

Livelihoods and Food Security Programme

Agriculture Productivity and Nutrition

MARKETS



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Acronyms

ACP	African Caribbean Pacific
APN	Agricultural Productivity and Nutrition
FAO	Food and Agriculture Organization of the United Nations
CA	Conservation Agriculture
CAADP	Comprehensive African Agriculture Development Programme
COMESA	Common Market for Eastern and Southern Africa
DDA	Doha Development Agenda
DDP	Dairy development Programme
DDT	Dichlorodiphenyltrichloroethane
DZL	Dairibord Zimbabwe Limited
EU	European Union
EBA	Everything-But-Arms
GAP	Good Agricultural Practices
GMB	Grain Marketing Board
GMO	Genetically Modified organisms
GoZ	Government of Zimbabwe
GSP	General Systems of Preference
HA	Hectare
HPC	Horticulture Promotion Council
IFPRI	International Food Policy Research Institute
ISALS	Internal Savings and Lendings
MCC	Milk Collection Centre
MIF	Market Innovation Fund
MT	Metric Tonne
NADF	National Association of Dairy Farmers
NGOs	Non Governmental Organizations
POPs	Persistent Organic Pollutants
SADC	Southern African Development Community
SPS	Sanitary and Phytosanitary Measures
WTO	World Trade Organization
ZFC	Zimbabwe Fertilizer Company
ZFU	Zimbabwe Farmers Union
ZIMVAC	Zimbabwe Vulnerability Assessment Committee

Acknowledgement

This paper was prepared by Barbara Mathemera and edited by Jannie Armstrong.

1 Introduction

The APN being implemented through FAO will respond to specific constraints facing smallholder farmers in Zimbabwe (particularly women) in raising productivity of their farms and participating in markets. This paper looks at how the APN will facilitate the participation of targeted farmers in markets and identify the synergies with the Market Innovation Fund.

2 Problem Analysis

The majority of smallholder farmers in sub Saharan Africa grow crops, which means that every season they require inputs (improved seeds, quality fertilizers and crop protection products) at the right time, in the right quantity and quality, in reasonable proximity to their farms and for a reasonable price. They often do not have the needed cash or credit to pay for the inputs. After harvest, the farmers then need similar systems in place to sell their goods for a decent price. More often than not, these systems are lacking and they have no choice but to sell their produce at the local market for whatever price they can get. They are not organized, and do not have the capacity either to negotiate for better prices or to store their produce until prices increase. Even the basic options to add value via simple processing or meeting quality standards are beyond their reach.

The problem of insufficient market access for smallholders is an issue of global interest. Organizations like the World Bank, the International Fund for Agricultural Development and the International Food Policy Research Institute (IFPRI) have been in the forefront of the efforts to understand the nature and extent of these problems, and have identified four major categories of constraints:

High transaction costs that raise marketing costs

These are a result of moving smaller volumes of commodities to markets, lack of market information, lack of competitiveness of markets, poor government policy (e.g. Overregulation and sporadic intervention which create uncertainty and discouraging investments). For instance, the Government of Zimbabwe for example has adopted protectionist measures to cushion the agricultural sector during the current recovery period. Tariffs have been imposed on a number of agricultural commodities and products, which has raised consumer prices and acted as a disincentive for investment especially in the processing industries that import raw materials. Maize produced for the Grain Marketing Board by domestic producers thus commands a higher price than imported maize, disrupting the market and eroding public trust.

Risk Thresholds

Growing an unfamiliar crop or variety involves more uncertainty for the smallholder than growing a staple food crop, and the promise of a higher margin may be outstripped by the potential for losses. Commercial crops are more vulnerable to pests and diseases and crops like tea, coffee and fruit trees do not produce a harvest for several years after planting. Producing for markets may require intensive and costly input which may reduce margins if yields are uncertain.

Poor infrastructure and/or high price variability

Poor transportation and communication networks affect the level of commercialization which declines with distance to markets. Smallholder farmer's food security is threatened if price of cash crop at harvest is lower than expected or retail price of food is higher than expected. This is especially relevant as farmers growing to service markets may not be growing to meet their own food requirements, and thus are doubly exposed to market risks. Perishable crops may also add additional risk because lack of storage

or processing facilities may mean that farmers do not have the option of returning to the market for better prices, forcing them to accept lower prices.

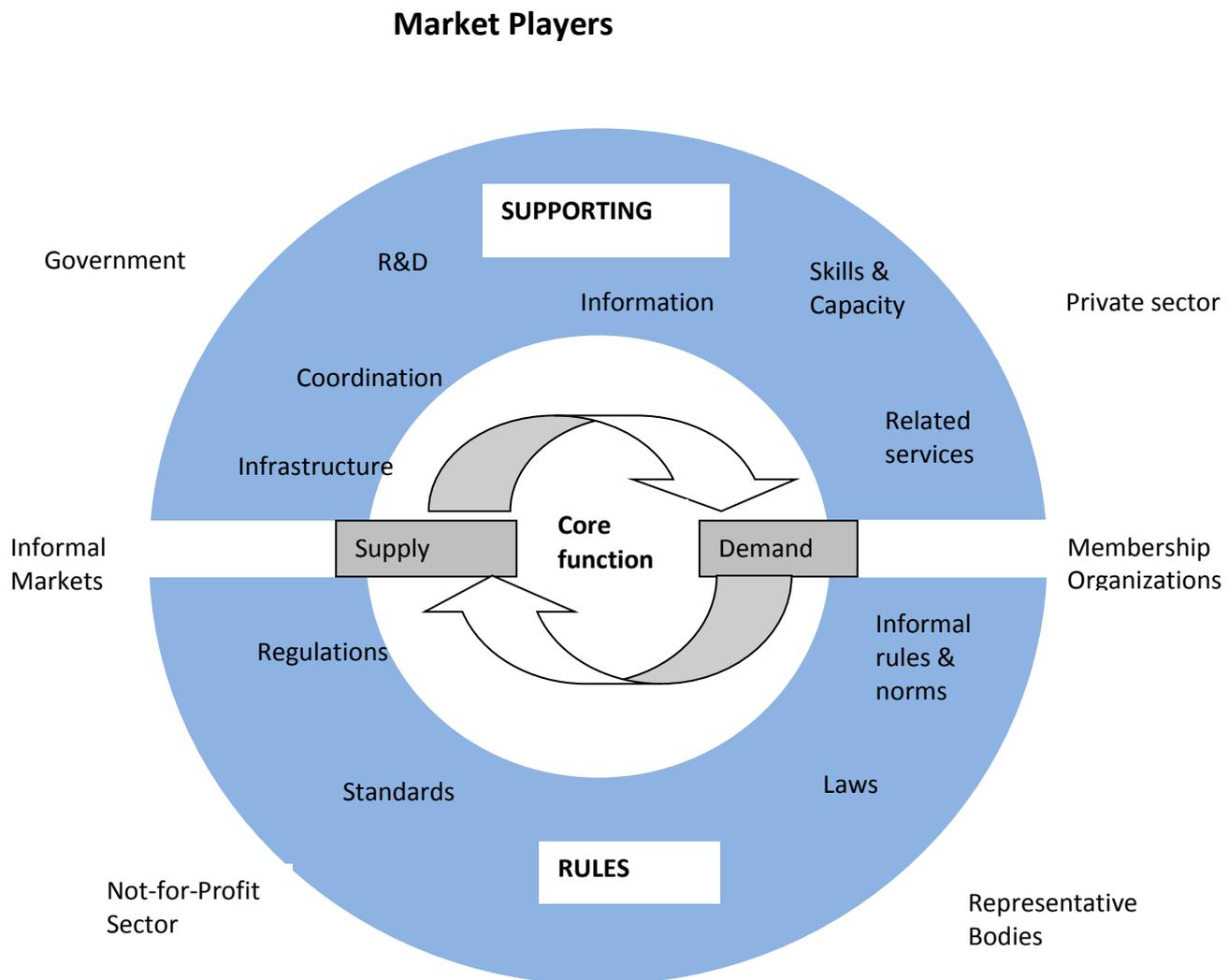
Weak primary markets and/or bargaining power

Power relations for smallholders with middlemen, wholesalers, bulk suppliers or other market forces are often asymmetric and not in their favour.

The core function in any market system is to provide a space for transactions of goods and services. The nature and efficiency of this core is shaped by formal and informal rules and a range of supporting functions. These determine behaviour and practices, shape relationships and provide information, knowledge and incentives. Within this environment a diverse range of public and private, formal and informal players may be active. It is noted that the smallholder farmers participate in a number of markets that include agricultural inputs markets (seed, fertilizers, chemicals etc.); credit markets (banks, SACCOs, ISALs); agricultural produce markets (crops, livestock, horticulture, fruits etc.); labor markets (maricho); handicraft markets; markets for petty and cross-border trading.

As shown by the figure below, the market system consists different sets of functions and players.

Figure 1.



According to the 2013 ZIMVAC Report, 35 percent of smallholder revenue comes from agriculture based activities (food crop production sales 12.4 percent; vegetable sales 10 percent; livestock sales 8.4 percent and cash crop sales 4.6 percent). The next largest revenue comes from casual labor at 23.1 percent, with petty trade 4.3 percent. Whilst acknowledging the importance of these latter two income sources, this paper will focus mainly on agricultural markets since smallholder farmers get most of their incomes from agricultural activities, and this is the primary focus of the APN. In terms of inputs, the focus is on agricultural inputs like seeds and fertilizers, with credit markets covered in a separate APN Inception paper on rural finance.

Table 1: Proportion of Households Obtaining Income from the Source in April 2012 and 2013.

Income Source	Percent (2012)	Percent (2013)
Casual labor	24	23
Food crop production/sales	12	12
Remittances	11	12
Vegetables production/sales	11	10
Livestock production/sales	10	8
Formal salary/wages	5	5
Petty trade	5	4
Cash crop production	4	5
Skilled trade/artisan	3	3
Food assistance	3	3
Gathering natural products for sale	3	2
Other	2	3

Markets are seen as the means for ensuring that smallholder producers of agricultural products are effectively integrated into the mainstream of national economies, especially in developing countries. In Zimbabwe the agricultural sector is now structured such that 98 percent of farmers are now smallholders, operating on 73 percent of the agricultural land.

This number of farmers can only be integrated into the national economy through an efficient agricultural marketing system, where market actors and support services have adjusted their systems to efficiently engage them. In terms of poverty reduction, markets provide the opportunity for farm production to generate income through sales of farm produce. Furthermore, markets drive production and generate growth as farmers strive to meet the demands of consumers and end-users in terms of quantity and quality.

3 Access to Input Markets

It is widely accepted that increased use of purchased inputs (seeds, fertilizers and chemicals) is vital for sustained smallholder agricultural growth in Sub Saharan Africa. The use of purchased input by smallholder farmers has remained low and static over the last 20 years or so, with particularly low usage in smallholder food-crop production where constraints on expanded input use exist on both the supply and demand sides.

Demand is affected by low profitability, high risks in farmers' use of purchased inputs and by lack of access to seasonal finance. For example in Zimbabwe's marginal areas, most farmers who produce small grains do not apply fertilizers as they believe its application does not contribute to yields which are improved enough to legitimate the additional outlay. Profitability and risks in input use are affected by input and output price levels and stability, by the quality of inputs, and by the technical efficiency with which they are used.

It should also be noted that market liberalization has led to an increase in input financing difficulties and a decline in input profitability as a result of increases in input prices following removal of input subsidies. These changes are particularly serious for more remote surplus food-crop producers, for whom market liberalization also leads to reduced output prices.

3.1 Constraints on Input Supply

Constraints on input supply in liberalized input markets include:-

- High production costs as a result of imported raw materials, high cost of finance, lack of asset refurbishment, uneconomic power tariffs. This has resulted in the fertilizer industry operating below capacity for more than 10 years.
- Continued government and donor interventions that have depressed incentives for private sector investment in fertilizer supply. As shown by the Table 2 below the number of beneficiaries of the FAO-led Agricultural Inputs Programmes was highest during the 2009/10 season but has since declined.

Table 2: FAO led Agricultural Inputs Support Programmes

Year	No. of Beneficiaries ('000)	percent of Food Insecure Population	Value of Inputs pack per beneficiary (USD)	Main Distribution Mode	Main Inputs
2004/05	422,000	28	19	Free Direct	Seed
2005/06	372,000	24	22	Free Direct	Seed
2006/07	315,000	21	29	Free Direct	Seed & Fert.
2007/08	232,000	15	26	Free Direct	Seed, Fert &L/stock
2008/09	310,000	20	57	Free Direct	Seed, Fert &L/stock
2009/10	738,000	48	64	Free Direct	Seed, Fert, L/stock, CA and Training ¹
2010/11	500,000	40	70	Closed Voucher	Seed, Fert, L/stock, CA and Training
2011/12	319,200	24	160	Open Voucher	Seed, Fert, L/stock, CA and Training

Source: FAO Data adapted From Hanyani-Mlambo et al., 2013

¹ Seeds, fertilizers, small livestock, conservation agriculture and training in crop and livestock husbandry

Table 3. Input Distribution Programs for 2011/12

Funder	Value of Program	Number of Farmers Benefitting	Program Activity
GoZ (through GMB)	\$45 million	253,100	Vulnerable households receive free inputs while other farmers receive 50 percent subsidy
GoZ (through GMB)	\$30 million	TBD	Intended to allow farmers to collect inputs from GMB to cancel the debt of unpaid maize from previous season
Donors, development partners	\$90 million	276,000	Food crop inputs – 45 percent through vouchers; technical assistance and market linkages
Presidential Well Wishers	\$27 million	712,400	Food crop inputs, cotton inputs

Source: USAID – Market Mechanisms Study 2012

As shown in Table 3 above the total value of government, donor and development partners programs had an estimated value of \$192 million. Such interventions disrupt input markets, discourage investment and build high levels of uncertainty thus eroding trust between farmers (especially those who are not beneficiaries of input schemes) and input markets.

Key issues around fertilizer include:

- High marketing costs as a result of poor transport infrastructure and management, uncertainty about government fertilizer interventions, co-ordination costs and risks at different levels in the fertilizer supply chain. The National Railways of Zimbabwe is unable to provide rail service and this results in huge road transport costs.
- Rural retailers face considerable risks in stocking fertilizers, as farm purchases are made in fairly narrow time windows and are often uncertain, contingent on farmers' assessment of input profitability and upon their ability to finance purchases in an uncertain climatic and economic environment. This puts stockists at risk of being left with excess inventory, which often cannot be disposed of for another year and which may deteriorate in storage.
- The riskiness of the inputs business is compounded by difficulties associated with quality assurance, promotion, and environmental impact. The nature of chemicals and seeds makes it difficult for farmers to gauge their quality at purchase, and they therefore need some form of assurance of the genuine quality of their purchases. Almost every season, in markets like the Mbare Musika in Harare there are reports of farmers buying fake maize seed. Unscrupulous traders buy maize grain and apply some colouring and other additives to imitate appearance of

the genuine seed. For chemicals, there is a risk of sales of adulterated and/or out-of-date and ineffective stock. Farmers have also registered complaints about dipping chemicals which have not been effective in controlling ticks in cattle.

- Input stockists face a further difficulty in promoting input use, as individual stockists rarely have their own funds to do this and they face free-riding concerns; if one enterprise invests in promotion of input use, other stockists may also benefit from the expanded market.
- There are important environmental and health risks associated with the use of some chemical inputs. In January 2014, Ministry of Environment, Water and Climate launched the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs) for Zimbabwe which aims to protect human health and the environment from (POPs). DDT for example was banned for use in agriculture where it was used for controlling pests such as maize stalk borer, cotton cutworm and cotton bollworm. There are also considerable sensitivities around the introduction of Genetically Modified crops. Government policy does not allow importation of GMO planting material.

3.2 Opportunity Analysis

Improved input market dynamics lies in the ability of the inputs industry to supply the right inputs at the right time and the ability of farmers to pay for them. Other things being equal, the use of high yielding varieties of seed presents an opportunity for increased productivity. Zimbabwe is an agricultural based economy currently importing a wide range of agricultural commodities because of domestic production and productivity constraints. The market for inputs is therefore readily available. The fertilizer imports are tariff zero rated and this has potential to reduce production costs. The imported agricultural products on the markets presents an opportunity for import substitution and increased demand for agricultural inputs. In terms of seed, seed production meets national requirements, which means there should be no impediment to production in that regard.

In terms of market infrastructure, if maintained or upgraded, rail and road transport networks can reduce input marketing costs. Similarly, a network of agro-dealers exists, which if revived has potential to service the smallholder farmers. There is however, a need for investments and improved coordination along the whole supply chain.

3.3 Strategies

- Improved efficiency in inputs production especially fertilizers, through promotion of policies that encourage both domestic and foreign private sector investment. An example of such support is zero rating essential raw material imports.
- Improved efficiency of input use and hence farmers' demand for purchased inputs can be encouraged by strengthening technical knowledge about their use. This requires that farmers have access to both relevant information and affordable inputs which requires co-ordination between input delivery and extension services. Most fertilizer companies e.g. ZFC and Windmill have Agronomists on staff, but there is a need to developed professional contact with public sector extension staff.
- One means of improving access to affordable inputs is the provision of mini packs, which enable farmers to buy inputs in small quantities. This has the benefit of matching what smallholders can afford, to allow testing of small amounts, and supports additional purchases during a season, depending on how the crop develops. While it is noted that these have been available mostly targeting urban gardens, efforts should be made to ensure that additional stocks are available at

rural outlets. Bulk purchases by farmer organizations may also allow reduced access costs for members.

- Stable development of market systems is needed if stockists are to build up relationships and reputations with farmers in their localities. FAO in partnership with SNV through the “Rural Agro-dealer Restocking programme” worked to build such relationships in all the 8 provinces of the country. The objective of the programme was to renew and create sustainable business relationships between wholesalers and rural agro-dealers. A total of 600 rural agro-dealers and 300 000 households participated under the programme.
- Public extension services, in collaboration with private input suppliers, should add more focus on the promotion of agricultural intensification.
- Marketing costs should be managed at all levels in the input supply chain: improving transport infrastructure and management, reducing uncertainty about government fertilizer interventions, improve co-ordination between different actors from production/importation down to the retailer in the rural areas.

4 Cereal Output Markets

4.1 Cereals (Maize, Wheat, Small grains)

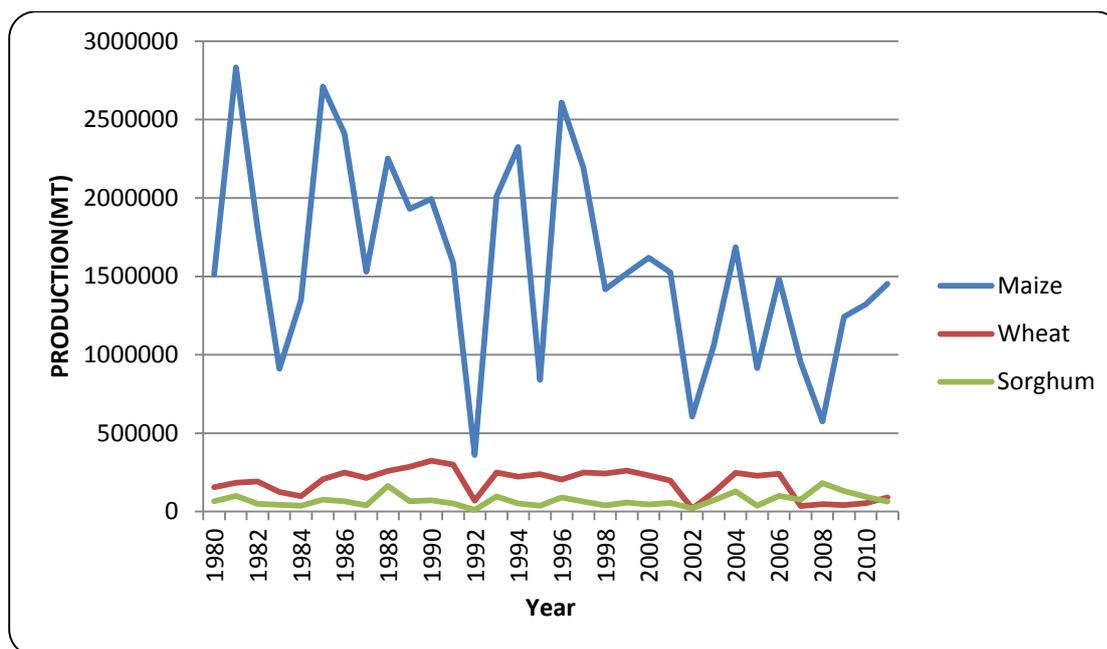
The production of maize and wheat is characterized by productivity challenges as a result of:

- limited access to inputs (seed, fertilizers, chemicals, electricity) and mechanization
- late delivery of subsidized inputs which results in late planting
- high cost of inputs compared to regional prices, limiting export opportunities
- lack of collateral which constrains access to credit
- limited access to extension support services and limited transfer of technology from research
- and poor quality of soils.

Figure 2 below shows that maize yields averaged 1 to 1.4 MT/HA in the 1980s and 1990s but have declined to about 0.7MT/HA during the 2010/11 season. Wheat yields declined from a peak of 5.4MT/HA in the 1990s to 2.3MT/HA in 2010. Cheaper imports especially for maize and wheat compared to GMB producer prices act as an incentive for traders to import instead of buying locally produced maize. The GMB itself has had trouble making payments to farmers. In addition, high costs of transport, and limited access to market information have contributed to high marketing costs.

Both farmers and manufacturers experience increased transaction costs due to a lack of a formal trading systems that provides a platform for the interaction of buyers and sellers. Both parties would benefit from engaging each other in formalized trading e.g. through futures contracts. Zimbabwe’s large scale millers, for example National Foods, are running below capacity due to the prevailing shortage of capital, raw materials, equipment. Improved technology improves the production efficiency that will support lower costs of production.

Figure 2. Production of Cereal Crops (1980-2010)



Source: Muzvondiwa (2013)

Small grains (that is pearl millet, and some forms of sorghum) production has been fluctuating over the years with overall output not changing significantly since 1980. Productivity challenges faced by small grains farmers are similar to those for maize and wheat producers. Challenges are compounded by the unavailability of certified seed, as a result of farmers using retained seed, pests and diseases, low industrial demand and uncompetitive prices, inadequate or non-use of fertilizer and chemicals, inappropriate crop husbandry methods; labor intensive harvesting and processing, which results in inconsistent products, and post-harvest losses. Poor road infrastructure and undeveloped market information systems expose farmers to unscrupulous traders offering prices below cost.

4.2 Markets

Wholesale markets for maize, wheat, small grains are located in major cities with the biggest being Mbare Musika in Harare. Others are Kudzanai in Gweru, Renkini/Makokoba in Bulawayo, Sakubva in Mutare, and Muccheke in Masvingo.

Smallholder farmers sell their cereals (maize, wheat and small grains) to neighbouring farmers, the GMB, traders, millers and wholesale markets. The GMB distorts market prices by setting their prices higher than the import parity, encouraging traders to import less expensive maize and wheat. Large and mid-sized traders/millers like Croplink, National Foods, Intergrain pay market prices lower than GMB prices and farmers are willing to sell as they are more likely to be paid on time. Small traders buy small consignments from farmers that are constrained by transport and lack of storage facilities. Some traders barter for commodities e.g. maize for goats, soap, clothing etc. (or some combination thereof).

In marginal areas, small grains are mostly sold farmer to farmer. Red sorghum is mainly demanded by wet millers Chibuku/Ingwebu while white sorghum goes to grain millers and stockfeed manufacturers (National Foods). A number of retailers are selling some sorghum and millet meal produced by some emerging entrepreneurs like Savanna, Utsanzi, KSF and Silver Kopje.

Sorghum is one of few crops where there have been some success stories in contract farming through Delta Beverages, Ingwebu Breweries and some NGOs. The breweries have been willing to deal with communal producers if they become more organized so as to reduce transaction costs. Marketing Chains for maize, wheat and sorghum are in Annexes 1, 2, and 3.

4.3 Opportunity Analysis

Maize

Zimbabwe is currently a net importer of maize and traditionally more than half the maize crop has been grown by smallholder farmers. In non drought years the country has potential to produce enough maize to meet local requirements. The liberalized marketing of maize has resulted in the participation of both small and large traders and millers (National Foods, Blue Ribbons) who provide spot markets and also offer contracts for the production of maize. The advantage of producers selling to private traders/millers is instant or quick payment when compared to the GMB+. Hybrid seed maize is readily available as production meets local requirement with the surplus being exported to regional markets.

Wheat

Zimbabwe is a net importer of wheat and has always been importing wheat for gristing purposes. Seed Co. Limited wheat breeding programme has since released high yielding wheat varieties including one that possesses strength of the dough to alleviate the importation of wheat for gristing weak flours. A promising breeding programme for summer rain-fed wheat is being conducted. The potential of smallholder farmers who are on irrigation schemes lie in pooling their pieces of land to enjoy economies of scale which in turn reduce their irrigation costs. In such instances their chances of getting contracts from millers are enhanced as this reduces transaction costs for the contractors.

Small Grains

There is unmet demand for good quality sorghum and millet products in institutions such as hotels, hospitals and restaurants. There is also commercial demand of sorghum from breweries and beverage manufacturers like Chibuku and Ingwebu and Delta Beverages. These companies import sorghum to meet their requirements and this presents a huge potential for import substitution by increasing local production to meet the demand by the companies. There is also an emerging demand by manufacturers of breakfast cereals and porridge particularly by regional markets for both sorghum and millet. Local demand by grain traders who either sell to millers or areas with grain deficit is also significant.

There is also potential to explore opportunities in feed production particularly from sorghum. Stockfeed manufacturers have been using maize-based formulations due to lack of constant supply of small grains. Research is underway for the development of sorghum varieties (in particular SV series), which are tannin free and suitable for stock feed (Matopos Research Station, 2013). The challenge with the tannin free varieties is however, their proneness to bird attack which tends to discourage production by farmers. The key to unlocking local production of both sorghum and millets however lies with changing the widely held view that the crops are low value and marginal, grown mainly by the poor households for subsistence.

4.4 Strategies

The following strategies are recommended for improved cereal production and productivity and access to markets;

- Farmers need more training in crop management and basic marketing techniques.

- The link between farmers and the markets (input and output) needs to be strengthened through contract farming arrangements to hedge against production and marketing risk as well as reduce transactions/search costs between farmers and traders/processors.
- Improve technology through research and development to reduce both production (tillage, farm processing, storage) and marketing costs
- Increase Irrigation capacity and refurbish available irrigation facilities
- Improve farm level financing
- Group marketing can help farmers to reduce the value chain costs. These could be organized through commodities associations. When farmers are well organized into groups they have an opportunity to facilitate contracts with market agents to enhance both production and marketing activities and also improve technology access.

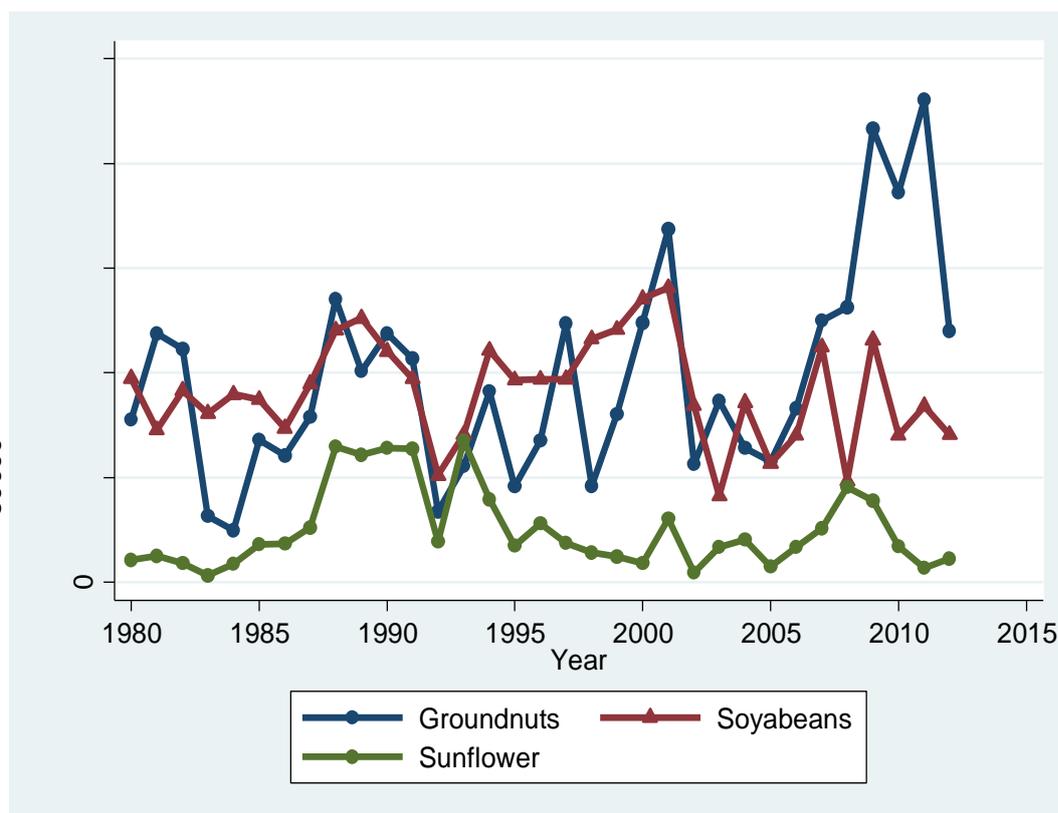
5 Oilseeds Output Market

Oilseed crops such as cotton, soyabeans and groundnuts experienced growth in the 1980s and 1990s due to increases in area planted and low input demands although the yields were low. Productivity challenges are almost similar to those for cereals. For cotton, production has been fluctuating (figure 2) reaching a peak of 339 000 MT 1998 and declining to an average 234 900 MT since 2000. Currently the major challenge is low international prices for lint which has seen some farmers shifting to other enterprises.

Cotton production is mostly financed through contract arrangements with ginners and farmers have been expressing need to have separate financing arrangements, preferably via banks. The contracts are reported to be lopsided towards ginners. The inputs packages (one bag basal fertilizer and one bag top dressing) are inadequate for the contracted hectareage and tend to be delivered late, compromising cotton yields. Some farmers are accused of diverting cotton inputs to maize production, resulting in the low cotton yields. The unavailability of cotton seed on the open market leaves farmers with no alternative but contract farming. Quton is the only distributor of cotton seed. The problem of using retained seed is also common with sunflower and groundnuts production.

Traders/oil expressers experience inadequate working capital due to limited access to agricultural financing from banks; delays in payment by buyers; lack of adequate storage facilities. Oil expressers are constrained by inadequate supply of raw material/inputs due to the low domestic oilseed production resulting in low capacity utilization. Obsolete infrastructure and outdated technology in some processing plants also contribute to high operating costs.

Figure 3: Production of Major Oilseed Crops (1980-2010).



Source: Muzvondiwa (2013)

5.1 Markets

The key players in the cotton value chain are input suppliers, research and extension service providers, producers, processors (ginning companies, oil expressers, and animal feed companies), textile manufacturers, wholesalers, retailers and consumers. The cotton sector in Zimbabwe is a buyer driven value chain, with Cottco and Cargill being the major buyers. The bulk of cotton lint is exported, with a small proportion absorbed by the local textile industry. Prices on the international market are currently depressed and there is strong global competition. The capacity of the local textile industry is currently constrained by imports of cheap clothing especially from China and second hand clothing imported through Mozambique. Ginned cotton seed is bought by oilseed expressers like National Foods and Olivine Industries. The marketing chain for soya beans is composed of producers, traders, processors, retailers and households. Soya bean is produced by both commercial and smallholder farmers and sold to traders/intermediaries such as GMB, Intergrain etc. Some processors buy directly from the farmers. A farmer can opt to store on farm and sell the crop later on. Intermediaries sell to processors who process and produce oil and cake. The oil is sold to the domestic market (retailers for example supermarkets) and finally to households who are the final consumers. The cake is sold to domestic feed manufacturers and to the export market.

Major players in the groundnuts value chain are the smallholder producers, GMB, large and small traders, informal peanut butter processing enterprises, processors, wholesalers, retailers and consumers. Groundnut products are sold both on the domestic and export market. Farmers sell raw nuts within communities, to traders at farm gate, to urban markets, directly to processors or export to neighbouring countries like Botswana. The value chains for cotton and soya beans are shown in Annexes 4, 5.

5.2 Opportunity Analysis

Currently cotton production is at its lowest due to the depressed international prices for lint, and local demand by the textile industry is constrained by cheap imports of clothing. This in turn limits supplies of ginned seed for oil expressing and cake for stock feed. Production of soya beans is not meeting local requirement by oil expressers for oil and soya cake and potential also exists to export into the region. Soya bean oil processors are operating at below capacity.

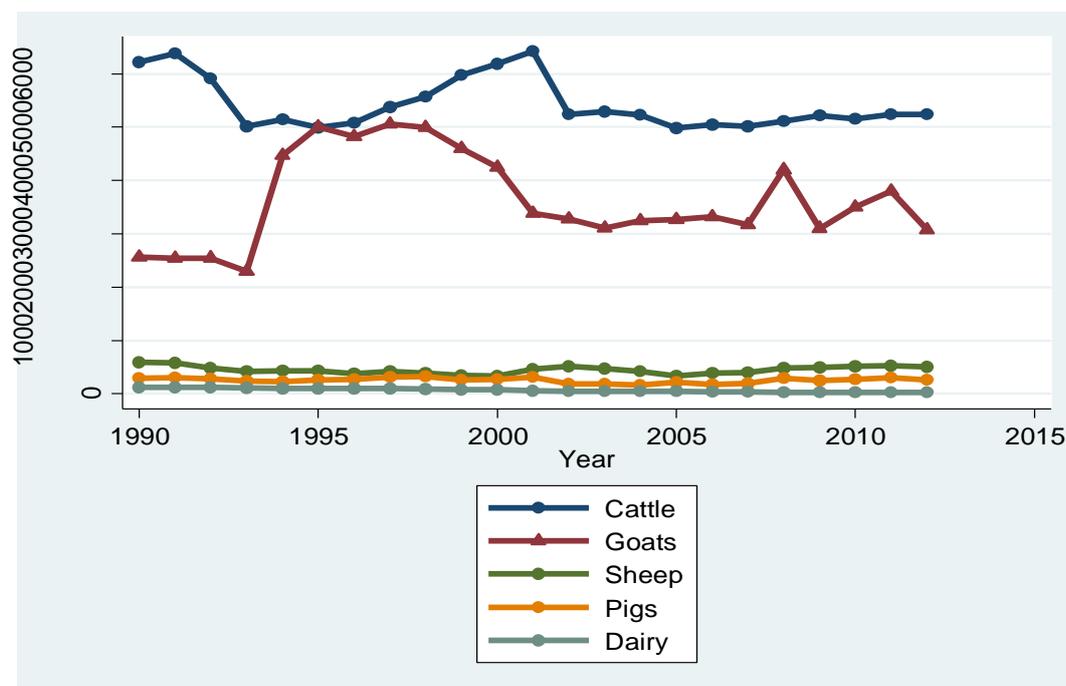
5.3 Strategies

The following strategies are recommended for increased production and market access:

- Increase area planted under oilseeds (notably soya beans)
- Irrigation upgrading and consistent input supply and good agronomic practices for improved yields.
- Financing of farm and processing operations through special concessionary interest rates to promote the expansion of production. Growers could pool resources through commodity associations like Cotton Growers Association and negotiate for cheaper prices for inputs with inputs suppliers.
- Research to be funded through part of the licensing fees collected by Agricultural Marketing Authority
- Technology upgrading in processing plants.
- Contracting or toll manufacturing is an alternative by producers or traders.
- Consistent trade policies that promote trade in oilseeds
- Improved support to smallholder farmers (extension, transport infrastructure)

Livestock Sector Market

Figure 4: Livestock Production Trends (1980-2012)



Source: Muzvondiwa (2013)

Dairy

Dairy production contributes about three percent to total agricultural output. As the figures on livestock ownership above would indicate, the structure of dairying has changed over the years, with an overall increase in the numbers of smaller scale dairy producers and a sharp decline in large scale producers. The dairy herd is reported to have declined from 192,000 in 2000 to 26,000 cows in 2012. Dairying in the smallholder areas is practiced to produce milk for sale and own consumption, to produce manure to support crop production and for reasons of social status.

At its peak in 1994 the dairy industry produced 300 million litres of milk with 383 registered dairy farms and the national dairy herd was at 104 483 head, including 53 073 milking cows. Productivity has been decreasing from an average daily milk production per cow of 25 litres to about 10 litre.

Current domestic production of milk is 50m litre/year against a requirement of 180m litre/year. Taken together with imports (liquid equivalent) of 36m litre/year, this equates to a consumption level of 7-8 litres/head/year. This is considerably low consumption compared with previous consumption levels of 25 litres/head/year. Currently imported milk supplies 35 percent of the market. 250 Large and medium scale producers deliver 60m litres /year to the formal market. There are also 3,000 small scale producers in the formal market, and 10,000 subsistence producers who also sell milk informally.

Constraints in the smallholder dairy sector include: low volumes and inconsistent quality of milk and milk products. The smallholder dairy sector used to contribute approximately five percent of national milk production, but this has declined to approximately 0.5percent. Low farm productivity is also as a result of poor feeding regimes, and poor animal health and production management practices, poor dairy breeds, lack of follower stock, high calving intervals and skills limitations of the farmers and public extension systems.

5.4 Markets

Dairy production is being practiced by a few commercial farmers and small farmers some of whom are members of Dairy Development Associations who supply their milk to Milk Collection Centres (MCC). MCC sell to DZL and local customers. The informal milk market is supplied by milk sales from registered and unregistered milk producers. Large producers sell their milk to processors and process part of their milk on farm into sour milk, yoghurt and ice cream. The major processing companies are Dairibord, Kefalos, Dendairy, Alpha-Omega, Kershelmar, Dunluce, and Dorking.

5.5 Opportunities

The industry has the capacity to process about 300 million litres per annum but currently there is shortage of raw milk and competition from imported dairy products. Taking into consideration the number of small scale milk producers (3,000) who supply milk formally to markets and the 10 000 who produce for subsistence and sell informally, it can be concluded that smallholder dairy development has potential to improve the dairy industry in Zimbabwe. This is possible through improved competitiveness and efficiency in production which should generate rural employment, increase incomes and milk consumption. The National Association of Dairy Farmers (NADF) estimates that about 900 of the smallholder farmers are delivering raw milk to MCCs throughout the country which are part of the formal market.

However, a further 2,100 smallholder dairy farms supply raw milk through the informal market, to neighbours and local markets and do not supply milk to the six primary milk processing companies. In

addition, there are an estimated 10,000 smallholder non-commercial farmers that have cows, supplying the household, and selling any surplus milk to neighbours as and when available. This group hold significant potential in terms of future dairy sector development. The resuscitation of the DDP dairy schemes has the potential to draw on these to increase milk intake for the MCCs. The MCCs are the vehicle for the expansion of milk production and productivity.

5.6 Strategies

Dairy Breeds and breeding practices – There is need for crossbreeding between local and imported breeds to capitalize on improve dairy production traits while retaining the hardiness, adaptability and disease resistance of local breeds.

Dairy cattle feeding practices - The availability and quality of veldt has a significant effect on the amount of milk that can be produced from it. Bulk fodder crops have been introduced to smallholder farmers to increase feed supplies. However, fodder yields and the acreage planted with fodder crops remain far from adequate. Training and mobilization of farmers to produce fodder is essential to ensure all year round supply of milk.

Low quality milk and poor market integration - Milk collection and delivery distances are relatively long, averaging 15 km nationwide. Transport problems are compounded by lack of storage facilities which are not conducive for highly perishable dairy products. Use of solar powered milk storage facilities and on-farm training on value-addition of milk can reduce the need for transport. Group marketing can not only ease transport problems, but can also result in higher premium prices and profits for the smallholder milk producers.

Weak public extension and regulatory services – Government needs to improve support to DDP and Dairy Services to promote smallholder dairying. Although they have managed to leverage some direct support for their schemes from some development partners, the organization faces operational challenges to provide effective extension services to the farmers.

Practical Dairy management skills - Under the DDP, farmers were mobilized into associations, enacted a constitution and chose management committees to run the MCCs. The MCCs are run commercially and requires that the farmers be equipped with practical skills to run the businesses profitably. There is need for MCCs to become more efficient, with better trained local managers from within their membership.

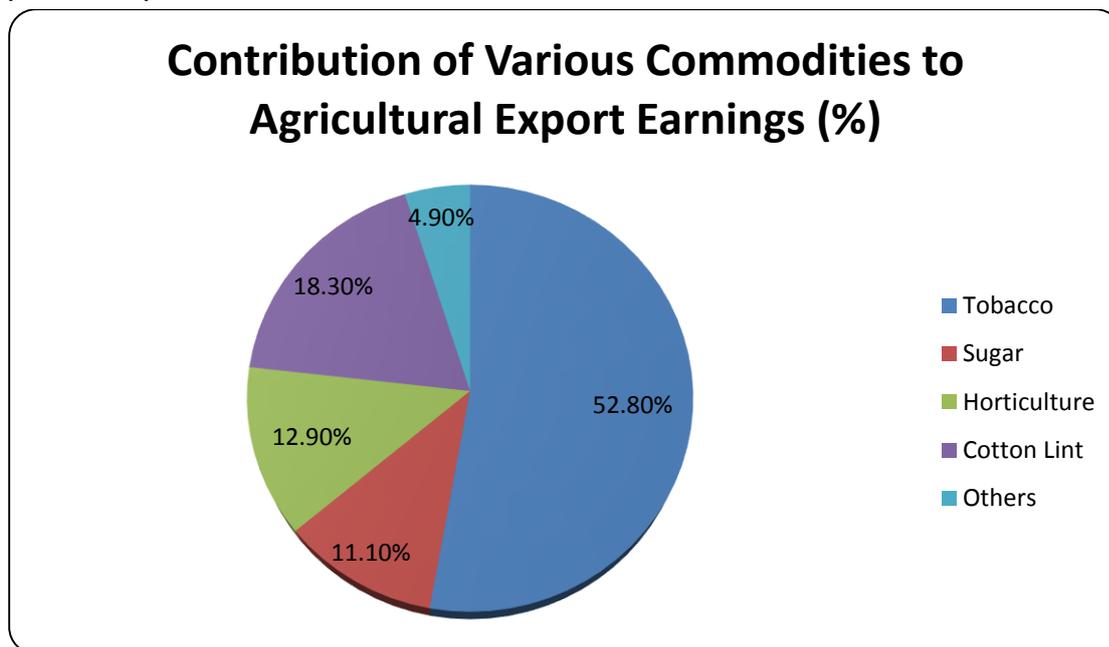
At the farmer level practical management skills for dairy herd in terms of feeding, disease control and handling of milk are limited. Tick-borne diseases and bacterial diseases are the most prevalent diseases in smallholder dairy sector as a result of infrequent dipping, lack of de-worming and poor access to animal drugs and vaccines.

6 Export Commodities Market

The major export commodity is tobacco followed by cotton and sugar. With the exception of cotton, the analyses above centered mainly on commodities which are mostly in short supply on the domestic market. There is an opportunity for import substitution for most of these commodities and also export after meeting local requirements. Major export commodities from period 2000 to 2009 were tobacco, sugar, horticulture and cotton lint. Exports of other commodities, except tobacco have since gone down due to a number of constraints both supply and political.

Figure 5 below shows the contribution of various commodities to agricultural export earnings over the period 2000 – 2009. Export commodities which are currently declining include horticulture, fruits, cut flowers, tea and coffee. Supply constraints include technological constraints (low adoption of productivity-enhancing technologies) and institutional constraints (poor infrastructure, weak regulatory frameworks). The costs of obtaining reliable market information, identifying buyers and sellers, and enforcing contracts is very high. Limited storage capacity and poor access to formal financing mechanisms render prices highly volatile. Other institutional constraints include lack of harmonized grades and standards. SPS measures are aimed at protecting human, animal and plant life or health from pests and diseases, but these are not managed well they impede trade and result in increased production and marketing costs.

Figure 5: Average Percentage Contribution of various Commodities to Agricultural Export Earnings (2000 -2009)



Source: RBZ (2009)

6.1 Markets

Zimbabwe’s traditional export markets for sugar, cotton, and horticulture are the EU and regional markets that include South Africa, Botswana, Zambia and Mozambique. Exports of sugar and limited quantities of cut flowers to Holland, and tea and coffee to the U.S are also in place. Most exports are done through local export agents.

6.2 Strategies

Farmers need training in procurement requirements and quality standards which are key requirements for accessing high value domestic, regional and international markets. To this end, the HPC has adopted the Local GAP standard of Global GAP and trained farmers Farm Assurers who will assist producers in implementing the Local GAP. Productivity needs to be increased to make up the quantities required to have the improve margins of economies of scale. Farmers and other market players need better information on new market opportunities and trade agreements related to the commodities they are involved with.

6.3 Opportunity Analysis

Opportunities for accessing export markets include:

- (i) Zimbabwe is a member of the WTO, the ACP-EU Cotonou Agreement, regional trade arrangements (SADC and COMESA) as well as bilateral agreements with neighbouring countries. These arrangements offer opportunities for trade but there is need for to improve and harmonize trade policies to improve trade.
- (ii) There are multilateral trade negotiations to reduce trade distorting practices e.g. the Doha Development Agenda (DDA) in which African countries seek to have developed countries reduce domestic support to their farmers and commit to eliminate export subsidies; multilateral trade negotiations under the WTO; several generalized systems of preferences (GSP) schemes; the EU's Everything-But-Arms (EBA) which offers open ended, quota- and duty- free entry of exports from least developed countries.

7 Conclusions

Despite the pervasive decline which Zimbabwe has experienced over the past 15 years, the agricultural potential of the country to service domestic and export markets remains considerable. With more smallholders than before, there is a need to reorient market infrastructure and support systems to encourage efficiency, growth, and income generation among smallholder households. With smallholders requiring agriculture to meet their own-consumption needs as well as being their primary source of income, engaging smallholders in markets will contribute to national food security as well as improved food security at the household level. In terms of production, important potential markets exist for expanded smallholder production of main staples and dairy. However, expanded production will be contingent on improved access to inputs, better market information, storage facilities and overall market integration. While not all of these issues can be addressed within the context of the APN, the recommendations that follow are provided as indication of the steps necessary to move smallholders to a better market footing over the course of the project period.

8 Recommendations

Recognizing the emphasis the APN puts on improving commercial opportunities for smallholder agriculture, the APN will focus on supporting the following sectors:

- Building linkages between farmers and input/output markets
- Improving the ability of farmers to meet quality and quantity requirements of domestic and international buyers
- Improving institutions through facilitating the updating, development and dissemination of existing rules and regulations, including their application along the value chain
- Improving infrastructure such as pen fattening, sales pens and crop bulking facilities
- Improve farmer access to markets through enhancing access to financial services in the form of ISALs and rural finance schemes, training value chain actors and provision of information

Considering that rural development initiatives that involve beneficiaries in identifying their own priorities have a higher rate of success, the APN (in close collaboration with the MIF and in partnership with experienced NGOs), will focus on supporting farmers and other value chain actors through human and market development and influencing policy. Informed by the problem analyses of cereals, oilseeds, horticulture and dairy sectors, the following is therefore recommended:

Building linkages between farmers and input markets

- Facilitating access to input markets through taking a coordinating role in the delivery of financial, agricultural inputs, and extension services.
- Influencing government policies to promote private sector investment (domestic and foreign) in input supply, and discouraging interventions that distort input markets. Government should also invest in infrastructure (road, rail) rehabilitation and development to reduce inputs marketing costs.
- Supporting Agro-dealer programmes, which promote technical and business skills and access to supplier credit for specialist agro-dealers and general rural retailers.
- Supporting bilateral arrangements between input suppliers and farmer organizations/commodity associations to help increase the volume of demand and transaction sizes, while reducing uncertainty, all of which can reduce input suppliers' costs and risks.
- Supporting contract farming to reduce risk in accessing inputs.

Improved linkages between farmers and output markets

- Facilitate linkages between successful farmer organizations, their members and a range of external service providers, and output markets.
- Strengthen farmer organizations in governance issues given that some farmer organizations are characterized by inadequate experience and weak institutional capacity to run and manage their day to day administrative duties.
- Support contract farming arrangements for commodities with growth potential (soya bean, sorghum, horticulture) to minimize marketing risks.
- Support initiatives to increase productivity and production for the market through improving access to credit facilities, affordable inputs, marketing information, improved infrastructure (road, rail, irrigation, storage etc.)
- Facilitate training of farmers so that they develop skills in agro-enterprise development. This should enable farmers to undertake market studies and identify investment opportunities based on their local knowledge and on market demand, rather than relying on pre-selected products identified by external experts. This contributes towards reducing production and marketing risks for smallholder farmers.
- Facilitate access to information on opportunities in the market e.g. Fair Trade certification, Global GAP, Trade Agreements & arrangements (Doha, E-B-A).

Improved Quality and Quantity Standards

- Extension support for farmers will be strengthened (e.g. farmer based approaches and marketing extension) (see the APN Inception report on this for more details on this recommendation).
- Coordinate support by Ministry of Industry and International and ZimTrade in providing farmers with information on market opportunities by working closely with Ministry of Agriculture personnel in Marketing and Trade and also farmer Organizations.
- Support Phytosanitary and Quarantine Services to train farmers on SPS issues in collaboration with other value actors (millers, milk processors, HPC) who train farmers on their specific quality requirements.
- Facilitate investments by farmers and private sector for food safety & quality standards both on farm (processing equipment; storage facilities) and packing stations (cold rooms).

Improving institutions

- Influencing policies that encourage private sector participation in the development and rehabilitation of supporting services like public laboratories (e.g. Milk Testing Centres, Seed Services, Plant Quarantine Services).
- Facilitate adoption of extension approaches (e.g. Farmer Field School, Lead Farmer/Mentor) that equip farmers with requisite skills for enterprise development.
- Encourage private sector involvement in building a strong and supportive institutional environment through provision of credit facilities for capital investments and working capital for operational expenses.
- Strengthen the capacity of Government institutions and farmer organizations in updating, developing and disseminating marketing information (Agricultural Information Management System in MAMID, ZFU Weekly Market Guide).
- Facilitate review and harmonization of existing rules and regulations (e.g. Agricultural Marketing Authority regulations and related regulations for the grains, cotton, horticulture and other sectors), including their application along the value chain.
- Improving agricultural infrastructure (pen fattening, sales pens and crop bulking facilities, etc.)
- Facilitate through MIF development and rehabilitation of marketing infrastructure by private sector e.g. market sheds especially at wholesale markets, collection points/warehouses in the rural areas, cold storage facilities, laboratories by private sector so as to reduce marketing costs and risks.
- Lobby government to improve structures/facilities that are of public nature e.g. roads, irrigation schemes, electricity.

It is further noted that access to markets through enhancing access to financial services is key in linking farmers to markets and it is covered in a separate APN Inception paper on Rural Finance.

4. Partnerships

The major partner for FAO will be the MIF implementer since all marketing activities will be funded through that facility. The other partners are Government/private sector in facilitating farmer based extension approaches; training of agro-dealers; training on SPS issues and trade agreements etc. Partners that have been involved with linking farmers to markets include SNV, Land O Lakes, USAID-ZimACP & ZIM-AIED, KAITE. These organizations have been directly involved in the project activities at different levels which raises issues of sustainability.

5. Next Steps for Year I of the APN.

- **Rapid Market Survey.** The range of crops and livestock to be produced by targeted farmers should be identified, their potential in terms of production and markets and the associated risks. With the project focus on contract farming, the question arises whether the identified commodities would be eligible for contract farming and who the potential contractors would be. The survey should take on board the targeted farmers so that the capacity building exercise starts immediately. The survey enables APN, MIF and farmers to take a fresh look at the existing production portfolio and also explore options for diversification based on the agronomic marketing and financial merits of the selected enterprises

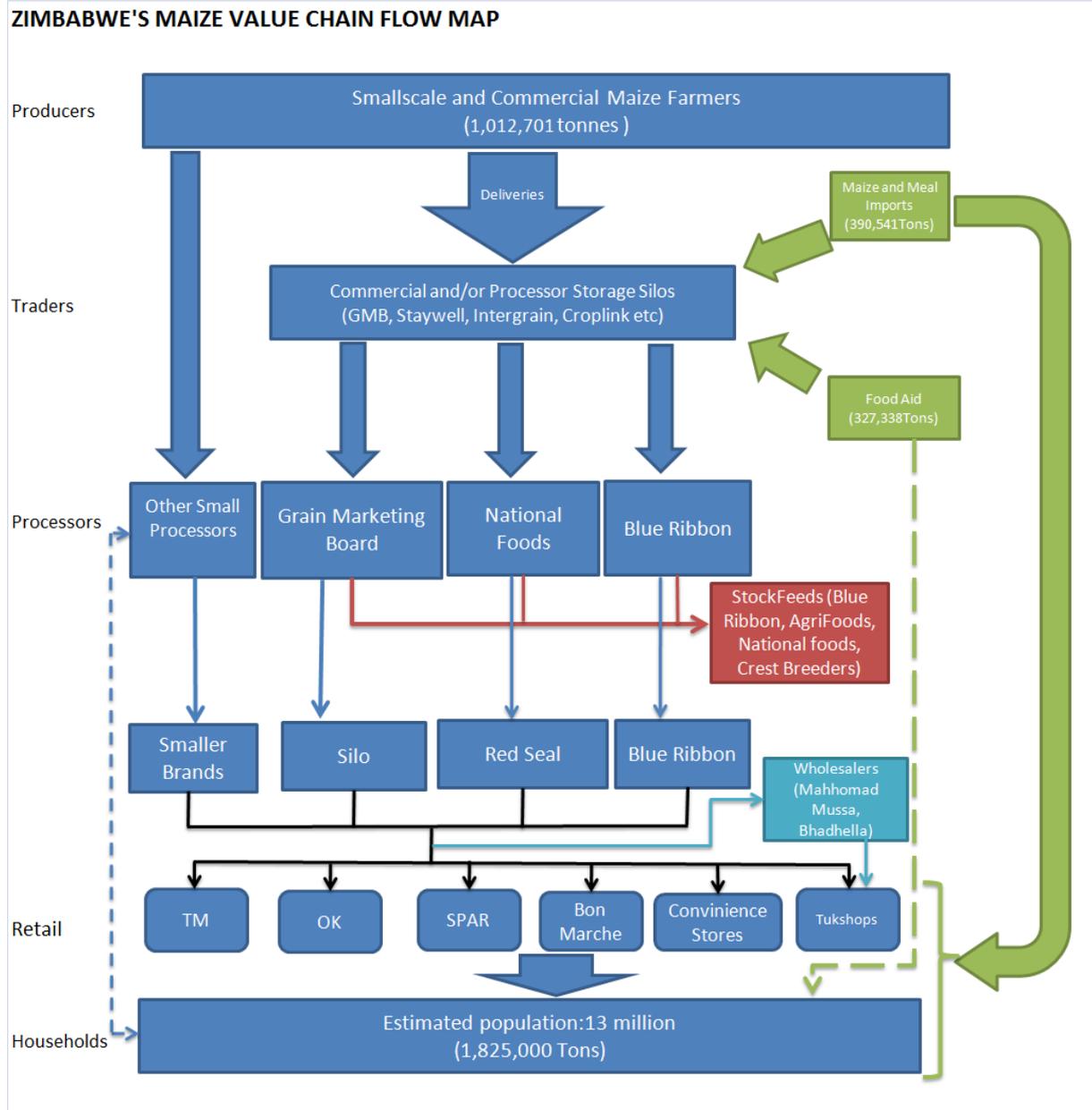
- **Value Chain Analyses.** There is need to conduct value chain analyses for the identified commodities so as to evaluate market demand and buying conditions for existing commodities with reference to collective marketing within a group. In addition market options for new commodities need to be evaluated to encourage diversification with an emphasis on high value crops to achieve LFSP results. There is also need to evaluate the market options for value-added products, so that service providers can assist farmers in shifting from raw to processed goods. This should inform the MIF design. This exercise is not meant to replace existing smallholder crops (especially food crops of own consumption) but it offers options for increasing farmer income through increasing marketing competitiveness, diversifying products or identifying more lucrative markets. This is important given the relatively small risk-taking threshold of most smallholder farmers.

- **Collaboration with MIF.** The APN will depend on the MIF to ensure that markets are accessed by farmers so as the latter is designed there is need for close collaboration. The MIF should be operational in time for farmers to prepare for the 2014/15 season.

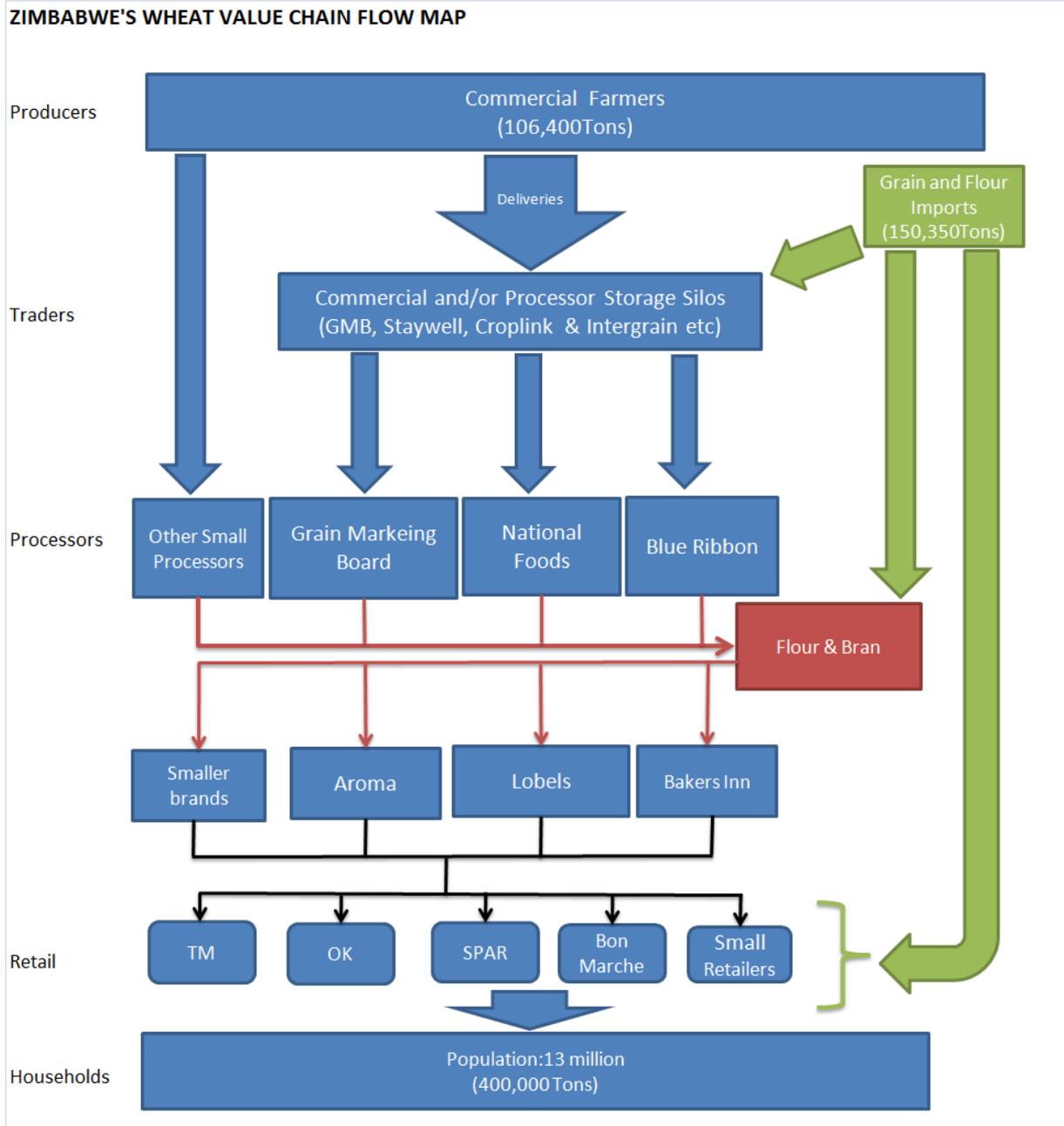
References

- ACDI-VOCA, (2013).** Value Chains and Value Chain Analysis: A Signature Value Chain Approach to Strengthen Value Chains and Promote Economic Opportunities. <http://www.acdivoca.org/valuechains>
- Bahiigwa, G. (2006).** Access of Eastern African Framers to Domestic and International Markets; Opportunities and Constraints.
- FAO, (2006).** Guidelines for Value Chain Analysis. www.fao.org/fileadmin/templates/esa/LISFAME/Documents/Ecuador/value_chain_methodology_EN.pdf
- FAO, (2012).** Support to National capacity Development in Crop Post Harvest Management. Technical Cooperation Programme (TCP) Document.
- FAO, (2012).** A Comprehensive Sorghum, Pearl Millet and Finger Millet Farmer Based Grain Production Manual
- FAO, (2003).** WTO Agreement on Agriculture: the Implementation Experience
- Ferris, S. et al. (2006).** Strategy Paper: A Participatory and Area-based Approach to Rural Agro enterprise Development. CIAT Publication No. 349
- Kapuya, T., Saruchera, D., Jongwe, A., Mucheri, T., Mujeyi, K., Traub, L. and Meyer, F. 2010.** The Grain Industry Value Chain in Zimbabwe. A report prepared for FAO and the EU All ACP Agricultural Commodities Programme.
- Lundy, M. et al. 2004.** Increasing the Competitiveness of Market Chains for Smallholder Producers; Manual 3: Territorial Approach to Rural Agro-Enterprise.
- Ministry of Environment and Natural resources Management, (2013).** National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants for Zimbabwe
- Mugwagwa, I. (2008).** A value chain analysis of the cotton and tobacco Sectors: Paper presented at the Roundtable Workshops. Maastricht, May 2008.
- Muzvondiwa, E. (2013).** Draft Zimbabwe Country Report: Drivers of Staple Food Prices in Eastern and Southern Africa
- Ostergerg, C. et al. (2007).** Identifying Market Opportunities for Rural Smallholder Producers. CIAT Publication
- USAID/ZIMBABWE Report Prepared by ACDI/VOCA and Catholic Services, 2012.** Market Mechanisms to Achieve Food Security Assessment
- Van Schalkwyk, H.D. et al. (2012).** Unlocking Markets to Smallholders, Wageningen Academic Publishers.
- Zimbabwe Vulnerability Assessment Committee (ZimVAC), (2013).** Rural Livelihoods Assessment Report. Food and Nutrition Council (FNC), SIRDC, 2011.

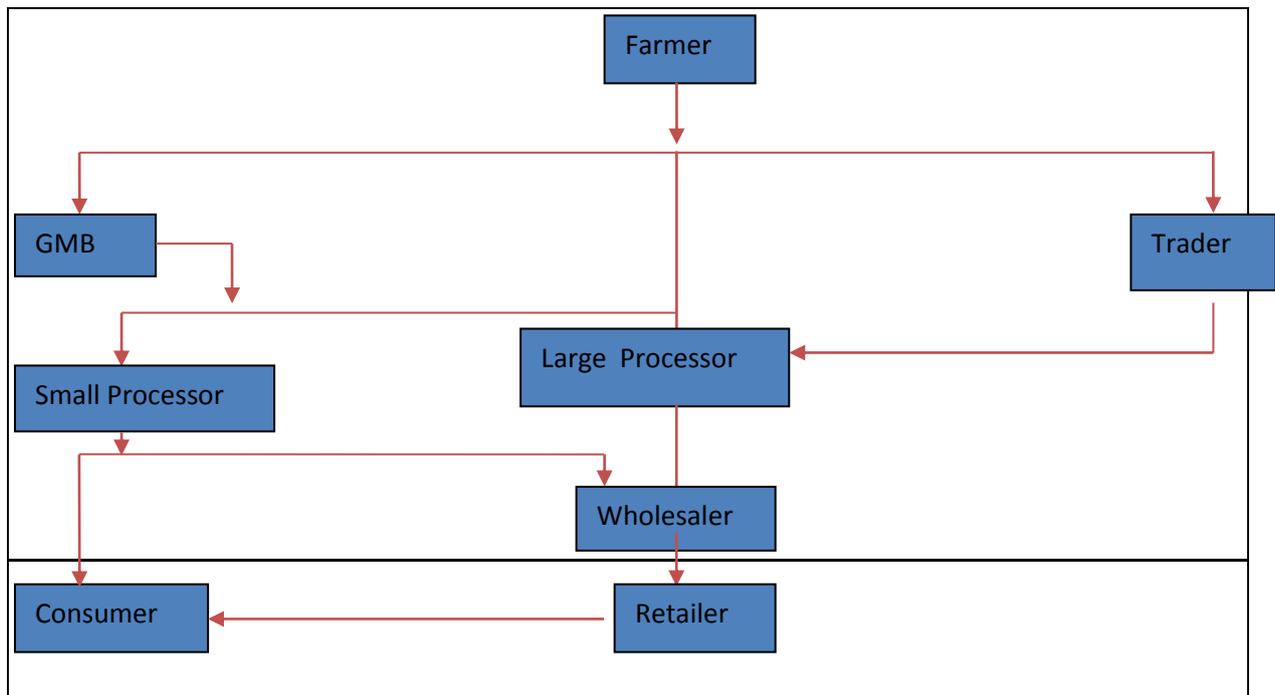
Annex 1: Maize Value Chain Flow Map



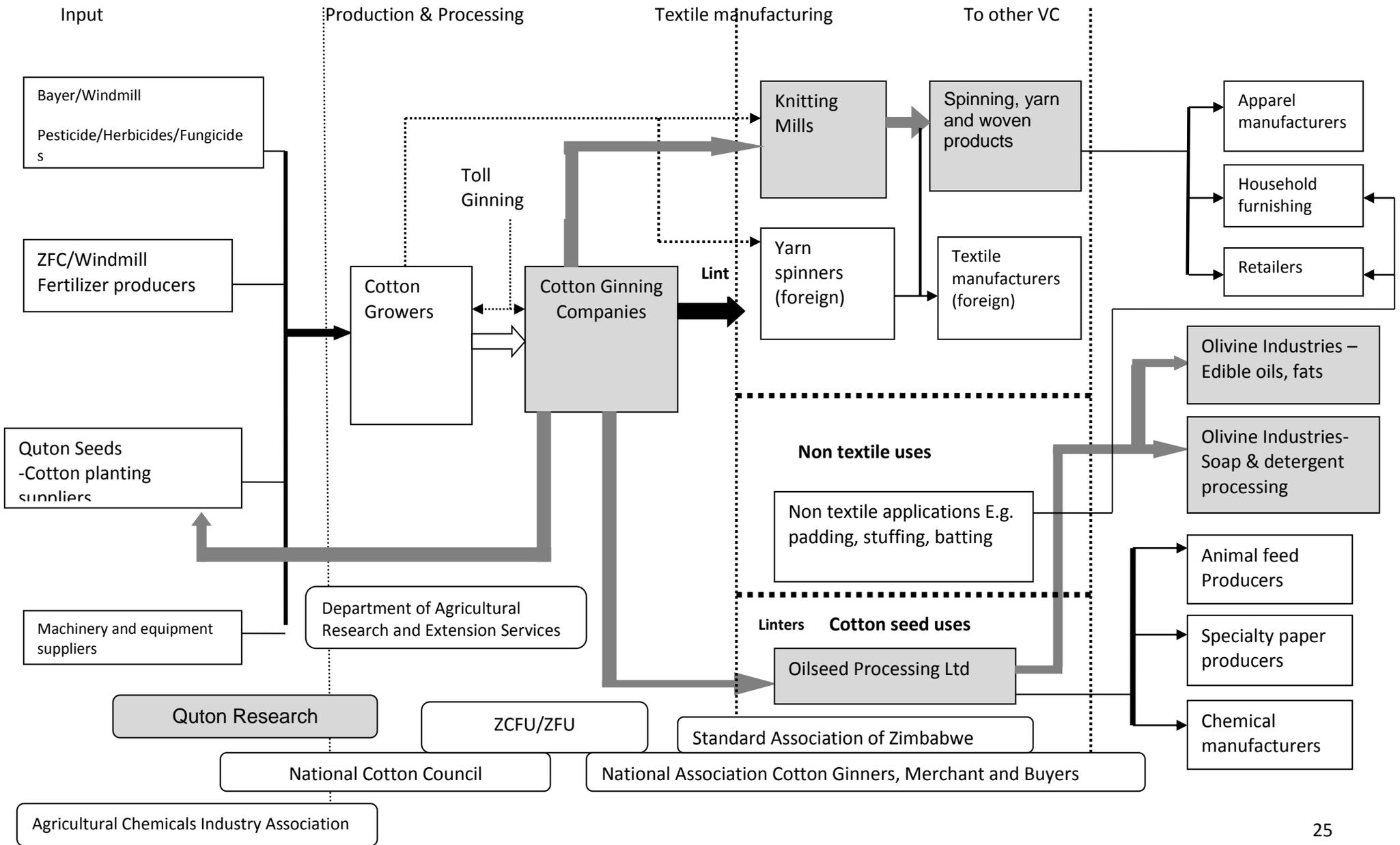
Annex 2: Wheat Value Chain Flow Map



Annex 3: Simplified Sorghum Value Chain



Annex 4: Cotton Value Chain (Adapted from Mugwagwa, 2008)



Annex 5: Soyabean Value Chain Flow Map

Figure 1: ZIMBABWE'S SOYBEAN VALUE CHAIN FLOW MAP

