Investing in African Value Chains – Case Studies from An Irish Perspective

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Irish Forum for International Agricultural Development (IFIAD)
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1 INTRODUCTION

This paper is aimed at Irish firms or social enterprises that may be interested in investing in the agri-food sector in Africa with a view to strengthening their supply chains or market presence. It may also be relevant to organisations such as NGOs active in agri-food in Africa with networks or links to smallholder farmers.

The Irish Forum for International Agricultural Development (IFIAD) was established in early 2016 as a voluntary, multi-disciplinary platform to share knowledge and good practices, capitalizing on Ireland's excellence in the agri-food sector for the benefit of development programming and policy, in support of Ireland's development objectives.

In its first year, IFIAD set up a number of thematic working groups to focus the attention of the forum members on key topics in agriculture. One of these was the concept of *whole value chain development*. The group was mobilised in 2017, and set out as its own purpose, to consider what Ireland can offer in respect of approaches and experience of value chain development, and to ask the question, can we influence value chain development in the Ireland-Africa context by identifying some of the best principles of this approach, so that its effects can be sustained and replicated?

During 2017 and 2018, the working group analysed how some companies with strong Irish interests invested or traded in agriculture and food in developing countries. We are interested in what lessons can be learned when a value chain approach is adopted – challenges and opportunities, obstacles and benefits.

The purpose of this paper is to summarise the experiences of some of those firms, as well as capturing some principles from subject literature and other sources. Whilst every case is different, our intention is to encourage other firms and organisations to examine the lessons that might be learned from the experience of those who have used a value chain approach in the agri-food sector in developing countries. We focus in particular on Africa, but the same principles apply globally.

DEFINING VALUE CHAINS

The "whole value chain" approach to analysing organisational performance has been a topic of business literature for more than three decades. Michael Porter's value chain work[i] saw manufacturing or service organisation as a system, made up of subsystems, each with inputs, transformation and outputs. This approach helps firms and organisations to analyse specific activities in the chain through which they can add value and create competitive advantage.

Taking this approach in the context of the agriculture and food sectors in developing countries, specific subsystems – growing, storage and transport, post-harvest conversion, processing, marketing – can be viewed in relation to the whole value chain in which they exist. This may allow the identification of opportunities for creating greater value and income at each stage. By implication, it changes the basis of interaction from a set of *transactions*, to a set of *relationships*.

Approaching agri-food development issues using the whole value chain concept can help participants realise the benefit of a longer-term set of relationships with other parts of a value chain.

FAO's 2014 document *Guiding Principles for Developing Sustainable Food Value Chains* defines them as:
"*the full range of farms and firms and their successive coordinated value-adding activities that produce particular raw agricultural materials and transform them into particular food products that are sold to final consumers and disposed of after use, in a manner that is profitable throughout, has broad-based benefits for society, and does not permanently deplete natural resources*."[ii]

How is this different to traditional supply chain relationships? Some of the key words in the above sentence that differentiate a value chain approach are "*value-adding*", "*profitable throughout*" and "*broad-based benefits for society*". In traditional supply chains, relationships are transactional and price-driven, and buyers and sellers are independent and even isolated from each other. In well-integrated value chains, buyers and sellers have a greater level of inter-dependence, and as a result, what is beneficial to one part of the chain will also have an impact for other actors. It is therefore in all participants' interest that all links of the chain are effective, profitable and sustainable.

The FAO definition also includes a vertical co-ordination or governance factor in at least part of the chain. This implies a co-ordinating role through the most powerful actors in the chain – usually the largest processor, brand owner, or in some cases retailers, like supermarket multiples. There may be a role for external actors to help create this co-ordination, for instance government, donor agencies or NGOs.

Finally, it also means that the value chain incorporates a wider range of people and institutions than farmers and processors – possibly including traders, transporters, distributors and market operators; input suppliers and ingredient manufacturers; financial, communications and ICT services; and sources of applied innovation, both public and private. For example, we have seen activity in agri-food value chain development from mobile communications operators, commercial banks and credit co-operatives, fertilizer, agro-chemical and seed companies, NGOs and donors of all size, government agencies and multilateral agencies. A further point to note is that women farmers and female traders are often invisible in the work they do in value chains, yet they contribute enormously to value chain output and scale. Gender and inclusion issues should not be overlooked in value chain development, if value chains are to benefit rural populations as gender issues can shape the production, distribution, and consumption patterns within an economy.

IN PRACTICE

Consider commodity food crops in Africa – maize, rice, wheat, cassava, sorghum and others. Typically, farmers sell at market or to intermediary traders/middlemen; they may have limited information about market prices, limited alternatives to the buyer available to them, limited storage capacity and a perishability window, have no ability to transport produce to a marketplace, and be entirely dependent on the cash that will be generated from these transactions, so under pressure to conclude a transaction. Most of the power is with the buyer, and the seller has few alternatives.

From the buyer's or processor's perspective, this model is also imperfect – while it may deliver lower input costs (though that depends on the number of steps in the chain and relative strengths of intermediaries), the buyer has limited or no visibility on origin, due to aggregation without data capture, and lacks whole chain quality control. Quality assurance will be limited to input testing, rather than the preventative approach that is possible with a stronger set of value chain relationships. Reliable supply depends on purchasing at the right time, rather than having guaranteed and strategic supply relationships. The buyer, in effect, may also become a victim of circumstance.

With a value chain approach, a processor realises the benefit of a deeper set of relationships and acts accordingly. This could mean a variety of actions, for instance:

- providing access to inputs, including seeds and fertiliser;
- training and advisory services;
- guaranteed off-take under long-term supply contracts;
- contract mechanisms to deal with price volatility or other external shocks;
- framework programmes for producing to certified quality standards;
- co-investing in shared equipment or infrastructure;
- access to credit to finance expansion or working capital;
- support the application and use of ICT to benefit productivity and sustainability;
- support for the development of producer groups or co-operatives to boost aggregation, improve quality standards and deal with perishability;
- changing the business model, for instance to incentivise different behaviours in farmers, traders, aggregators, sub-processors etc.

As to the processor's business model, the processor spends more effort, time and money in developing the supply chain, and investing to support reliable and higher-quality supply. The commercial return on this effort is around at least three key aspects:

- *Inputs* – better quality, uniformity and reliability of supply, and better forecasting ability;
- *Traceability* – long-term relationships enable producers, intermediaries and processors to agree and act on standards and to capture relevant data to enable traceability;
- *Marketing* – processors, especially finished goods producers can benefit through communicating their value chain approach, and by demonstrating the social and sustainability impacts of their supply strategy.

Socio-economically, this approach has many advantages. As it is built on having a corps of capable long-term producers, it encourages specialisation and scale, leading to opportunities for higher farm incomes. It builds skills, both agronomic and business. It can be oriented to help lessen the impacts of short-term shocks and price volatility. It can help to create new commercial entities locally and better service delivery to rural communities, and a local infrastructure that is better equipped and ready for further investment and growth.

A value chain approach can include also initiatives to incentivise female or youth participation, or indeed to reduce child labour. Gender inclusivity is particularly important where suppliers include smallholders. Research[iii] demonstrates the commercial benefits that accrue from sourcing from women farmers and ensuring that support activities such as training and extension services include

women. It has found that women are less likely to benefit from the value chain activities of global buyers than men, for a variety of reasons:

- fewer women are members of company contract farming schemes than men
- women are typically underrepresented in both the membership and governance of producer groups
- on male-owned farms, female family members do much of the work, yet receive little of the income from crop sales
- women are much less likely than men to benefit from technical training and extension schemes
- women are typically underrepresented in certification schemes.

Specifically including women can improve crop productivity and quality, increase the smallholder supply base and improve access to high-value markets. Further reading on this topic is suggested in the accompanying list (Annex A).

VALUE CHAIN CASE STUDIES

From the point of view of an Irish company or social enterprise interested in doing business in Africa, there are different scenarios under which a value chain approach might be relevant:

- Sourcing inputs and ingredients to manufacturing in Ireland and elsewhere.
- Sourcing and manufacturing in-market to sell in-market or to regional markets.
- Establishing farming or other primary production directly (eg fruit and vegetables, poultry, livestock or dairy, or other high-value crop production) where there is an opportunity to create outgrower or other contract relationships.
- Creating new entities in the value chain, such as co-operatives and producer groups, which can open additional commercial opportunity - for instance, a co-operative may be both a supplier and a customer of the farmer.

We now look at three case studies of companies with value-chain activities in Africa. We also describe an example of an innovative service available for value chain development.

VALID NUTRITION[iv]

Company Activity

Valid Nutrition was set up as a social enterprise in 2005 by Dr Steve Collins – a medical doctor and expert on nutrition who has spent most of his working life in the frontline of famine and malnutrition relief.

Valid Nutrition designs manufactures and markets nutritional pastes for the prevention and treatment of malnutrition in the form of Ready to Use Foods (RUF). By increasing the access that malnourished children have to quality nutrition, by empowering mothers within their communities and by promoting local production and supply of RUFs, Valid's objective is to be a catalyst for

sustainable nutrition solutions. Valid Nutrition applies an innovative evidence-based and market-driven approach.

In partnership with Concern Worldwide, Dr Collins pioneered the development of Community-based Management of Acute Malnutrition (CMAM) – a model of care to treat acute malnutrition that moved away from the traditional and low coverage inpatient/hospital model, to treating people in their homes with the support of local clinics and the use of Ready-to-Use Therapeutic Foods (RUTF). These are highly fortified nutritional pastes designed to treat starvation. Following endorsement by multilateral agencies and formal adoption by the World Health Organisation (WHO) in 2007, treatment coverage expanded to the current stage with programmes in 65 countries. In 2017, nearly 4.5 million children received life-saving treatment through CMAM programmes.

The critical change behind the success of the model was the shift from a "supply side" to a "demand side" approach to programming. This is a genuinely disruptive innovation that in turn has created a new global market for Ready-to-use-Foods (RUFs). The market has now grown from a couple of hundred metric tonnes (MT) in 2006, before CMAM was adopted, to over 60,000 MT (valued at more than $200 million) in 2017. The first RUTF was developed in 1997 by French company Nutriset in collaboration with IRD (*Institut de Recherche pour le Développement*), who jointly filed a patent related to an innovative technological process about high-energy foods or nutritional supplements, their stability, preparation method and uses.

Motivation for Developing a Value Chain Approach

Realising the potential for this new market to not only treat, but with additional supplementary foods, prevent malnutrition, Valid entered the RUTF market, to provide a scalable and locally-made solution to compete with imported alternatives – manufacturing in developing countries, for use in those countries. To maximise its developmental impact, Valid aims to source ingredients from indigenous small-holder farmers and local suppliers wherever possible.

With support from Irish Aid and Gorta Self Help Africa, Valid Nutrition started manufacturing in Lilongwe, Malawi in 2007. Since then, over 35 million sachets of RUTF have been produced, enabling treatment of over 300,000 children. In 2013, ExAgris Africa, a UK commercial farming business with farms in Africa, came on board as a Joint Venture partner. ExAgris Africa supplies groundnuts, a key ingredient in the main RUTF product.

The existing RUTF is made under a special license from Nutriset as they hold a patent on the recipe. The product's most important ingredients are skimmed milk powder, peanut paste, oils and sugar.

The main issue with this product is the dependence on imported milk powder, which is a relatively expensive portion of total cost, volatile in price, and a drain on working capital due to trade terms. This posed significant difficulties for Valid Malawi in the early days, leading to a dependence on expensive short-term debt to fund working capital and low capacity utilization in the factory. Valid took three steps to address this:

1. Bringing ExAgris Africa in as a majority equity partner in the Malawi business, which also turned that entity into a full for-profit venture, which makes for easier access to credit.
2. A strategic sourcing arrangement with Ireland's Ornua for SMP, whereby Ornua provides a financing facility and is now the main supplier of powders.

3. An intensive research and development programme, with extensive support from Irish Aid, to devise alternative lower cost recipes that can also be sourced and manufactured more easily in developing countries and regions.

Following a ten-year programme, Valid, together with Ajinomoto of Japan and the Japanese Development Agency, JICA, recently achieved a major breakthrough in a clinical trial of a new RUTF recipe that will be significantly lower in cost to manufacture and will have major benefits in terms of sustainability. They are now endeavouring to get the requisite approvals from UN agencies responsible, to market this recipe.

Furthermore, Valid is now well-advanced in developing a range of additional Ready-to-Use Food (RUF) recipes in supplementary or complementary forms, to tackle other forms of malnutrition (such as chronic malnutrition which affects over 40% of all children in sub- Saharan Africa and leads to stunting). The strategy is to have these also made exclusively from locally available crops such as soya, maize and sorghum, thereby reducing the product cost and consequently, the treatment cost per child. Local sourcing brings major advantages in terms of food security and critically, a developmental multiplier effect to local economies. Ultimately, Valid would like to provide the same nutrition solutions through a range of food formats, allowing it to target all forms of malnutrition through mainstream food offerings, manufactured by the private sector. Funding and engagement of the private sector to drive this opportunity, remain as major challenges however.

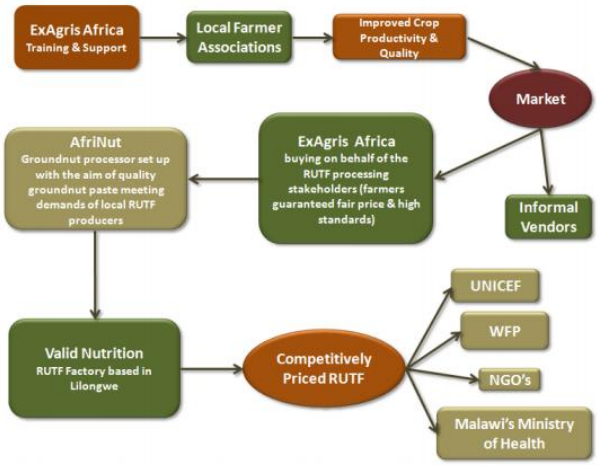
Challenges

In summary, the key issues in developing the value chain for the products over the history of the project have been around:

- Food safety, particularly aflatoxin contamination in groundnuts;
- Mechanisms to incentivize long-term relationships with smallholder suppliers;
- Access to credit facilities for smallholders and absence of sufficient microfinance coverage;
- Access to inputs and dependence on imported inputs, therefore an absence of a local value chain;
- Lack of scale and unreliable quality in supply from farmers – potential solutions lie in producer groups and co-operatives.

The original design of the value chain had a pro-poor groundnut processor (AfriNut) which buys the groundnuts from ExAgris and processes them into peanut paste, to be sold to Valid as an ingredient in the RUTF.

Original Value Chain



A specific market intervention started in 2013, with the establishment of a guaranteed groundnut purchasing programme by ExAgris, with support from Malawi's Ministry of Local Government and Rural Development. The scheme had the following objectives:

1. Increase the average yield of groundnuts produced by the target group.
2. Increase the average price per kg of groundnuts produced by the target group.
3. Reduce per unit processing, handling and marketing costs for both commercial and smallholder groundnut farmers.
4. Identify the key determinants of yield and price in various farming scenarios.
5. Increase availability of and access to quality certified seed.

According to a study by UCC funded by Irish Aid[v]:

"*Through the provision of agricultural extension services good progress has been made towards these objectives. Farmer associations and groups are supported by the extension advisors in the set-up of sustainable seed systems, and train famers in agronomic practices through the use of demonstration plots, field visits and other activities. There are several agronomic practices that ExAgris is promoting through the groundnut out-growers scheme. These include: early planting, use of improved seed, increased plant population, scouting for pests and diseases and control where economically viable for the small holder, fertilizer application and improved harvesting and drying. Associations and groups are also trained in the calculation of gross margins to enable them to estimate financial benefits of additional costs, and to enable them to make comparisons between crops with the aim of them being able to make more informed planting decisions in the future*."

In effect, the value chain development role has been taken over by ExAgris Africa. Valid's staff transferred to the new entity, and Valid continues to provide the food and nutrition science capability, product development, marketing and market development responsibility. The performance of the business has improved, and the Malawi factory is closer to full capacity utilization, with 600 MT a year of output, and the business is profitable.

The Valid approach has had to deal tactically with supply issues, for instance by sourcing supply and trade credit from Ornua and by sourcing additional nut paste from abroad (Argentina) to deal with

quality and aflatoxin issues. However, the value chain now is much the same as the original design above.

DIAGEO[vi]

Company Activity

Africa is an important and growing part of Diageo's business. The company has had a long history in Africa, with trade links over 100 years old and going back to the construction of the first overseas Guinness brewery in Nigeria in 1967. It now owns and operates 13 breweries in Africa and has a minority shareholding in a South African brewery.

Diageo considers itself different to many other multinational companies in its African business in that it makes, manufactures and sells in Africa. Others are doing more sourcing/extraction for processing and marketing elsewhere. Diageo's proportion of local sourcing of agri products in Africa is 76%, sometimes over 80% depending on availability. There is a publicly-stated target to exceed 80% by 2020.

Motivation for Developing a Value Chain Approach

Participation in African value chains for supply of ingredients has becoming an increasingly important part of its strategy, for a variety of reasons – sometimes the intermediaries did not exist as in other markets; it also gives a strong opportunity to take advantage of quality local raw materials, to better manage costs and to reduce forex risk. It also opens the opportunity to produce a local product for the local market, and therefore a more complete product portfolio.

A prime example of the value chain approach is in Ethiopia, where since 2013, farmers in the Oromia region have been supplying barley to Diageo's Meta Brewery. This started with 800 smallholders, supported by the company's Sourcing for Growth (S4G) platform. By 2016, around 6,000 farmers were involved, with a potential total of 20,000. Meta provide a contract which sets out a price, scope of support and pre-financing, and through NGO partner, TechnoServe, provide:

- Soil information
- Seeds
- Fertiliser
- IPM
- Pre-finance/credit access
- Crop insurance services

The evaluation work done by Diageo indicates that the project has increased yields (by between 50% and 100% on average on the same piece of land), incomes and income stability. The other key impact has been in increasing knowledge and capability of the farmers individually and at group and co-operative/union level.

"*Key to the success of the programme has been taking the time up-front to understand the needs of smallholders, securing alignment across functional teams in the business and building internal capabilities, ensuring strong collaboration with the Ethiopian government, setting realistic*

timeframes for achieving objectives, and starting small and learning from experience before going to scale."[vii]

The values and benefits are multiple – local brand, local engagement, local GMP (Good Manufacturing Practice) and a variety of other business benefits, for instance, insulation from foreign exchange volatility. It also pulls more consumers into formal markets, which reduce health risks in the case of alcohol, as well as delivering more tax income to the government.

Challenges

The key challenge is the delivery of a competitive agricultural base locally, as in effect local farmers are competing in terms of productivity with global suppliers which can deliver a cheaper price per tonne. In some cases, the more intangible values (brand, local standards) is the counterargument to a tangible benefit - lower price alternatives despite the forex protection they enable. Relativities may not necessarily change in future, as for instance, more environmental costs are counted into production costs. For example, the local embedded water use cost may be higher than alternatives. The issue therefore is yield per hectare.

The largest **obstacle** to the value chain approach for Diageo is the absence or quality of farmer infrastructure – and the lack of mechanisms to develop a relationship with farmers at a scale that will deliver the quantities of inputs required. Co-operatives and producer groups are an obvious part of the solution but are at different levels of maturity by country and even by sector. For instance, the co-op movement in Ethiopia is well-developed. In Kenya, whilst co-ops are strong in products like tea, presence in sorghum is limited. In Ethiopia, Diageo trades with three co-op unions for barley supply to Meta Brewery.

Aggregation through co-ops or producer groups tends to even out supply variabilities and simplifies farmer engagement on a range of topics. However, the firm also needs to have a strong buying function, which understands that supply is a competitive market – increasingly, well-organised food producers have a greater variety of potential customers with the widening of supply chains, for instance selling from Africa to Asia, rather than exclusively to Europe.

Other challenges in developing the value chain lie in access to inputs and finance for farmers. Credit is easier for farm families to get in East than West Africa, thanks largely to the presence of technology and the success of mobile payment platforms like M-pesa in Kenya. This is now a source of credit, and eventually banks risk losing large parts of credit markets to telecoms companies.

Access to credit can also be complicated as many farmers are not landowners, so lack collateral. Also, high interest rates are less material for trading (working capital credit) than for financing inputs, where weather or disease risks make it impossible for farmers to consider borrowing to fund a harvest.

Diageo therefore pre-finances inputs through commercial bank arrangements (where interest rates are cheaper than IFI rates, such as IFC). These arrangements are also dependent on market growth, however, to continue to justify the business case.

The local government is important in providing the enabling environment – for instance in water catchment management. Its role in the national food safety management system is also key for

exporter countries. In horticulture, the biggest issue in food safety is pesticide use and residues. Competent authorities for food safety may lack the capability and capacity in their staff and strategies to gain and maintain market access, for example, the loss of EU market access to Kenya fine beans in 2014. Such losses can have significant knock-on impact on smallholders.

The other enabling environment issues are the gaps in intermediate processing and other inputs. The business case is not there for Diageo alone to invest, for instance in cassava High-Maltose Starch production or in plastics recycling infrastructure. Again, these are areas where public funding could be applied to address market gaps, or de-risk private sector capital investment before markets mature.

In terms of contract farmer standards and certification, Diageo is aiming eventually to develop a smallholder sustainability standard, based on Sustainable Agriculture Initiative guidelines but customised for local application. Ultimately, the limiting factor remains the productivity gap. The issue of payment for ecosystem services is potentially part of the solution (preventing run-off, conservation agriculture, biodiversity) but has not been piloted yet.

At a macro level, greater understanding of inclusive growth models is needed, which would allow public monies to be dedicated to the public good activities, leaving the private sector to invest in the commercially-driven elements, such as farmer training, where this is associated with core business growth. This necessitates policy-level engagement - a challenge for smaller companies and organisations, yet if successful, provides greater opportunity for scale than more philanthropic engagement.

At the local government level, Diageo emphasises the need for joined-up thinking, for instance on the impacts of fiscal policy on inward investment from firms like Diageo, which in turn impacts their ability to generate the benefits in respect of local supply chains and smallholders.

DEVENISH NUTRITION[viii]

Company Activity

Devenish Nutrition is a leader in developing and offering nutritional solutions to the challenges faced by livestock producers and owners of companion and leisure animals. Devenish Nutrition is headquartered in Belfast and has production facilities in Belfast, Widnes and Sheffield, as well as in the United States in Iowa and Minnesota. Through its distributors and worldwide customers, Devenish Nutrition supplies products to over 25 countries. The company is innovative in terms of products and services and offers a range of premixes, pre-starters and concentrates. The company has nearly sixty years of industry experience and is a strong believer in R&D in agribusiness. The company is committed to publishing findings in peer-reviewed scientific papers and booklets for customers, thus demonstrating its commitment to excellence and sharing of knowledge.

Devenish has undertaken a pioneering agricultural development project in conjunction with the Africa Agri-food Development Programme, supported in Ireland by the Department of Agriculture, Food and the Marine and Department of Foreign Affairs and Trade. This project, which commenced in June 2013, has seen the creation of a Devenish Performance Pig Unit and Feed Mill in Hoima, Western Uganda.

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Motivation for Developing a Value Chain Approach

The Devenish Feed Mill is one of the largest specialised feed mills in Uganda. The mill is producing four different types of specialised pig feed - Dry Sow, Lactating Sow, Weaner/Grower and Fattener Feeds. The main ingredients for the finished feed are sourced from local suppliers. Devenish is working with local crop growing groups to encourage them to improve the quality of seeds and harvesting practices of the production of these raw materials. The finished feeds also include Devenish premixes produced in Belfast.

There is a poor selection of animal supplementation on the Ugandan market with most commercial farmers using locally produced generic premix packs to produce feeds for their animals. With Devenish producing a balanced finished product in Hoima, Ugandan pig farmers have access to a premium feed product. Devenish is confident that these feeds will have significant impact on growth rates of pigs and general pig performance in Uganda. Devenish plans to commence poultry feed manufacturing in the final quarter of 2017, which will greatly increase its offering to farmers.

The Uganda start up manufacturing and distribution investment by Devenish was approximately €1.2 M and employs 25 in Uganda. Products are for the local Ugandan market. Almost all inputs are sourced in Uganda and supplements mainly come from Ireland.

The Performance Pig Unit (PPU) is modelled on a standard intensive pig farm in Europe and consists of four pig houses - Dry Sow, Farrowing, Weaner and Fattener. It has the capacity to house 400 pigs at any one time and is expected to generate approximately 1,000 pigs with improved genetics over the course of 12 months.

Challenges

In terms of operational challenges, as for many businesses in Africa, contract enforcement with suppliers of inputs/raw materials is an issue. Devenish endeavours to bring normal certainty of supply through contracts for a year ahead. However, this is problematic given that maize, the key ingredient/raw material, is regarded by both Ugandan farmers and consumers as a currency. Changes in the market price of maize have a huge impact on the cost of living and maize price volatility therefore has a huge impact on the commitment of farmers to supply raw materials for the Devenish Mills at contracted quantities. Thus, price volatility of maize is a very high risk and it impacts directly on security of supply. In the Ugandan environment it is often impractical and counterproductive for an international company like Devenish to attempt legal enforcement of contracts. Devenish does not make up front payments to suppliers but pays in full on delivery to the mill.

Another challenge for Devenish up to recently has been the high rate of Ugandan VAT (18%) that Devenish must charge on sales. Many other suppliers operate in the grey economy and do not account for this tax, thus placing Devenish products at a perceived competitive disadvantage. The VAT rules have now been changed, following successful representations from Devenish, to remove it from feeds.

In terms of supply chain issues, Devenish would like to see more investment and strengthening of producer groups. Devenish's view is that the reputation of cooperatives in Uganda is not positive, so variations on the model may be needed.

In conclusion, Devenish is committed to a presence in developing countries for the long haul and also has operations in Nigeria (mainly poultry), Kenya and Tanzania.

AN EXAMPLE OF AN INNOVATIVE SERVICE TO SUPPORT VALUE CHAINS

SMALLHOLDER FARMERS – TRUTRADE AFRICA[ix]

TruTrade Africa is a subsidiary organisation of Irish NGO Self Help Africa. It is a social enterprise set up to transform the way smallholder farmers access markets. TruTrade's mission is to increase smallholder farmer incomes through integrating them into sustainable value chains. This is done by bringing together the 'supply power' of millions of small-scale producers, to meet local, regional and international market demand. By digitizing value chains transactions TruTrade makes rural agricultural markets work better for farmers, aggregators and buyers.

TruTrade's Market Connect service provides smallholder farmers a reliable route to market and better prices. Farmers are able to retain ownership of produce right up to the final buyer. Their Source Connect service provides agribusinesses and wholesalers the produce they need at the right quality and volume in a consistent and traceable way.

TruTrade leverages the role played by middlemen and traders, and by bringing them into its system, formalizes the role and turns them from independent transactors seeking a margin on each deal, into agents who are part of a whole value chain approach. The agents are paid for produce that meets quality specifications and are incentivised to provide other production services as this will increase the volume of produce they can source.

TruTrade Africa's services include:

1. An online and mobile-enabled trading and payment platform for collaborative supply chain management. This allows for the capture of all costs, analysis of transaction viability and price setting; registration of farmers and triggering payments; and tracking of produce from collection to delivery. The development of the technology platform and digital trading records opens up significant new possibilities for farmer and business credentialing and gives global commodity buyers the ability to connect to their smallholder farmer suppliers.

2. A network of sourcing agents who manage collection points, check and weigh produce and trigger payments direct to farmers. An agent will typically source 20-80MT a season from 40-100 farmers, depending on value chain, area and experience. TruTrade creates business opportunities for more agents to reach more farmers each year. In this way TruTrade is expanding its Market Connect Service across rural areas in Kenya and Uganda, enabling smallholder farmers to engage directly with volume buyers and benefit from economies of scale.

3. Trade finance so that farmers can be paid as they hand over produce at the collection point. Its trade finance covers transaction costs including packaging, handling, storage, transport, taxes and any value addition services up to delivery to final buyer. It addresses the sale to settlement gap which typically constrains market opportunities. When the buyer pays TruTrade the fund is replenished.

TruTrade matches supply and demand and provides a mechanism to move from individual transactions to building relationships along the value chain. Transparency and traceability are key to this. Farmers receive digital payments directly to their mobile money line or bank account. TruTrade manage the logistics of collection from multiple agents and delivery to the processor. The agent and TruTrade earn commission for the service provided. At the end of the season if any profit remains a share goes back to farmers.

The model optimises farm income and provides a way for companies to create shared value in their supply chains. Since 2015, the TruTrade system has handled over 3,000MT of mixed commodity produce worth US$1.7m, sold through over 10,000 transactions. Commodities have included oilseeds, cereals, root crops, tree crops, pulses and poultry. Client buyers using TruTrade include Devenish, Olam, East African Growers, Kirinyaga Flour Mills and Healy Group.

KEY LESSONS FOR IRISH AGRI-FOOD ORGANISATIONS

Whole value chain strategies pursued by large food or agri-business companies investing in Africa are complex and take time and patience to get right. What stands out from the discussions with Irish companies that have undertaken value chain development in Africa is that in all cases, they see strong benefits to an inclusive, relationship-based approach.

Judging success is not straightforward. In some cases, for instance with commodity crops, if the sole return on investment metric used is crop yield-per-hectare, intensive large-scale production in Europe or the US may outperform African production. However, this is counter-weighed by the commercial benefits of local sourcing – greater influence in the supply chain, reduced foreign exchange risk, deeper market participation and closeness to supply partners, and the ability to build a local brand for a local market. Global brands and marketing strategies can also benefit from association with inclusive value-adding activities in the chain – examples from products like coffee, tea and chocolate are well-known.

In the future, value chains will have to take account of climate change adaptation and mitigation issues across the value chain links. Some agri-food value chains may be particularly vulnerable to disruption - for example, climate change is projected to significantly reduce the area in Africa that is suitable for the cultivation of key crops, such as the common bean, maize, banana and finger millet[x].

Issues that come up frequently include:

- Difficulties in building scale and aggregation – particularly for mid-size or smaller investors, who do not have the reach or resources of multinationals to finance long-term initiatives.

- Guaranteeing supply – companies cited the issue of price volatility having an impact on security of supply, even in cases where long-term contracts are in place. In other examples, farmers sell harvests all at once to traders to raise money in advance of a staple harvest like maize.

- Quality – unreliable quality, absence of uniformity and the effects of plant and animal diseases are common issues.

- Inputs available to farmers – absence of quality and/or certified inputs, which may be a problem with the wider enabling environment (for example, the capability of plant protection competent authorities in relation to seed certification and propagation). Absence of good extension services is also a hindrance.

- Access to finance – particularly for smallholders and female farmers, who may have difficulty providing collateral, or affording high interest rates.

Potential solutions to be explored lie in the following:

- Producer groups and co-operative development – as a means of aggregating many smaller producers, providing post-harvest services including processing, grading, washing etc., or in the case of dairy, collection and refrigeration, pasteurisation etc. Groups or co-ops can act as a focus of investment in shared equipment and to regulate quality and extend shelf-life. They are also a means of delivery of extension services, purchasing power for inputs, routes to access a larger number of suppliers and to pre-qualify farmers onto contract or certification schemes.

- Contracts for supply – contracts can help address variability in supply and help to build relationships. Accompanying incentives can improve the stickiness of contract terms and avoid contract obligations being disregarded by producers eg building in some price flexibility into contracts to reflect movements in global commodity or input prices. Parties need to pay particular attention to contracts for female-headed households (who may not own the land or may have husbands who have migrated and cannot sign even though they are unofficially the primary producers). Contracts with women are often a big issue – see **Improving Opportunities for Women in Smallholder-based Supply Chains** in the accompanying list of further reading, which provides business cases and practical guidance for companies.

- Intermediaries – turning middlemen into agents that are incentivised to aggregate, and control quality could deliver strong benefits. This also reduces the potential difficulty of trying to cut middlemen entirely out of the picture by sourcing directly from the farmer and retains the valuable local knowledge of the middleman.

- Addressing issues of quality and disease control – the previously mentioned approaches may all be part of the solution here, as knowledge transfer, mechanisation, incentives and intermediaries all play a role, separately or in a multi-factor strategy. This is a case where investors or processors need to leverage other supports, for instance from government or

national agencies in delivering services and infrastructure to address quality or disease issues.

- Information and communications technology – ICT can be used as an enabling tool for productivity and decision-making, to improve resilience by broadcasting alerts and information on weather events, for sharing price information, for making payments, for delivering advisory services, and as a tool in registering and locating producers for traceability and certification purposes.

- The possibility of concentrating on farmers that can achieve a minimum scale and quality will also deliver results, as it links the relationship to inclusive growth in the whole chain. Trying to work with unsustainably-small producers will damage the value chain in the longer term.

- Incentivise female participation – women smallholders are often regarded as producing better quality output but may be excluded due to ownership or cultural constraints. Finding ways to include women in supply and knowledge transfer will pay off.

- Certification – developing a new voluntary scheme or using existing schemes – Fairtrade, Sustainable Agriculture Initiative-accredited, etc – could deliver strongly in terms of quality control and marketing benefits for larger investors. FMCG multinationals are users of these approaches in areas like cocoa, palm oil, sugar, and fruit and vegetables.

- Agriculture delivers public goods in addition to food production – soil health, water filtration, carbon sink, biodiversity, rural tourism. In an era of climate change, there may be wider values to be derived from sustainable primary production and land use, and these can help to draw in additional stakeholders, value and funding.

- Hot spot analysis, life cycle analysis, and carbon foot-printing can be used to identify high priority areas that are particularly vulnerable to climate risks and to assess the relative contribution of greenhouse gas emissions across the stages of food value chains to design effective climate-resilience agriculture interventions.

- Consideration should be given to helping to reduce vulnerabilities in post-harvest and processing stages, such as through improved storage which can preserve food and improve the resilience of producers by reducing the effect of market fluctuations and climate change impacts such as pest infestations.

- Where possible, influence public policy, for instance, encouraging governments to move away from input subsidies towards direct support for farmers, allowing them to make decisions on resource allocation.

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FURTHER RESOURCES AND READING

Resources for Value Chains, including *inclusive value chain development*
Prepared by Una Murray, PhD

General

ILO, GIZ, USAID, OECD, DCED have undertaken a lot of work and produced many publications on value chains for development. FAO and IFAD also have guides and lessons learned regarding agriculture value chains. There are also a range of NGO guides.

ILO's value chain development material is here:

http://www.ilo.org/empent/areas/value-chain-development-vcd/lang--en/index.htm

Most of their guidelines, briefs etc. are online. A recent one from 2015 is:

Guidelines for Value Chain Selection, Integrating economic, environmental, social and institutional criteria (2015)**.** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, ILO Small and Medium Enterprises. Authors: Jochem Schneemann, Trude Vredeveld.
http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/instructionalmaterial/wcms_416392.pdf

OECD also have a lot of guidelines: http://www.oecd.org/sti/global-value-chains-library.htm

Inclusive Global Value Chains: Policy options in trade and complementary areas for GVC Integration by small and medium enterprises and low-income developing countries 2015 OECD and World Bank Group. The focus is on making GVCs more "inclusive" by overcoming participation constraints for Small and Medium Enterprises (SMEs) and facilitating access for Low Income Developing Countries (LIDCs).

https://www.oecd.org/tad/tradedev/OECD-WBG-g20-gvc-report-2015.pdf
The **Donor Committee for Enterprise Development (DCED)** have a range of guides & papers.
Private Sector Engagement for Sustainable Development: Lessons from the DAC
http://www.oecd.org/dac/private-sector-engagement-for-sustainable-development-9789264266889-en.htm or http://www.oecd.org/dac/peer-reviews/private-sector-engagement-for-sustainable-development-lessons-from-the-dac.htm#MAINREPORT

Donor approaches to supporting pro-poor value chains Report prepared for the Donor Committee for Enterprise Development Working Group on Linkages and Value Chains by Tilman Altenburg German Development Institute 2007.
https://www.edgegrowth.com/wp-content/uploads/2016/08/SEDONORS-Donor-Approaches-to-Pro-Poor-Value-Chains.pdf

USAID have many short briefing notes and publications on VCD such as **Value Chain Governance Briefing Paper** Gary Gereffi, Stacey Frederick from Duke University, Center on Globalization Governance and Competitiveness from 2009.
https://gvcc.duke.edu/wp-content/uploads/Frederick_Gereffi_ValueChainGovernance_USAID_BriefingPaper_Feb2009.pdf

Gender and Value Chains

There was a lot of activity on inclusive and gender responsive value chains in 2011, and many agencies produced guidelines. The Bill & Melinda Gates Foundation publication below contains good case studies.

Improving Opportunities for Women in Smallholder-based Supply Chains. Business case and practical guidance for international food companies. Prepared for the Bill & Melinda Gates Foundation by Man-Kwun Chan and Stephanie Barrientos. The executive summary (10 pages) presents the business case for a focus on women smallholders, and practical guidance for international food companies. Available at: https://docs.gatesfoundation.org/Documents/gender-value-chain-exec-summary.pdf. The appendix with the case studies: https://docs.gatesfoundation.org/documents/gender-value-chain-guide.pdf

Key issues for those supporting VCD, see the Value Chain Section pages 93 – 101 in Murray, Una (2015) Topic Guide: **Women's Empowerment in a changing Agricultural and Rural Context.** Prepared for DFID through the Evidence on Demand information hub http://www.evidenceondemand.info/topic-guide-womens-empowerment-in-a-changing-agricultural-and-rural-context

Rubin, D. and Manfre, C. (2010) **Technical Note on Applying Gender-Responsive Value-Chain Analysis in Agricultural Extension and Advisory Services**. USAID**.** Four-page note examines how extension agents could apply a gender focus in their advisory work on value chains. Recommendations are also provided as well as links to useful tools. Available at: http://pdf.usaid.gov/pdf_docs/PA00HSST.pdf

USAID (2009) Promoting Gender Equitable Opportunities in Agricultural Value Chains, Handbook. Rubin, D; Manfre, C. Nichols Barrett, K. http://www.culturalpractice.com/wp-content/downloads/4-2009-16.pdf.

USAID / ACDI VOCA **Practical Guide for field work** (2011): FIELD Report No. 11: Behavior Change Perspectives on Gender and Value Chain Development Tools for Research and Assessment**.** https://www.usaid.gov/sites/default/files/documents/1862/gender_and_value_chain.pdf

Gender and Value Chains GIZ Four-page briefing BMZ /GIZ (German) Federal Ministry for Economic Cooperation and Development. (GIZ) GmbH February 2013
https://www.giz.de/fachexpertise/downloads/giz2012-en-gender-and-value-chains.pdf
http://www.ilo.org/empent/areas/value-chain-development-vcd/WCMS_416390/lang--en/index.htm

Gender Sensitive Value Chain Analysis (GSVCA) Guide ILO 2 page summary with some definitions and presenting a more detailed guide. http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_111373.pdf

ILO Making the Strongest Links A practical guide to mainstreaming gender analysis in value-chain development.
http://www.ilo.org/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_159110.pdf

Gender in value chains Practical toolkit to integrate a gender perspective in agricultural value chain development Agri PRO Focus.
http://agriprofocus.com/upload/ToolkitENGender_in_Value_ChainsJan2014compressed1415203230.pdf

Opportunities for women's empowerment through value addition in agri-food chains. 4 pages. Wageningen, 14 November 2012 Annemarie Groot Kormelinck, Nina de Roo, Femke Gordijn, Jan Helde. https://www.epnuffic.nl/en/publications/find-a-publication/opportunities-for-womens-empowerment-through-value-addition-in-agri-food-chains.pdf

Gender and agricultural value chains. A review of current knowledge and practice and their policy implications. Christopher Coles, Jonathan Mitchell 2011. ODI
http://www.fao.org/docrep/013/am310e/am310e00.pdf

Three-page Practical Tips for Gender-Sensitive Value Chain Mapping. Annina Lubbock, August 2009, IFAD, Rome.
http://www.gamechangenetwork.info/documents/GenderMainstreaming/Livelihoods/Practical%20Tips%20for%20Gender%20and%20value%20chains_IFAD.doc

There are likely to be many other good NGO guides, but one basic NGO guide from SNV:

Gender Mainstreaming in Value Chain Development Practical guidelines and tools Corporate Network Agriculture SNV (Jacqueline Terrillon) Netherlands Development Organisation 2010.
http://www.fao.org/3/a-at227e.pdf

Developing gender-sensitive value chains: A guiding framework. FAO 2016 www.fao.org/3/a-i6462e.pdf

Other reports

Modern Food Supply Chains and Development: Evidence from Horticulture Export Sectors in Sub-Saharan Africa Miet Maertens, Bart Minten and Johan Swinnen. Development Policy Review , 2012, 30 (4): 473-497. This is the only paper included in this list. Abstract -
http://onlinelibrary.wiley.com/doi/10.1111/j.1467-7679.2012.00585.x/pdf

Value Chain Development Approaches and activities by seven UN agencies and opportunities for interagency cooperation (UNDP, UNIDO, FAO, IFAD, UNCTAD, ITC, ILO). Andreas Stamm Christian von Drachenfels. 2011 http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_170848.pdf

10-page brief from UN Women in cooperation with FAO, IFAD and WFP for an Expert Group Meeting Enabling rural women's economic empowerment: institutions, opportunities and

participation took place in Accra, Ghana 20-23 September 2011.
http://www.un.org/womenwatch/daw/csw/csw56/egm/Farnworth-EP-1-EGM-RW-Sep-2011.pdf

Inputs by Jerry (SHA):

Soft Law Instruments

2012 FAO Voluntary Guidelines on the Responsible Governance of Tenure of Lands, Fisheries and Forests

2011 UN Guiding Principles on Business and Human Rights.

Broader environment-related obligations:

- Convention on Biological Diversity (CBD),
- Ramsar Convention on Wetlands,
- UN Framework Convention on Climage Change (UNFCCC), including the Kyoto Protocol, the Paris Agreement

Regional initiatives:

- African Union Framework and Guidelines on Land Policy in Africa, (2009)
- African Union's Declaration on Land Issues and Challenges in Africa (2009),
- The Nairobi Action Plan on Large Scale Land-Based Investments in Africa (2011)

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NOTES

[i] Porter, Michael E., 1985: Competitive Advantage. The Free Press. New York
[ii] Source: FAO, 2014: Developing sustainable food value chains – Guiding principles. Rome
[iii] Source: Chan, MK, S, 2012: Improving Opportunities for Women in Smallholder-based Supply Chains. Gates Foundation, Seattle
[iv] Source: Interview with Paul Murphy, CEO and Howard Dalzell, Director, Valid Nutrition
[v] Fitzgerald, G, 2015: The Production of Ready to Use Therapeutic Food in Malawi: Smallholder farmers' experience with groundnut production - Results from a four-year livelihoods analysis in Malawi's Central Region. UCC, Cork
[vi] Source: Interview with David Croft, Global Head of Sustainability, Diageo
[vii] Nelson J, Jenkins B and Gilbert R, 2015: Diageo Case Study (p47), from Business and the Sustainable Development Goals. DfID, London
[viii] Source: Interview with Michael Maguire, Devenish Nutrition
[ix] Source: Interview with Ann Irungu, Operations Officer, TruTrade Africa
[x] Source: FAO, 2013 & online updates: Climate Smart Agriculture Sourcebook, Rome