

If rural areas were to be the target for donor programmes to create economic opportunities for those unable to make a living from primary agricultural production, what is the evidence on the best entry points?

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Part 1. Background and clarification

The first paper answered the question: “Should local market centres, second and third tier cities be the target for donor programmes and how should they create local economic opportunities?” DFID would like to focus the second question on evidence of investments in the most difficult areas with limited infrastructure and access to markets. This second paper provides evidence on the best “entry points” for donor programmes in rural areas to create economic opportunities for those unable to make a living from primary agricultural production.

Rural towns and their surrounding villages can find better opportunities by shifting from subsistence agriculture to cash crops. The choice of cash crops will depend on the rural town’s geographic and climatic location as well as available skills. Upgrading agricultural production to cash crops can lead also to non-agricultural jobs in local market centres, such as in trading, retailing, processing, aggregating, or transporting.

This paper attempts to provide systematic evidence on how activities can serve as entry points to relieve development bottlenecks, whether it is introduction of a new cash crop or upgrading existing crops. In Part 2 we will discuss the constraints that make rural towns unable to create any economic activities to absorb surplus labour. For some rural towns, the constraints are so great that investments by donor programmes will not deliver any results. For other towns, a combination of measures could be undertaken to improve service delivery on the supply side and develop the economic base on the demand side. Part 3 analyses a number of entry points that could address the constraints rural towns face and set them on an agricultural development pathway that will create both farm and non-farm employment. They are: i) clustering and crop diversification; ii) value addition and creation; iii) improvement in agricultural input supply; iv) developing new linkages between different market actors such as farmers, processors, input dealers, and buyers; and v) organisation of producer groups as a mean to improve market access, knowledge and skills. We attempt to look at how the models worked, what constraints they addressed and what they didn’t address. Part 3 also touches upon the possibility of private infrastructure services which is what these small rural towns lack the most. We do not offer any conclusion on what the best entry points may be but highlight the shortcomings of the models and stress the necessity of a growth diagnostic before any intervention commences.

Part 2. Constraints on economic activities in rural areas

For rural areas where the population is dependent on limited staple crops, investments can be made in helping them get out of subsistence agriculture. Rural towns and their surrounding villages can find better opportunities by shifting from subsistence agriculture to cash crops. The choice of cash crops with potential to sell in major domestic and export markets will depend on the rural town's geographic and climatic location as well as available skills. Increasing agricultural production will help create opportunities to support services in the rural towns, such as provision of seeds and inputs, processing, packaging, marketing, storage, etc. An increase in income gives people higher purchasing power, so may increase consumption of goods and services. In order to determine the appropriate intervention programmes for small towns with little capacity to absorb labour, a growth diagnostic looking at the underlying causes for underdevelopment of the towns will set out binding and non-binding constraints that the towns face, and from there interventions can be structured. The growth diagnostic will look at the market system as a whole and identify bottlenecks in the areas of transportation, infrastructure, market information, coordination, political economy, and knowledge. Rural areas of this type tend to share common characteristics: a) remote location; b) little access to land; c) lack of basic infrastructure and services; d) weak business environment; and e) availability of few economic activities.

For each area, we will break the constraints down further to sub-areas where interventions can improve the ability of the rural towns to attract investment and create employment. Thus, a growth diagnostic could cover the following areas:

Areas	Sub-areas	Explanation	Possible Entry points
Land	Land	Lack of access to land is a major impediment to investment and production	Reform of land policies; regulation of land price
Infrastructure	Roads	Poor road conditions make access to market difficult and create the impression of remoteness, increasing transactions costs and limiting opportunities to buy and sell crops. Lack of access to roads increases the cost of transport services, and makes the distance to key services such as market outlets, financial services, and public services, longer.	Public Private Partnership for upgrading roads
	Electricity	Lack of power hinders production and processing activities and makes it more difficult to attract investment in the towns. It also creates inefficiencies in public services such as health and education. A main reason for the lack of electricity is high connection payments. Off-grid connectivity should be encouraged.	Private sector operators to extend the grid to rural areas.

	Irrigation	Lack of proper irrigation systems makes the use of water for production unsustainable.	Private sector distributors of water; use of conservation agriculture techniques.
	ICT	Underdeveloped broadband infrastructure increases communication costs. It also undermines rural towns' ability to connect with markets in terms of information and pricing.	Mobile applications to increase connectivity.
Transport	High transport cost	The poor availability of transport services, lack of paved roads, high cost of transport due to expensive parts and fuel prevent produces from being sold and brought to major markets. The high cost of transport also means that traders and buyers are more reluctant to come to the towns. High transport costs affect women the most as they trade locally in perishable commodities.	Lowering cost of transport by involving various private sector actors.
	Cold chains and storage	A lack of cold chains and storage is one of the main cause of post-harvest losses, as produce may spoil before arriving at final market destinations. This includes dairy, horticulture, fresh produce. Where there are cold chains sometimes they are only for one particular type of commodity therefore is not able to accommodate other produces. Constraints include land use, high level of investment required, unorganised small service providers (coordination failures). Interventions include: encouraging the establishment of an organised sector, encouraging investment in agrifood, supporting innovations for cold chains/warehouse transport, clustering to improve bargaining power, partner with logistics companies, technology improvement for refrigeration services	Matching private sector logistics providers with producers and processors to improve the supply chains.
Access to market	Market structure	Rural markets are often characterised by asymmetric relationships between producers and buyers. If producers do not have sufficient price information they may be obliged to trade at lower prices than they would	

		otherwise. Contract farming models have introduced a more long term relationship between producers and buyers.	
	Access to Finance	Lack of access to finance increases the cost of borrowing and prevents businesses from expanding or starting. In rural towns, financial services are usually only provided by rural banks who offer limited services and high prices. Lack of business planning skills prevent household enterprises and firms to run or expand their businesses efficiently.	Improve access to finance for small scale enterprises and poor households.
	Information services	Rural smallholder farmers tend to wait for traders to come and buy their produce. Traders are also the only source of information on price and other relevant information. Few government run market information systems are able to provide timely and accurate market and price information in local languages understood by the local population. Increasing access to market information will increase farmers' bargaining power and negotiations skills.	Sustainable agri-radio programmes to distribute information to farmers.
	Agricultural practices	Inefficient agricultural techniques and practices reduce productivity, increase production costs and reduce access to market.	Training to improve agricultural practices
	Supply of inputs	Lack of supply of quality seeds affect production and productivity. However, seed companies often have limited retail networks in rural areas, due to previous high level of subsidies of agri-inputs. Producers cannot afford to pay for fertilisers and the associated costs (transport).	Introduction of improved seeds for higher yields and production; improvement of input dealer networks.
Coordination	Business Linkages	Smallholder farmers tend to sell their produce through aggregators or traders who collect at the farm gate. They do not have direct access to retailers. Clustering to increase access to market by sharing information, thereby securing market access This allows for alternative distribution channels. Obtaining certification can also create positive impacts on the local community	Improving the coordination of private market actors to strengthen business linkages.

	Business Development Services	Businesses in rural towns tend to lack the necessary skills to grow their business. This includes business planning, bookkeeping, skill upgrades, product development, technology, etc.	Private BDS providers support small scale enterprises.
Policy	Business environment	A weak business environment including barriers to market entry, cost of operating businesses can deter private sector investment into rural towns or expand their existing business. Lack of entrepreneurship can sometimes be a hindrance to further private investment into an area. Entrepreneurship training can allow producers access more of the value chain associated with their products.	Business environment reforms to improve investment climate.
Knowledge	Skills	A common problem in small rural towns is the mismatch between available training and the needs of local industries. The TVET system usually trains people to be white collar workers rather than the skills required by local businesses. There is a need to upgrade vocational training to improve its status, as most people still value academic studies and target white collar jobs. Some training programmes have been lacking private sector participation so trainees will not have a venue to practice their newly acquired skills.	Design training of skills that the markets require, with private sector participation.
	Producer organisations	Producers lack the collective power that enables them to gather information on market and services, negotiate favourable terms of trade, or engage in marketing strategies.	

Part 3. Evidence on best entry points for upgrading agricultural production

It must be noted that there are certain success factors that rural market places need to have to be able to create economic opportunities that can transform the towns into regional growth centres. These small towns do not currently have the capacity to absorb surplus labour that migrates from rural villages in search for non-farm employment. On the supply side, infrastructure, electricity, roads, access to water, political stability and strong local governments are the enabling factors that help towns accommodate backward and forward linkage services such as provision of inputs, provision of packaging and marketing, business development services, financial services, in case the rural towns improve their capacity to create employment for the rural population. There may be cases where investments by donor programmes will not bring about the desired transformative effects if the rural towns are not in the position to create returns for investment. For example, the towns may be too small for interventions to have any agglomeration effects while transaction costs of running a programme in small towns are high; or, the towns are in political unstable areas with uncertainties in access to market; or, local governments are influencing the communities in a way that hinders businesses to start and prosper. It is important for donor programmes to identify the binding constraints before setting out any intervention programmes. We set out below some main entry points to pull rural towns out of subsistence agriculture into more productive activities.

3.1 Clustering and crop diversification

Clusters help achieve economies of scale and efficiency. They enable the sharing of knowledge, inputs, distribution networks, and other services such as finance and government support in infrastructure development and the business environment. They also address constraints in capital, skills, and markets. Clusters usually specialise in one product or service and take advantage of the local shared natural resources and access to supporting services. Industrial clusters have worked fairly well, especially when they are linked up to an export market. There are some examples of successful agricultural clusters, but most of them are usually based in location with good access to transport, infrastructure, and market. For example, the cut flower cluster near Lake Navaisha was formed based on access to fresh water resources, and it was located only 100 km from Nairobi, where there is an international airport. The tea and coffee clusters have shown significant success in bringing economic opportunities to smallholder farmers. Tea clusters sometimes also provide housing and school for their growers. However, there are also inherent risks that clusters encounter in an increasingly competitive global economy. For example, the tea cluster in Kenya has experienced inadequate rainfall which affects production. The decline in global tea price also affected tea farmers. The high dependency on one single crop can make the cluster vulnerable to external risks. In order to survive competition, smallholders are diversifying into other cash crops. In Kenya, tea farmers in Michimikuru have reduced dependency on tea by diversifying into banana, passion fruit and pea, which were identified by the Centre for Tropical Agriculture as crops that could grow in traditional tea growing areas.

In Uganda, the coffee market had been dominated by private traders in the 1990s. As no regulation was reinforced and there was a lack of information, the quality of coffee declined and farmers were paid a low price for their product. In 1999, Gumuntido is a coffee farmer cooperative in the Mount Elgon region in Uganda. From being producer of low grade coffee, farmers got together to found a cooperative. With the support of UK-based TWIN trading, Gumuntido trained coffee growers in good agricultural practices in planting and handling coffee according to the specifications required by export markets. Members also had access to market information through the cooperative. Gumuntido received Fairtrade certification which enabled them to sell coffee at a higher price. The price premium was

re-invested in the community to build a secondary school, a clinic, construction of feeder road, and provided working capital for members.

Recently, in order to cope with climate change effects, farmers have engaged in crop diversification. Besides livestock farming as a source of income diversification, intercropping coffee and banana was found to bring higher income to farmers in the Mount Elgon area in Uganda. It also helps them cope with the impact of climate change. Farmers can use banana trees as shade for coffee crop, and at the same time gained additional income from banana.

The Dong Lieu **root crop processing cluster** (Vietnam) is an example of how clusters can develop endogenously, and support the growth of related industries. In this example, household enterprises are not independent producers of the same product, but they organise themselves in functional roles. Different households take on the different responsibilities of buying raw cassava and canna roots, wet-processing the starch, dry-processing the starch, producing maltose, making candy out of maltose. Other activities within the cluster are spun off the core starch processing enterprises; they include providing equipment and repairs, collecting residues from the starch processing households to sell as pig feed. The processing cluster shared information with engineering workshops on their needs to improve productivity, for which the workshops were able to meet by manufacturing equipment using new technology in washing roots, filtering water also increased production. On the other hand, household enterprises were kept abreast of new innovation from the workshops.

What worked: Clustering improved knowledge, technology and networks among farms within the cluster. Cluster could be formed by firms specialising in one product or firms organising themselves in related products. Clusters can also improve access to market and improve organisation of firm producers for better access to inputs and infrastructure.

What didn't work: Clustering of firms could result in overdependence of a crop, which can lead to the clusters being vulnerable from external shocks. Alternating crops helps cluster diversify their income and cope with the effects of climate change. Clusters in Africa are also facing more competition from other countries; some are losing ground due to rising labour costs, falling productivity and lack of innovation. To gain competitiveness firms within clusters have to be more innovative, which may involve joining another supply chain, or upgrading skills to move up the value chain.

3.2 Value addition and creation

Economic activities can be brought to rural towns that are not making a viable living from primary agriculture by finding areas where existing products can be turned into value-added products, or where a new product can be developed for specialised markets such as organic or Fairtrade products. Certified products have the potential to bring higher price premiums to farmers. Compliance with requirements for certification also builds capacity for farmers through better use of seeds and agriculture practices. Certified products are better protected from the fluctuations of world commodity markets as they often become established niche markets. We present here three different examples: i) vanilla developed as a high value niche product; ii) adding value to coconut by making cold-pressed virgin coconut oil; and iii) Fairtrade certifying cocoa to increase the price premium.

3.2.1. Creating value-added products from existing low value crops

In Mozambique's Inhambane province, Technoserve works with local coconut farmers to promote the processing of coconut oil, a value added product. Coconut trees are resistant to drought and grow in abundance in the province. Prior to Technoserve's intervention, farmers had to take their coconuts to the main highway to sell to traders for a small sum of money. Technoserve in collaboration with a South African farmer helped set up a factory

to process coconut oil in the Maxixe community¹. Due to the proximity of the factory to the community, farmers did not have to travel far to bring their coconut to process. Every week they made \$33 from the sale of the coconut². Coconut oil was then sold by the factory to South Africa in the food and healthcare industries. Coconut flakes were also produced and sold for manufacturing of cereal bars and confectionary. Both were transported to the highway where they were loaded on to trucks to South Africa.

What worked: Virgin coconut oil is a high value product that attracts a special segment in the market. The model could be replicated in other areas as a mean to add value to current primary products.

What didn't work: While farmers benefited from not having to travel far and a higher income, it would be more sustainable if the model were expanded to train the local farmers to undertake the processing themselves before selling on to the buyer. The expanded model will pass on more value to farmers from processing coconut. It will also equip farmers with knowledge and skills and market information, which in turn give them access to more opportunities.

In another private-sector led example, SabMiller launched a sorghum-based beer in 2002 which was considered a major business and agriculture development success. The new product was based on the potential of a more affordable beer what is produced by locally sourced material. Nile Breweries, located in Jinja, began to work with smallholder farmers to plan sorghum. The company distributed seeds to farmers, used demonstration plots for good farming practices, and committed to buy the produce at an advantageous price. It also assisted farmers to form groups for better access to credit, inputs and investment. By 2010, 8500 farmers, who had previously been living on subsistence, were able to send their children to school, buy books and have access to medical care³. SABMiller replicated their Ugandan model in South Sudan through the support of the Africa Enterprise Challenge Fund. They partnered with FARM-Africa to provide cassava seeds, train farmers on farming techniques, marketing skills, and committed to buy the product at an advantageous price⁴. By converting cassava, a subsistence crop into a cash crop⁵, farmers could improve their income and invest the income into assets or equipment.

What worked: SABMiller was able to align their interest securing a reliable local supply of raw materials for their production, which enabled to sell to a larger potential market, with the interests of farmers. Farmers were provided with inputs and trained in agricultural practices to improve product quality, which increased their income. In South Sudan they were also trained in marketing and finance skills, which enabled them to seek other markets besides SABMiller if they wanted.

What didn't work: SABMiller's sorghum farmers had difficulty meeting the yield requirements of the brewery, due to the lack of planning skills among farmers. Nile Breweries has recognised this challenge and is putting an emphasis on farmer organisations to manage quantity and quality. In South Sudan, it was found that cassava roots went off very quickly after harvest so SABMiller has piloted a mobile processing unit to process fresh cassava.

3.2.2. Creating new product from existing industries

The USAID funded PROFIT project in Zambia supported smallholder farmers to transition from beef to dairy animals. While beef is in generally kept as an asset to be sold as a one-off for school fees and sometimes farm inputs, milk is sold for cash and is a regular source of income for farmers. This perception was validated during a survey undertaken by

1 Corcoran, B., Demand for coconut oil presents way out of poverty for many of Mozambique's rural poor, Irish Times, 2011.

2 South African farmer helps Mozambican neighbours, Irin News, 2011.

3 Farming Better Futures, SABMiller, 2010

4 Farming Better Futures, SABMiller, 2010

5 South Suda Local Cassave Initiative, Seas of Change

PROFIT⁶. The constraints against increasing dairy production were identified as the lack of cows, low yields, lack of knowledge and information, disease and the cost of veterinary care. PROFIT therefore focused on increasing the number of cows, increasing milk yields, promote veterinary care and improving breeds. In collaboration with Land O'Lakes, PROFIT trained farmers and built capacity within the community. Training included dairy husbandry techniques, clean milk production, animal health, etc. At the same time Land O'Lakes also distributed higher dairy breeds suitable for the Zambia conditions to vulnerable households⁷.

What worked: By involving Land O'Lakes, a market for the production of raw milk was ensured for farmers who transitioned from beef to dairy production. They also received training on improving yields and better husbandry practices. Land O'Lakes also provided technical assistance to Milk Collection Centres to help farmers bulk their milk to consumers and dairy processors. The intervention addressed a number of constraints, including skills and knowledge, access to inputs, husbandry practices, and access to market by securing relationships between farmers, milk collection centres and dairy processors.

What didn't work: The smallholder farmers were dependent on the milk collection centres to sell their milk. If the centres were not functioning properly the farmers would be affected. Other challenges that were not addressed by the programme included the lack of electricity at the collection centres to run a cooling facility for fresh milk, and bad quality of roads that prevent milk from being collected⁸. While future interventions can emphasize the representation of smallholder farmers in cooperatives and milk collection centres, the infrastructure issues may limit the transformation of certain regions into dairy production.

3.2.3. High value product to target a special segment of market

Certified products can bring higher value to farmers in export markets. Private sector companies have explored this area by working with farmers to follow standard processes for organic certification. Donors have started to recognise the potential of export organic products as a source of foreign exchange and increasing income. Certified organic farming can be for smallholder farmers or for cooperatives. Both have strong links with export markets, usually assured by an international buyer, and use this linkages to organise production, audit, certification, and marketing activities. Along with obtaining certification, farmers are sometimes trained in marketing and packaging to add further value to their product.

Besides organic certification, there are other initiatives to certify farmers in Fairtrade, Rainforest Alliance, and UTZ standards. The standards all have a common objective of better farm management, workers' rights and environmental protection. However, consumers in the West are becoming more and more aware of the value of these standards and the potential share farmers receive from the sale of the products, and are willing to pay more for certified products. Private sector buyers and [food] manufacturers have an interest in securing a good reliable supply of product for this market, therefore are willing to work with farmers to improve production process to meet the standards. While this is more often a private sector-led area, donor programmes can support the private sector buyers through technical assistance and learning platforms as well as encouraging innovation within the sectors.

3.3 Improve agricultural input supply system

Access to improved seeds and fertilisers are considered key entry points in improving agricultural productivity. There have been a number of initiatives in Africa to improve the supply of seeds and fertilisers to farmers. In addition to improved seeds and fertilisers,

6 Langmead, P., The Transition from Beef to Dairy Animals, USAID's CLUSA-PROFIT project, 2008.

7 Fiscal Year 2005 Results report, Land O'Lakes/Zambia, Title II Development Activity Programme, 2005.

8 Swanson, R., Final Evaluation of Land O'Lakes Zambia Title II Development Assistance Programme, 2009

there are clear benefits in setting up demonstration farms for good agricultural practices. African governments have realised the advantages of improved seeds; in countries such as Mozambique, Ghana and Tanzania, the **African Fertiliser Agribusiness Partnership (AFAP)** has been providing input subsidy scheme for farmers, in order to increase supply of fertiliser. While this has increased the level of fertiliser usage, these three countries are using public money to set up a private market without taking into account the sustainability requirements of the market. The scheme started in Ghana in 2008 as a result of an increase in global fertiliser price. Fearing that farmers would not be able to afford the higher cost of fertiliser the government started subsidising through a voucher system. Private sector companies were used as distributors and retailers of fertilisers and seeds. However, farmers were limited by the choice of fertilisers based on the vouchers they received, and there were delays in delivering fertilisers to farmers. In 2013-2014 the government of Ghana faced a number of difficulties. Due to the fall in world oil and cocoa price, Ghana was spending more than it was making in revenue. As a result Ghana was unable to pay the fertiliser companies balance owed to them in the previous season. Since inception in 2008-2014 the scheme has cost the government of Ghana \$66 million; and while farmers were able to receive fertilisers, the beneficiaries of this amount were international fertiliser companies.

While AFAP signed a number of agribusiness partnership contracts with private companies in Ghana to increase fertiliser distribution, AFAP did not look at the demand side of the fertiliser market. In fact most farmers couldn't afford the cost of fertiliser without the subsidy programme. The Africa Centre for biodiversity found that uptake in fertiliser subsidy in Ghana was not among smallholder farmers, but mostly in cocoa and plantation crops.

The DFID funded **Market Development programme for Northern Ghana (MADE)** is attempting to shift the supply of inputs and fertiliser towards the private sector. Besides facilitating relationships between seed companies, fertiliser companies and farmers, the programme has raised awareness of the benefits of improved seeds and fertilisers through demonstrations. Despite initial successes, the challenges include limited demand of fertilisers due to high cost of fertilisers, high cost of credit to access fertilisers, and high transport cost. There are opportunities to consider 1) an input supplier/buyer model that provides inputs to farmers on credit; 2) the development of an input dealer network⁹, combined with providing access to finance. The first model could include a tripartite relationship between a fertiliser company who provides inputs on credit to farmers; a buyer who commits to buy produce from farmers at the market price less the cost of inputs; and repays the fertiliser company for the cost of inputs. MADE has tried to broker this relationship but met a number of challenges, especially in terms of establishing a level of trust between the fertiliser company and the buyer, and willingness of the fertiliser company to take the risk of providing inputs on credit¹⁰. The second model involves further developing an input dealer network that traditionally only exists in large cities. By improving business skills for rural input dealers and providing them with knowledge on the use of fertilisers and seeds, AGRA has facilitated training of 25,000 input dealers in 18 African countries. Input dealers trained by AGRA can organise demonstration planting days for farmers within their outreach. The presence of input dealers in rural areas can reduce the distance farmers have to travel to access inputs. On the other hand, input dealers have an incentive to expand their business to new farmers. A useful intervention that will go hand in hand with the development of input dealer network may be to improve access to finance for input dealers, who are small companies with low financial capacity. The matching grant scheme to agro-dealers has shown some success in Zambia. The **ADAPT (Agro-Dealer Project)** implemented by CARE in Zambia provided matching grants to help agro-dealers with shop branding, transport capital, building storage and inventory, and marketing. In addition to being able to upgrade their businesses, through a pilot programme entitled Zambike, which manufactured a bicycle/cart vehicle, agro-

9 Gersteinmier, A., Agricultural input supply, AGRA,

10 MADE Quarterly Report, October 2015, Nathan Associates London

dealers could travel to rural areas to sell inputs¹¹. Matching grants can also be used for business development services as in the case of the **Tanzania Agrodealer Strengthening Program**¹².

3.4 Developing new linkages

Building on the improvement of agricultural input supply discussed above, farmers can benefit from better access to larger markets for rural towns through new linkage models that link the producers with a market outlet. The relationships could be one or a combination of the following: linkages between producers and domestic traders; producers and supermarkets; market outlet could be a domestic trader, a supermarket, an aggregator, with a processor, or with an input provider. The relationship can be strengthened by ensuring that enterprises receive adequate support in product and business management in order to meet the required level of production by the market. The success of the models will depend on how incentives are aligned between different actors. In an example given above, SABMiller was able to align their incentive of securing a reliable supply of raw materials for a new product with that of the farmers to improve income from crop production. The example of coconut processing in Mozambique was an alignment of interests between coconut growers and the processor/buyer of coconut oil. While tripartite relationships such as the one tested by the MADE programme in Ghana did not work, it could be strengthened and supported by a credit guarantee scheme to the fertiliser company. In an UNIDO project in Chontales, Nicaragua, relationships between cattle farmers' cooperatives and a processing company was brokered, in order to improve supply and quality of cattle. Previously the processors did not pay farmers the market price of the cattle, and payment has usually been delayed. The farmers in return had not done anything to improve the quality and quantity of production to supply the processors. After the agreement was signed between the cooperatives and the processor, there was a steadier supply of cattle, and livestock producers were paid regularly¹³.

3.5 Organisation of producer groups

Farmers can be organised into groups to improve quality of their produce through better use of seeds and agricultural techniques, as well as access to market information, better bargaining power, and better opportunities for income and employment. Producer groups play an important role in connecting local agricultural knowledge with new technology and expertise. Producer groups can also access to finance more easily to improve production.

The case of banana growing in Uganda demonstrates how a subsistence crop could be turned into a cash crop mainly through the organisation of producer groups. Prior to Technoserve's intervention in Uganda, banana had been a subsistence crop, and any surplus was sold for very little. Technoserve wanted to reform the banana supply chain by organising growers into producer groups. They were trained on improving planting techniques, harvesting and handling. As a group producers were able to take bananas to a common collection point before being loaded onto one truck and taken to the market. This has saved transportation costs for farmers and eliminated the middlemen, giving farmers more income for their produce. Technoserve also worked with farmers group to plant disease free crops, and helped them with access to finance to expand their production¹⁴.

For small scale wool producer in the Transkei area in South Africa, the local woolgrowers' association organises the shearing and marketing of the wool. Due to the lack of

11 Kambaila, N, Kong, A., Note From Zambia: Increasing Access to Inputs for Smallholder Farmers Through Agro-Dealers and Zambikes, CARE, 2011.

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[http://fsg.afre.msu.edu/zambia/tour/CNFA%20_%20Tanzania%20Agrodealer%20Strengthening%20Program%20\(TASP\).pdf](http://fsg.afre.msu.edu/zambia/tour/CNFA%20_%20Tanzania%20Agrodealer%20Strengthening%20Program%20(TASP).pdf)

13 Cluster development for pro-poor growth: the UNIDO Approach, UNIDO, 2010.

14 Improving the banana value chain in East Africa, <http://www.new-ag.info/en/focus/focusItem.php?a=660>

information flow, local woolgrowers had to sell their wool at a low price to a trader. As individuals, small-scale wool producers were not able to reach the wool auction due to the low quantity of wool produced. The association provided a shearing shed for farmers to shear, grade and package the wool in the villages. By bulking wool the farmers saved on the handling and transporting cost of the wool, in addition to that they also were able to reach the market¹⁵. In this case however, the association would benefit from support to access to finance so that farmers wouldn't have to wait for the wool to be sold before getting paid.

3.6 Infrastructure

Electricity

As grid electricity is expensive and costly to provide to dispersed rural areas, non-grid renewable energy options such as solar photovoltaic (PV) systems are strongly encouraged. PV systems are distributed by the private sector, who are able to facilitate the connection of dispersed households. An evaluation of a rural electrification project in Kenya shows that rural households prefer to go with PV distributors than with grid electricity as the latter is more expensive. In India, local electricity retailers can secure credit finance to establish an off-grid system or mini-grid. In Sri Lanka, the World Bank/GEF Energy Services and the national utilities established non-negotiable power purchase tariffs and contracts with third party private hydro developers¹⁶. This accelerated the privatisation of the markets. In Nicaragua, off grid rural electrification was accompanied with financing facility for both private operators and users and targeted BDS to increase the potential for productive uses. The World Bank/GEF provided credit to private sector providers for off grid electricity services and microcredit and BDS. As a result, hydro village grids and solar battery charging stations were launched, and a number of micro finance institutions expressed interests in working with the project.

Irrigation

Public Private Partnerships (PPPs) are the preferred option in bringing water to rural areas over Operation & Management scheme, which involves transferring the management responsibility of irrigation schemes to farmer organisations. Due to the low capacity of farmer organisations in terms of managing distribution systems and financing, Operation & Management schemes don't tend to yield good results. The PPP schemes allow the government and the private sector to share the risk.

In the Tieshan area in China, the Hunan provincial government wanted to relieve the financial and administrative burden to concentrate on regulation and control functions. There was no local private sector provider. A Water Supply Corporation was created to take over the implementation of the scheme. It managed the mobilisation of water and conveyance and the water use associations managed the distributions to farmers. The result was the end of degradation of the system and improved control of asset maintenance funds by the Corporation and the water use associations¹⁷.

In Mali, technical assistance was provided to the local water use associations to maintain equipment, infrastructure, lower operating costs and increase efficiency. This leads to a reduction in costs for consumers due to expansion of production, reduced repair times, and better management of the local water use associations.

While the private sector can mobilise financing and implement programmes efficiently, governance functions of the schemes remain with the government. However, the private sector is found to be risk averse and is reluctant to commit investment capital unless the

15 D'haese, M, New Institutional Arrangements for Rural Development: The Case of Local Woolgrowers' Associations in the Transkei Area, South Africa

16 Abdullah, S., Markandya, A., Rural Electrification Programmes in Kenya: Policy Conclusion from a Valuation Study. Working Paper, University of Bath, 2009.

17 Emerging Public-Private Partnerships in Irrigation Development and Management, World Bank, 2007.

government assumes the risk. Charges can also be high. PPP may not relieve government's investment burden but it is useful to establish the principle of financial autonomy and improved management.

ICT and Access to Finance

The ICT sector can be a catalyst in creating economic opportunities for formerly isolated, low-income regions. It can bring a host of potential benefits for users: it can substitute for travel, help keep social and business relationships intact, permit access to information, facilitate job searches, and enable entrepreneurial activities¹⁸. In 1999, 80% of the world's population had no access to reliable telecommunications. The majority of these were poor and living in non-urban regions. Recently, private sector investors have endeavoured to bridge the gap to allow for information channels to create employment and critical market linkages.

The e-Choupal project was initiated by ITC, a private company in India. E-Choupal places computers with internet access in rural villages. It also served as an e-commerce platform which allows producers to buy input and sell products directly to ITC. Farmers benefit from access to a wide range of information including prices and farming techniques, access to inputs at a lower cost and market outlets. This model aligned the interest of farmers with the private sector. In the end farmers enjoyed higher prices for their produce and ITC benefitted from lower transaction costs by bypassing middlemen¹⁹.

The Linking Local Learners initiative in East Africa brings another aspect besides providing market information; it connects farmers to improve knowledge and develop business skills²⁰.

In Ghana, Vodafone has created a Farmers' club which allows registered farmers to have access to farming tips in local languages, weather updates, market prices information and nutrition tips. This includes access to experts and free calls between all members of the farmers club.

Similarly, in Kenya a mobile phone service, dubbed "M-Farm", encourages communication between farmers and creating market linkages. Findings from a survey of M-Farm users confirm that m-services offering price information help farmers plan production processes²¹.

However, donor ICT projects tend to focus on technology without paying attention to the market structure. Even if producers are given information on market prices, if they only have relationship with only one buyer they are not in a good position to bargain. This is especially true if the buyer is also the provider of credit and inputs.

3.7 Training

Throughout all the above models, skill training was integrated in the discussion, and the lack of skills training was pointed out where the model didn't work as well. The previous paper provided a number of examples on skills training in developing countries. All the examples attempted to provide a demand-driven approach to skills training rather than following the supply led training provided by governments. Workplace training is one way of upskilling the labour force. Malaysia for example have provided incentives for training costs to promote workplace training through the Skills Development Fund. The Fund will

18 Kramer, W., et al, The Role of Information and Communications Technology sector in Expanding Economic Opportunity, Harvard University, 2007.

19 Anamalai, K., Rao, S., What works: ITC's e-Choupal and Profitable Rural Transformation, Web-based information and procurement tools for Indian farmers, 2003

20 www.linkinglearners.net

21 Baumuller, H., Agricultural Innovation and Service Delivery through Mobile Phones: Analyses in Kenya, University of Bonn, 2015.

provide support in the form of preferential loans to pay for the cost of training²². In Thailand, a tax exemption is provided to companies for the cost of workplace training.

Introducing certification into informal sector firms training can help standardise the information and skill sets that employers look for, improving the asymmetry of information between workers and employers. While much of the apprenticeship is done in the informal sector, a Vocational or Occupational Skills Certificate can be provided to the workers after completion of an apprenticeship (Benin²³). Malaysia workers are provided with the Malaysian Skill Certificate²⁴ which signifies movement from low and semi-skilled to higher skilled level.

In both models, the challenges are the reluctance among small firms to organise training for their workers, due to fear that the certified and trained workers are able to move on to other firms. From the workers' perspective they are able to signal their qualifications to other potential employers and are given more choice in employment.

22 Skills development for Inclusive and Sustainable Growth in Developing Asia-Pacific, Asian Development Bank, 2013.

23 Glick, P., Huang, C., Mejia, N., The private sector and youth skills employment programs, RAND Corporation.

24 Skills Development for Inclusive and Sustainable Growth in Developing Asia-Pacific, Asian Development Bank, 2013.

Part 4. Conclusion

Donor programmes have either focused on national level or rural development and have not paid much attention to rural towns. Apart from improving infrastructure, roads, and electricity, there are other supply side interventions such as increasing access to finance, improving business environment and building capacity for local governments. Some of those policy areas can be addressed by national or local governments, and in some cases through public-private partnership models, such as in the case of electricity or irrigation. However, there are a number of private-sector led development models that have the potential to be replicated or scaled up in another programme. In this paper we looked at five main areas of interventions that could set rural towns on an agriculture development pathway. They include clustering and crop diversification, value addition within the existing supply chain and moving beyond the supply chain, improving the supply of inputs and fertilisers to improve agricultural productivity, building and testing new linkage models that bring commercial gains to all parties involved, and organisation of producer groups as a mean to increase knowledge, information and skills. The models are not mutually exclusive; in fact there are a number of overlapped aspects among the models. For instance, improving agricultural input supply system cannot be done without sound relationships among input suppliers, input dealers, lead farmers, cooperatives, and farmers. Similarly, the organisation of producer groups are linked to creating more value, providing better access to inputs and markets.

We have not discussed in this paper the explicit role of access to finance, although the issue is integrated throughout the models as a next step to sustainable partnerships and linkages. Another issue that wasn't emphasised is the importance of skills training, without which the models would not show visible impact. While all the development models mention training in use of seeds, farming techniques, post-harvest handling, etc, other training programmes focusing on business planning and managerial skills should also accompany demand side interventions. The use of ICT is increasingly becoming an effective way for farmers to access knowledge and information, however, we did not mention it as an entry point, as it cannot on its own be a transformative intervention.

As highlighted in Part 3, interventions tend to address some constraints but not others. For example, some value addition interventions focused on the product but not on training and quality management. In another example, an input supplier/buyer model was not sustainable because it couldn't maintain the incentive structure that kept the farmers in the model. Again we would emphasise that for some small rural towns interventions will not deliver any results due to the lack of scale, political instability or weak governments. For other cases where there are opportunities to grow, donor programmes can learn from past experience to design a comprehensive programme that addresses all the constraints the towns face. This is best one through a thorough growth diagnostic that looks at all underlying causes that keep the rural towns from attracting private businesses. The growth diagnostic will enable donor programmes to design a set of interventions that are most appropriate to the agro-ecology and political economy of the local towns.