with more than 1 hectare were likely to find participating profitable and contracted with farmers who had 1 to 3 hectares. Agriseeds provides a comprehensive range of 'embedded services' including inputs, extension, storage facilities, transport of inputs and produce, and an available market. Over 70% of targeted farmers managed to repay loans, but side-selling was identified as a major constraint. Each farmer on average received inputs worth US\$400 on credit per hectare contracted. Training strengthened contract farmers' understanding of their roles in a business partnership with Agriseeds. The inclusion of the maize component was a major motivation to farmers, as were the provision of a full package of inputs; a dedicated mobile field based extension service; and premium prices paid for seed crops. Farmers earned an average of US\$250 per year before the scheme, and with the scheme US\$800 per year, an extra US\$550 per year. With a total of 3,650 farmers participating (2,200 in the first year), this extra equates to US\$ 2,007,500. For two years links were effective – but Agriseeds was not prepared for what would happen when or if the NGOs stopped providing a direct market and moved to vouchers instead of seed packs. Now Agriseeds competes with other suppliers, but the impact of the connection it had with the NGOs previously has helped its profile considerably. Their attempt to get into the export market has seen some hiccups to date. One of the main issues to overcome is that of side-selling. Proposed solutions (companies are using some) include getting group members to guarantee each other and

using the traditional court system. Other issues included cases of contaminated seed.

Total funding input was US\$1,761,276. Outcomes were positive with farmers increasing incomes significantly from US\$250 per year to an average of US\$800 per year. Many were able to market a surplus of maize as well. They reported using extra money for purchasing assets, starting small businesses like poultry and trading to diversify incomes sources and for schooling children. Furthermore, the programme links to the rural economy, contributing to seed production (by the end of 2009/10 Agriseeds' warehouse was at 110% capacity) meaning an estimated 100,000 households could access quality or more affordable seeds in 2010/11, which should have led to increased food security for at least 600,000 people. Farmers were able to benefit from the demonstration plots even if they weren't involved directly. Four thousand farmers benefited from field days.

The scheme began in year 2009/10. By 2011 the company had 3 years' worth of stock that it wanted to export. It had managed to dispose of this [on domestic markets] by the end of December 2011. Agriseeds plans in the future to continue a similar programme with grain or commercial crops, with a focus on groundnuts. They have secured export markets for groundnuts and would like to maintain a relationship with the good performers from the seed multiplication scheme. Farmers were already growing groundnuts but struggling to market them so the strategy is a good fit.

This case is interesting for working in spite (or perhaps because) of Zimbabwe's flawed rural investment climate which encouraged Agriseeds to look to smallholders as an option. The scheme was tested when the secure market of NGO buyers was removed, but the company managed all the same to sell its improved seeds. It is moving, however, from seeds for the domestic market to out-grower schemes focussed on exports.

While there is apparently a large potential domestic market for improved seeds, this type of programme may not be sustainable – given that it is pausing after only 2 years with talk of moving from a seed multiplying scheme to one growing export crops without providing inputs.³¹

31. "A further development of the idea above could be where a private enterprise offers a contract price for a certain product, leaving the procurement of inputs, growing of the crop and preparation for sale, entirely in a farming community, with no private sector input or production costs. This could not work for seed production, where inspection and isolation is needed, but for commodity crops it will work." (Maunze, 2012)

ZIMBABWE AGRO-DEALERS

CASE 26

Reviving agro dealers in Zimbabwe to provide inputs and services

SOURCES: SIJBENGA AND OVERMARS, 2010; DHEWA, 2011; IFRTD, 2012.

To revive rural agro-dealers in Zimbabwe, SNV developed the Rural Agro-dealer Restocking Programme (RARP). A pilot in 2009/10 extended into phases II and III. Agro-input supply collapsed in Zimbabwe following a decade-long recession. Farmers became used to donor input hand-outs, but these undermined local input markets.

RARP was designed in light of other programmes involving agro-dealers (e.g., CARE's AGENT programme) which had shown agro-dealer default was low given good selection and training. Three key constraints were tackled: one, rural agro-dealers lacking financial capacity to stock their shops; two, suppliers a) with few finances to support agro-dealers, and b) adverse to financing agro-dealers without a guarantee; and three, agricultural extension support unavailable at agro-dealers. RARP ran from August 2009 - end July 2010 with a team including SNV staff and two Local Capacity Builders (LCBs). It encouraged agricultural inputs suppliers to place consignment stock in rural retail outlets by providing insurance. A relatively small investment of US\$12,500 mobilised resources of nearly US\$545,000. RARP's business model was based on mitigating risk for wholesalers and other chain actors. Types of help included: first, for wholesalers, developing viable business models and staff training to deal with small businesses; and second, for agro-dealers, training and mentoring on proper retail business management systems, and putting up a small insurance of which they were not made aware.

The pilot involved 71 rural agro-dealer shops for seeds, fertiliser, chemicals, and farm tools. Seven hundred tonnes of seed and fertiliser each were sold, with a total value of US\$390k. In the 2010/11 season the pilot was scaled up to cover the whole country, with further support from donors. At this stage, different development organisations talked of the market based input provision model as more sustainable in the long run than the free input hand-outs promoted by donors and government departments. RARP II³² began in October 2010 with objectives: to enhance rural farmer access to agro-inputs by reviving a link between rural agro-dealers and wholesalers; and to achieve household food security and boost national food security. Three companies were insured with 4 policies each for a total stock value of

\$453,500. Over 6 months this cost US\$12,500, 2.8% of the input value. It led to restocking 71 rural shops in 3 provinces with inputs valued at nearly US\$540k. There was zero default on the part of agro-dealers. Overall in RARP II, wholesalers were insured for US\$5,000 worth of inputs per shop, in total US\$112k worth of insurance. This mobilized sales worth US\$9.3M, a leverage factor of 85 times. Default risk is borne by the donor. It is not clear how much marginalised groups were included, though 22% of the agro-dealers trained in RARP II were women.

Funders (development agencies and government) plan to exit after phase III, but it is too early to judge success. RARP III is based on facilitating agri-business intermediaries to deliver products and services to smallholders more cost effectively. There will also be an element of output marketing in RARP III that evolved because RARP I and II were so successful. Production increased in the rural areas and is expected to have had a positive impact on food security. The RARP pilot led to a significant improvement in farmers accessing inputs. Given approximately US\$100 are required to sustain an average farm household (6 people) and provide sufficient income to buy agricultural inputs in the following season, with US\$387,899 worth of inputs sold, a back of the envelope calculation suggests over 3,800 households were potentially supported by RARP.

From RARP II: an estimated 113,800 smallholders accessed inputs³³; 659 agro-dealers linked to wholesalers and received inputs at consignment base in 2010/11 season; 469 agro-dealers trained nationwide in retail business management (104 women - 22%); 560 agro-dealers were mentored via 12 LCBs; and crop product guides for maize, groundnuts and sorghum, and input product promotion distributed via agro-dealer shops.

For a countrywide programme, SNV reports a loan facility for the wholesalers would help to expand the programme (because the wholesalers can get consignment stock from input manufacturers with their own cash but in limited amounts). It seems replicable where small rural shops are credit constrained, particularly where there is a strong demand.

32. With support from DANIDA (approx \$13,700 for capacity building and \$68,500 for a revolving fund); FAO (Provided initial \$50k for SNV value-chain innovation and \$75k to support up scaling via the first phase of agro-dealer business training); HELP (Germany) provided vouchers for vulnerable households though selected wholesalers participating in RARP II and the agro-dealers, also provided insurance costs of around \$100k); and SNV supported by leading the implementation and coordinating the partners

33. Average of \$82 worth of inputs per farmers. This is below the \$100 level of inputs reportedly required for sustainability.

Tanzania: market opportunities for small-scale cassava

SOURCES: MDOE ET AL. 2011.

Cassava is a staple crop in Tanzania, contributing about 10% of average per capita caloric intake (FAOSTAT). The aim of this programme was to encourage farmers to produce more cassava at higher yield and to ship better quality material to buyers looking for cassava for wheat flour substitute and as cassava flour itself.

Cassava is grown in Tanzania at low yields, often less than 5 tonnes per hectare, mainly for sale as wet cassava or processed by artisan means into low quality flour. Nationally, average yields of cassava in Tanzania declined from 1990 to 2010 - from about 13 tonnes per hectare in 1990 to about 5.5 tonnes per hectare in 2010 (FAOSTAT).

The aim here was to supply processors making higher quality cassava flour that can be sold as such, or else used to substitute for wheat flour in bread making.

Farmers involved were in two parts of Tanzania, one coastal and the other inland. Three villages in each of Mkuranga (70km south of Dar es Salaam) and Morogoro Rural Districts were involved. The aim was to form producer groups that could then negotiate contracts with processors, while improving production and processing to meet quality standards. The programme also included lobbying to reduce restrictions on use of cassava as a commercial crop (regulations on sale of cassava apparently deterred commercial sales) - seen to be old food security rules.

While more cassava was sold over the programme period, gains were minimal. At the time - from 2008/09 to 2009/10 - the cassava price rose owing probably to general inflation. People planted more cassava, harvested more and achieved higher incomes - but with little increase in net incomes.

Comparison of targeted households with control groups showed few differences in trends. Little information is given on impacts on different categories of farmers.

Links failed as the programme failed to connect growers to buyers.

Work was reportedly formulaic, without much sense of what buyers needed:

Producer organization remained poor and a lack of accurate market intelligence was a continuing issue. Widely employed models of group 'sensitization' and 'mobilization' followed by training in organizational issues would seem to be seriously lacking in producing real outputs and emphasize the need to evaluate programmes on outcomes rather than procedural indicators based upon the completion of project activities.

Many value chain development practitioners are far more comfortable in dealing with producers than downstream actors such as processors and retailers. In this case the failure of the team to include a major potential buyer of processed cassava in the value chain analysis resulted in adopting an inappropriate processing model, which, had they succeeded in implementing it, would not have consistently delivered a product of the quality required.

MDOE ET AL. 2011.

This is a failed intervention. It involved too little understanding of the value-chain, and worked with producers in a formulaic rather than flexible way.

NIGERIA FERTILISER

CASE 28 Nigeria fertiliser: PrOpCom

SOURCES: PROPCOM, 2011A, B, C; NOTORE WEBSITE (2012).

Promoting Pro-Poor Opportunities in Commodity and Service Markets (PrOpCom) was a DFID-funded project in Nigeria, addressing issues of fertiliser access for smallholders in Nigeria. At the time, Nigeria's government aimed to provide subsidised fertiliser, but this was problematic in practice as it didn't usually happen, and the system prevented private fertiliser sales. Fertiliser companies (of which there are about 5 large players in Nigeria operating effectively as a cartel with huge barriers to entry for others) expended most effort trying to sell to the large single buyer – the government – and effectively ignored other markets. For instance, the largest fertiliser blending plant in Nigeria, TAK Agro, sold 20% of its supply to the open market and 80% to the government in 2008. In theory, government subsidised fertiliser should cost farmers something like 60% below the official market price, but in practice it ends up costing almost the same owing to informal rules and social patronage. Smallholders, mostly subsistence growers, typically don't use fertiliser for three reasons: lack of money, lack of access, and lack of knowledge on proper application – with lack of money being the most common. Subsidised fertiliser was unreliable in timing and often unavailable for reasons including patronage. Market fertiliser was available only in 50kg bags, beyond the means of most smallholders. Sometimes traders open bags to sell smaller quantities, but fertiliser sold this way can be ruined or adulterated; and farmers are not keen to buy it.

There are some state funded rural extension agents, but few, and often poor farmers don't get the inputs or information they need from VEAs (Village Extension Agents). PrOpCom was set up to get around the issue of corrupt distribution channels. PrOpCom refocused private fertiliser companies' sales efforts on selling small, affordable packages of fertiliser directly to smallholders in remote areas rather than selling strictly to government buyers. The companies were also encouraged to provide farmer training.

PrOpCom, designed over a period of 2 years, began a pilot in April 2006, before scaling up to full implementation in April 2008. Full implementation ran from April 2008 to December 2011. In this scheme, Village Promoters (VPs) (a team of local farmers trained by the Notore Agricultural Services Department)

sell small packs (1kg) of fertiliser (urea and NPK) to farmers in their surrounding communities. They use demonstration plots to educate farmers on best use of fertiliser and best farming practices. The small packages mean farmers can afford them individually and don't have to buy from opened bags or coordinate with neighbours to buy larger packs together.

PrOpCom's VPs, located in most Nigerian states, underwent training delivered by the Notore Agricultural Services Department. Most are in areas where access is poorer, rather than near to the coast, and many are in the North. They were to empower Nigerian farmers with the right education and the use of inputs (fertilisers and improved seeds) to enable them produce higher yields per hectare, increasing incomes. Training began in January 2011, in more than 400 locations across Nigeria.

Links seem to have been effective in reaching a large number of farmers and increases in productivity for participating subsistence farmers were noted: "By the end of the project, in total, 4,279 metric tons of fertiliser, sold in small-packs, were purchased by 1,003,418 farmers in 25 states across Nigeria. 211,872 farmers received training in fertiliser application techniques. The total net income increase by October 2011 was estimated at N1,389,043,959." (PrOpCom 2011³⁴)

In terms of inclusion, the programme is designed to allow farmers previously excluded to access fertiliser, but it is not clear the extent to which various marginalised groups are accessing inputs via PrOpCom. The programme links to the rural economy, provides an extra source of income for VPs – who may not be farmers. For example, one teacher who also works as a Village Promoter, sold over 10,500 small packs of Notore fertiliser, earning N210,000 (GBP840) in net profit in just four months and significantly boosting his modest teaching income.

PrOpCom appears remarkably simple and effective. It corrects a failure in the government and market systems, and is more efficient than alternatives. It helps that demand is high and the alternative supply routes so convoluted that often they provide no competition. The project was also carefully designed, with over five years in the field.

34. At the 2012 exchange rate that's something like 5.4 million GBP.

Tanzania horticulture: Mara Smallholder Horticultural Project

SOURCES: MAFURU ET AL. 2007.

The Mara Smallholder Horticultural Project (MSHP), begun in 2002 in Mara Region, has mobilised small-scale farmers into networks and linked them to the high-value markets of the Serengeti National Park tourist hotels and camps. One objective of the hotels is to discourage illegal hunting in the park, so they are keen to help farmers in the vicinity improve income through horticulture.

Government policy encouraged horticultural crops as did farmer extension centres and district agricultural and livestock development offices (DALDOS). Demand for horticultural crops has increased with urbanisation and growth in tourism and mining. Hotels demand more vegetables of a wider variety. Smallholder groups, apparently with little experience of prior cooperation, have formed to supply the hotels. One advantage of the smallholder model is that smaller quantities can be delivered, ensuring freshness. Deliveries need to be coordinated though to avoid problems with oversupply.

Hotels require the crops to look clean and be free of poisonous chemicals. For the most part, farmers use manure in place of chemical fertilisers. Irrigation is needed to produce three crops in a year instead of just two. Various organisations provide support. The Mogabiri Farm Extension Centre (MFEC), specialists in agronomic practices, supplied finance for inputs or implements as a loan. Some inputs were obtained on credit; the remainder purchased from input shops in urban centres, where prices were the same. Farmers were also encouraged to establish savings and credit cooperatives (SACCOs)—to enable them to access soft loans from the banks. Three major chains supply seeds, agrichemicals and a few implements. Shops in town are the major distributors to farmers, supplying inputs related to tomato, white cabbage, onion, and from 2004, new crops like kale, carrots, cucumber, spinach, and more. Diversification was part of the MSHP scheme.

Small-scale farmers are organised in two networks of about 55 farmer groups: Balimi and Gorong'a. These groups help with marketing, getting inputs, training and accessing loans. In Balimi, farmers market as a group, while in Gorong'a they continue to produce and

market as individuals in local markets. Balimi began in 2003 with three groups, and in 2007 consisted of nine groups, around 100 farmers. Balimi farmers receive orders a week in advance, with a vegetable marketing committee determining who will produce what, and keeping a record.

Links appear to work. Marginal returns are high: selling tomatoes to local markets, farmers' gross revenue per acre per season would be US\$700, while farmers selling to hotels could get US\$1,120 for the same quantities. Fairness may have improved as farmers have more collective bargaining power and can work on and build up relationships with buyers. Supplying hotels is a win-win because producers get higher prices, but hotels still get their supplies at lower prices than when they were sourcing from Arusha, Tanga, and also South Africa.

After four years, the farmers' economic opportunities increased. Input credits, irrigation facilities³⁵, and the number of groups also increased. Network farmers make higher profits than non-network farmers by selling to tourist hotels and camps. They have also improved their production calendar to coincide with different high-demand periods in local markets and tourist hotels and camps – thus earning more.

There are now new horticultural products in the area, and consumption of fruit and vegetables by the farmers' families has increased. Some of the families have opened bank accounts. There is, however, little information about differing impacts among farmers, and the extent to which vulnerable groups might benefit is unknown.

This scheme, while requiring a large initial investment, did not need it to be maintained. Farmers in groups and networks have benefited, as have the buyers. It is not clear how readily such a scheme might be scaled up, as much depends on demand from tourist markets. Its integration of the innovation into existing local structures reportedly helped. For instance: 'The current districts' structures already have all the required staff except market development experts, who can be contracted from other local institutions.'

35. The number of treadle pumps increased from 9 to 26 and the number of shallow wells increased also.

BENIN BURKINA FASO MALI COTTON

CASE 30 Benin, Burkina Faso, Mali cotton producer organisations

SOURCES: NELEN ET AL. 2012; OECD; 2006; VAN DEN BOOGAERDE ET AL. 2005; GONGO, 2011; REUTERS, 2011; SIMPSON AND KATZ, 2011; ALSTON ET AL. 2008; KAMINSKI ET AL. 2009; DIA AND TRAORE, 2011

West African cotton is produced in the main cereal belts, in rotation with cereals, which benefit from residual fertiliser effects. It is rain-fed, commonly produced on small plots of 2 to 3 hectares. Despite considerable production and ginning, less than 5% of lint is processed locally to textile; most is exported. This case focuses on Benin, Burkina Faso and Mali, where over 7M depend on cotton for their livelihoods. Before the mid-1990s, state control was common; parastatals distributed inputs, ginned, marketed and set prices. Pressure to liberalise led to a shift. In the 2000s, the three main participants (farmers, lead firms for ginning and trading, and public agencies – often influenced by donors) created cotton boards or ‘inter-professions’ to replace parastatals. Private companies or ginners provide inputs and technical knowhow, while issues to do with land are addressed by public services. The form of liberalisation varied across countries. In Mali, farmers have their own auditing service centres, farm credit banks, and extension. Benin developed a model of private ginners regulated by the inter-profession. A powerful conglomerate of companies dominates input delivery (100%) and ginning (more than 90%). SNV puts it: ‘it took Benin 18 years to transform from state to *de facto* private monopoly.’ The governments of Burkina Faso and Mali opted for local monopolies and maintain strong regulation. Burkina Faso was unusual in making the build-up of farmer organisations the first step in reform instead of prematurely introducing competition.

SNV began a scheme with a local cotton co-op in Burkina Faso which began accessing services for its members in 2001, and the pilot was expanded in 2005 to several second degree co-ops. Educated young people living locally became a network of farmer-trainers and supervisors, funded by cotton revenues. A reported 360 village co-ops in Burkina are now using this approach with an outreach of 9,000 farms; and in 2008 the model expanded to Benin (3,400 farms) and Mali (1,000 audited farms). Production costs were monitored so FOs could judge fair price bands in negotiations. The FOs in the SNV case appear to have negotiated better prices and arranged good access to inputs, technologies and so forth for farmers. In 2010, producers were able to negotiate an increase in the farm gate price by 15 FCFA per kg – a 9% increase,

amounting to an extra 6M Euros in revenue. SNV (2012) explained: ‘In countries like Mali and Burkina Faso the concept of minimum prices, announced at the beginning of the growing season, determines production investments. In the 1980-90s cotton prices for farmers were low, with farmers getting $\geq 55\%$ of the trade price for cotton-lint, but growing to $\leq 70\%$ in the 2000s. The rise was a direct effect of the increased negotiating power’. An evaluation in 2011 showed featured farmer groups in Burkina Faso grew profits over 4 years in spite of limited public extension services and (on average) falling cotton revenues. For those in the featured groups, cotton and maize yields rose, as did gross profits—growing from 67k to 171k FCFA per hectare (155%) for cotton, and from 37.5k to 153k FCFA per hectare (300%) for maize. In terms of links in the rural economy, involvement in cotton organisations has led to improvements in other value-chains including cereals, sesame and shea. SNV says the development of maize chains is a key example, as 30 to 40% of cereals come from cotton belts. SNV also found evidence that involved farmers had better food availability and family revenue management, with household heads paying more attention to needs of women and children.

For FOs more generally there are issues in price negotiating. When cotton prices spiked internationally, many farmers saw no windfall³⁶. Liberalisation created a vacuum which has yet to be filled entirely satisfactorily by the new system. Where they exist though, cotton FOs have succeeded in tackling some of the issues that came with the parastatal dismantlement. They have negotiated better prices for their members than average prices received, and they enable farmers to access inputs and services. In some areas they are at a disadvantage – particularly in ensuring farmers attain better or fair prices in situations where cotton companies are not transparent about their costs. FOs need more information to be able to negotiate effectively, especially in instances where they are trying to please farmers as well as companies.

A key point related to scaling-up is maintenance of scale – price incentives to get farmers to invest in production and maintain scale are necessary.

36. Large groups of farmers in Burkina were paid 160 FCFA per kg in 2009/10 when the price on the world market was more than 2kFCFA per kg. In 2011/12 the cotton industry association offered only to pay 245 FCFA per kg (Reuters, 2011). A reported 8,000 farmers (regional growers union) were refusing to plant in 2011/12 because prices were too low. Farmers wanted 255 FCFA(\$0.55) per kg.

SOURCES: LINKING LOCAL LEARNERS WEBSITE, ACCESSED 2013; LIGHTFOOT AND SCHEUERMEIER 2012.

Linking Local Learners (LLL) is an initiative pioneered by Pride Africa, an NGO based in Nairobi, with funding from IFAD and Switzerland. Of all the cases, LLL represents perhaps the most determined and radical attempt to set commercial terms for staples marketing. It operates across East Africa, sometimes in remote areas. Indeed, LLL may work better in remote areas where contacts to buyers are weakest.

LLL establishes local brokers (or Information Board Managers, IBMs) linked to district, regional and national hubs. The hubs, using web sites and text messages, provide the broker with information and contacts for marketing. The broker then sets up deals between buyers in distant markets and local smallholder groups. Brokers then work with farmers to make sure that consignments are assembled to schedule, quantity, and quality; then packed and transported to the buyer. Brokers are paid a commission based on the value of sales: they have an incentive, then, to get the best deal for the farmers.

Transparency is stressed. The broker shows farmer groups how their price relates to the buyer's offer, and how much the broker takes. It includes a secure transactions system, through which farmers can be paid as they deliver their bags. Bags are tagged and coded so that any problems can be traced. A website allows for peer-to-peer exchanges of experiences. Village IBMs or brokers are making money from acting as distributors to national manufacturers and wholesalers: agricultural inputs, water tanks and filters, sprayers, tea, flour, animal feed. For national companies finding local distributors is valuable.

The type of enterprise varies, but generally, staples are the crops being traded. This case is primarily about marketing. It is about getting better prices for farmers, with more trust in the system. This may also include storage, with better-run village stores for less spoilage. The product being produced is also likely to be improved in the process, with farmers seeking inputs and technical assistance: but this is a side-effect rather than the main thrust of LLL.

Over the last year, twelve trader networks across Kenya, Uganda and Tanzania have conducted some eighty deals benefitting over one thousand small farmers. Farmers get an average of around 15 to 20% more money than if they sell through alternative channels. This translates to a bonus of around US\$5,000. Value-chain efficiency has been brought up to 80% with costs per deal being only about 20% of total deal value.

In terms of links in the rural economy, in one case from Tanzania's Southern Highlands there was evidence of a farmer group that had earned much more with LLL than previously. Villagers are rebuilding their houses using fired bricks and tin roofing; the number of children attending secondary school has jumped from 4 to 17 in the past few years. A feature of LLL is the intensity of learning, promoted through peer to peer exchange of experience, through web accounts of experiences. These include some frank and convincing accounts of the difficulties of doing business in rural East Africa, and how those involved have coped with dangers and setbacks.

This case illustrates the advantage of working on commercial relations from the beginning. It is excellent for examining the detail of why things may not work and looking for ways to get the trust and stability into the system that can allow business to be done. It is ambitious trying to replace local traders with brokers. Challenges are formidable: so much can go wrong. On the other hand, there is some evidence from the web site of energies being put to use to make things work.

How far can this go? Is there the possibility that East Africa will see networks of hundreds of brokers who handle, say, 20% or more staples marketing? Or will they be bypassed by buyers who have developed contacts, by farmers groups, and by traders who cut their margins to compete? Much depends on individuals, plus their ability to use ICT to make detailed procedures that underpin deals agile. Will venture capital enter the networks and provide a further stimulus to trade, storage and input dealing? This is one of few cases which describes in detail all that can go wrong, and how recurring problems can be addressed. It is one of the most radical attempts to improve staples marketing seen so far.

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