



A CRITICAL REVIEW OF THE WHEAT INDUSTRY IN ZIMBABWE

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Abstract

This study maps the wheat value chain, identifies performance-influencing factors at various stages, and assesses emerging production and consumption patterns in Zimbabwe. Secondary data sources, key informant interviews, and focus group discussions were used in data collection. Data were analyzed by value chain mapping, gross margin budgets and descriptive statistics scoring. Results showed that domestic wheat production was low (>20%) of national demand of 450 000 tonnes annually. Zimbabwe has a comparative disadvantage in the production of wheat. The wheat processing industry was very concentrated with a few companies processing wheat into flour and other wheat by products such as bran used in the animal feed industry. The industry was characterized by high production costs and low margins, less than 10% of operating costs across the value chain from the farmer to the processor. Efforts to improve the business environment for wheat production and proceeding are recommended for sustained wheat production in Zimbabwe.

Key words: *Value, Chain, Zimbabwe, Factors, Sustained.*

1. Introduction

The Zimbabwe's agricultural sector is a critical sector providing livelihoods to approximately 70% of the population, contributing between 15% and 20% of GDP and providing 40% of export earnings and supplying 63% of agro-industrial raw materials. (GoZ, 2011; Zimstat, 2012). This makes the agricultural sector strategic and very important sector in designing strategies and policies to reduce poverty, reduce food insecurity and boost rural incomes.

Wheat is the second most important strategic food security crop in Zimbabwe after Maize. Wheat has become a staple crop given its high demand of bread its product by the urban population. Wheat farming is a major cropping activity and the commodity is highly valued particularly its product, bread. Bread has become a key staple food in Zimbabwe thus making wheat the second most important crop after maize (Kapuya et al., 2010). Wheat contributes about 4% to the GDP of Zimbabwe (RBZ, 2009). The immediate wheat products are flour and bran. Flour is the main ingredient for making bread and other confectionaries consumed daily by mostly urban Zimbabweans while wheat bran is mainly used in the stock-feeds manufacturing sector. Since domestic produced wheat has poor quality for bread making because it is too soft, hard wheat imports are required to improve the glistening of the local wheat product according to key informants.

Most activities in the agricultural sector are carried out in summer when rains are available and temperatures are favorable for plant growth. However, crops such as wheat and barley and some horticultural crops are grown in winter. The winter crops require cold weather for successful crop development and high productivity. Since the winter months are generally dry, irrigation is necessary for successful crop development. Winter cropping offers opportunities for farmers to double crop in a year, raising farmers' annual incomes. Since wheat can only be successfully grown during the dry winter months under irrigation, it implies that the crop requires significant initial capital development costs for construction of dams, water reservoirs, boreholes, water mainlines, sprinklers, and electricity power or diesel power reticulation. Wheat has high production costs as a result it is mostly produced by a large to medium scale commercial farmers (Anseeuw, 2011). A few smallholder farmers on wet lands and smallholder irrigation schemes also produce wheat, albeit mainly at subsistence levels.

Despite the strategic role played by wheat in Zimbabwe and the previous investment efforts into developing wheat production in the past, total annual output is on a declining trend from 325,000 tons in 1990 to 18,500 tons in 2008 (Gasana et al., 2011). Generally primary production in the sector is down sliding owing to a number of challenges, key constraints to production included a limited and unreliable supply of low-cost inputs (e.g. seed, fertilizer), and limited capacity to mobilize capital. Given the strategic importance of the commodity, the continued decline in self sufficiency of the economy in this sector is a course of serious concern, especially for government whose role is to protect strategic commodities for food security in the country.

This study was designed to provide a comprehensive understanding of the wheat value chain in Zimbabwe and investigate critical factors undermining the development of the industry. Currently, there is lack of detailed and consolidated information on the structure of value chains for grains including wheat in Zimbabwe which acts as a constraint to policy advocacy in encouraging the design of trade and related policy interventions (Kapuya et al., 2010). As such there is need to understand its value chain, so that informed policy decisions can be made. This paper intends to fill this gap by providing a detailed value chain analysis of the wheat industry in Zimbabwe. The objective of this paper is to conduct a market assessment of the wheat within Zimbabwe through a Value Chain Analysis (VCA) in which the impact of current policies and the potential benefits of reform to this sector in enhancing intraregional trade is investigated. This study is important because it provides a framework for the development of a strategic plan to improve

the value and/or the volume of wheat produced and marketed in Zimbabwe in view of enhanced regional staple grain trade.

2. Research Objectives

The broad objective of the study is to provide background information and discuss about key issues surrounding wheat production and marketing in Zimbabwe. This will form the basis for future policy decisions on wheat production in Zimbabwe given the problems bedeviling the sector at the moment. Specifically the study maps the wheat value chain, assess emerging production and consumption patterns, and identify performance-influencing factors at various stages in the value chain. This crucial data can then provide background information for future policy decisions on the country's wheat production, marketing and consumption decisions.

3. Research Methodology

3.1 Data collection

The study used secondary data sources, literature review, key informants interviews and focus group discussions to obtain information and data. The data on wheat production and imports was obtained from the index mundi website (<http://www.indexmundi.com/agriculture/?country=zw&commodity=wheat&graph=production>). A list of key informants who were interviewed for the purposes of this study were identified from relevant literature and an exploratory survey carried out. Some of the key informants interviewed were from the following organizations: Ministry of Agriculture, Mechanization and Irrigation Development (MoAMID); large scale farmers, small scale farmers, Grain Marketing Board, ZFC, Windmill, etc. An interview guide was prepared for use for the interviews and also focus group discussions with the key informants. The information obtained from these sources was then processed to come up with the clean and complete data for analysis. Information from literature was then used to compliment information from key informant interviews and focus group discussions.

3.2 Data Analysis

Wheat trend analysis was carried out using wheat production and import data from 1960 to 2012. Comments were made on the increase and/or decrease in production and import trend observed. Reasons for such trends were also outlined and analyzed. In addition, the players in the wheat value chain were also outlined and analyzed. A wheat value chain for Zimbabwe was constructed and analyzed using information obtained from secondary data sources, key informant interviews and focus group discussions. Costs and profit functions were used to determine the performance of the value chain at various levels. Value chain mapping, gross margin budgets analysis, descriptive statistics, and scoring were used in the analysis. Performance indicators such as prices and volumes of production were considered and compared to either international parity prices or theoretical standards. Constraints that are faced by the players in the wheat sector were analyzed. In addition, ranking and scoring techniques were used to streamline the constraints. Suggestions and recommendations from the key informants were also analyzed and reported accordingly.

4. Results and Discussion

4.1 Wheat Production and Importation

Wheat production has been following a down sliding trend since 2000 to date and imports have been increasing in response to resulting shortfall in the domestic market (Figure 1).

Wheat production and imports from 1960 to 2012 are shown in Figure 1.

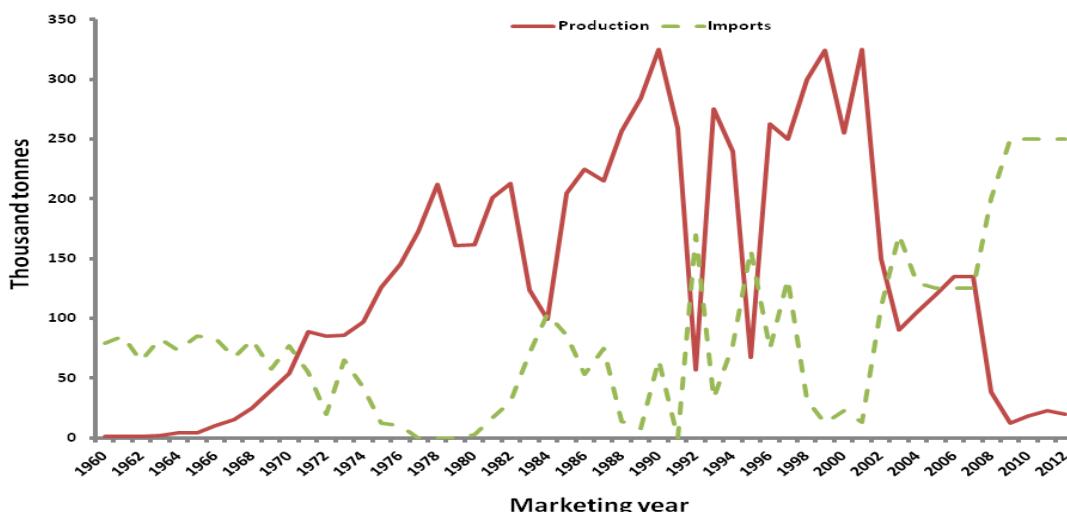


Figure 1: Wheat production and imports in Zimbabwe from 1960 to 2012

Significant wheat production in the country started in the mid-1960s (Figure 1). Generally an upward trend in wheat production from 1960 to 1990, although some noticeable drops were observed in 1979, 1980 and 1984 (Figure 1). However, since 2003 wheat production has been on the decline (Figure 1). Before Zimbabwe's independence in 1980, the country faced international sanctions but it adopted an inward looking food-self sufficiency strategy hence it managed to sustain the increase in wheat production during the 1960 to 1980 era. The strategy that was adopted by the country, emphasized heavy subsidized investment in irrigation projects, subsidized operating loans throughout the commercial farming areas, accompanied with research, development and extensive extension (Herald, 02/10/12). The strategy resulted in foreign currency rationalization and increased wheat production leading to excess production and wheat exports by 1978. Despite these earlier achievements, the advent of independence in 1980 saw these investments in the subsector declining, government budgetary constraints increasing, and wheat production levels in the country declining over the years (Figure 1). From this time Zimbabwe migrated from being a net exporter of wheat with the last recorded exports of 70000mt in 1995 to net exporter of wheat (Figure 1). Currently the economy is heavily depended on imports averaging 250 000 mt/year (Figure 1). The country's production levels fell from a record high of 340 000 mt in 2000 to a record low of about 40 000mt in 2011 against a consumption level of about 450 000mt/year (Figure 1).

The decline in national wheat production is attributed to many factors which led to reduced areas planted and declining productivity of wheat over the years. Whereas wheat production has been declining drastically, consumption demand has been dramatically increasing due to increase in urban population and changing tastes thereby increasing the gap between production and consumption widening the import demand. This became particularly severe since 2000 following the fast-track land reform program. The accompanying disinvestment, loss of agricultural expertise and general decline in economic activities led to further decline in production and productivity of wheat.

Stakeholders in Wheat Value Chain and Value Chain Mapping

The wheat value chain can be grouped into five levels comprising input suppliers, producers, traders, processors and end markets consumers (Figure 2).

Figure 2 below summarizes the structure of the wheat value chain in Zimbabwe.

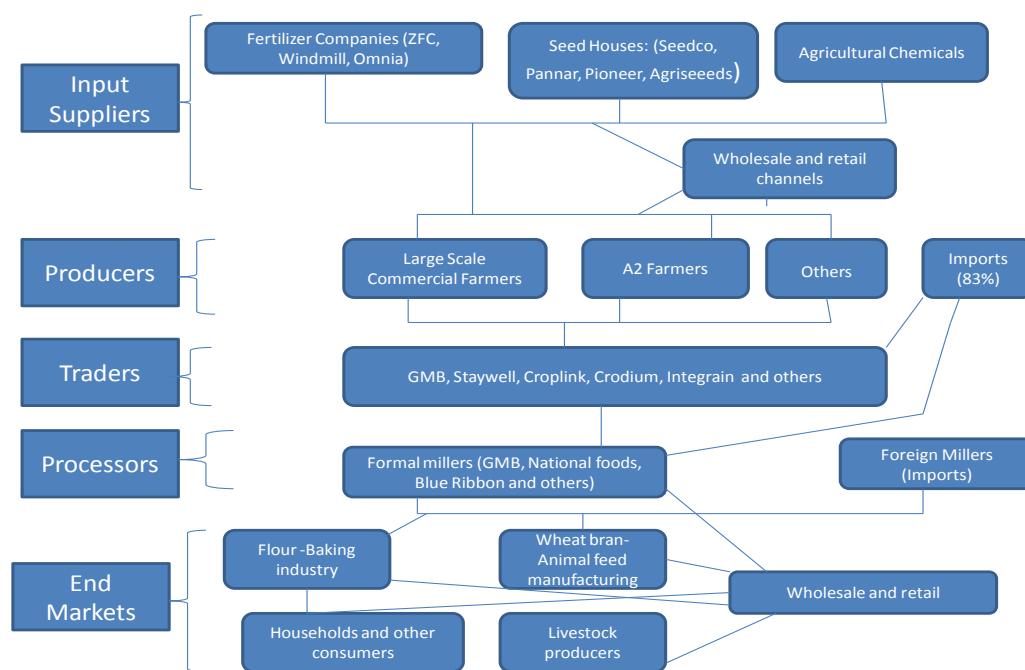


Figure 2: Wheat value chain in Zimbabwe

A profit function can be used to access profitability performance at each market level. Although the central focus of analysis of the wheat subsector looks at production and farming activities, however a well structured and coordinated food chain is paramount to achieve consumer satisfaction at reasonable prices. For farmers to have a successful farming venture they have to depend on provision of farming inputs from sector markets.

4.2 Input suppliers

Production of wheat requires three broad factors of production: land, labor and capital. Capital inputs vary from fertilizers, crop chemicals, farm machinery, lubricants, oils, fuels, electricity and water. These inputs are produced in different markets with different market characteristics. These input suppliers comprise of several public and private institutions which produce and/or import these products for resale on the domestic market. For example, fertilizers, seeds, chemicals, machinery, irrigation water are provided by monopolies and monopolistic institutions. These input suppliers despite being concentrated in production and marketing are also horizontally integrated into suppliers of most crops and livestock inputs to achieve economies of scale. Although there is high concentration in these input markets, the DRSS of the Ministry of Agriculture, Mechanization and Irrigation Development (MoAMID) reckons existence of 37 registered fertilizer companies, 15 agricultural chemical companies and 7 seed houses.

The suppliers of agricultural inputs are regulated by the Fertilizers, Farm Feeds and Remedies (FFR) Act (Chapter 18:12), Plant Breeders' Rights Act (Chapter 18:26) and the Seeds Act (Chapter 19:13). These Acts are administered by MoAMID through the DRSS. Under DRSS, the Chemistry and Soils Research Institute (CSRI) regulates fertilizers, farm feeds and remedies while the Seed Services Institute (SSI) regulates the seed industry. DRSS, through the responsible institutes is responsible for the registering of seed crops and growers, agricultural input sellers, testing laboratories, processors and manufacturers, as well as regulating the import and export of agricultural inputs. Although the country produces inputs such as chemicals and fertilizers, however companies are operating under generally unfavorable macroeconomic conditions and with obsolete equipment making them uncompetitive. Imported inputs are increasing while local production is dwindling straining current account balance. Current macroeconomic conditions and the general policy framework encourage increased importation of manufacturing inputs discouraging domestic manufacturing industries. For example, the sole producer of Ammonium Nitrate (AN) was contemplating decommissioning its Kwekwe plant in January 2012 and would depend on importing for resale.

4.3 Wheat Producers

As already reiterated, wheat is grown during dry winter season, therefore irrigation is a prerequisite for its production in Zimbabwe. The need for irrigation restricts production of the crop to only those farmers with developed irrigation infrastructures and facilities. Although huge investments were made into the sub-sector in the mid 1960s and early 1970s particularly in the then large scale white owned commercial farming sector, no large scale irrigation schemes were developed after independence in 1980. As a result, the depreciation of the physical infrastructure compounded with disinvestment caused by the land reform program from 2000 and other factors like high electricity tariffs, unreliable electricity supplies, poor marketing conditions have led to drastic decline in irrigable land and wheat output and productivity. Since developing irrigation infrastructure requires huge initial capital investments, there is limited production of the crop by smallholder farmers. Smallholder farmers have limited ability to develop sustainable irrigation schemes. Whatever wheat they grow is done mainly on wetlands and smallholder irrigation schemes for subsistence.

Commercial wheat producers in Zimbabwe are represented by the Commercial Farmer's Union (CFU) through the Crop Producers Association (CPA), Zimbabwe Farmers Union (ZFU), Zimbabwe Commercial Farmers Union (ZCFU) and Zimbabwe National Farmers Union (ZNFU). Wheat farmers are operating under very stressful conditions given the general macroeconomic depression and high production costs. The high production costs, lack of finance, low producer prices and competition from wheat imports are all contributing in taxing the wheat subsector. Zimbabwe generally has comparative disadvantage in wheat production though it has high opportunity costs if grown in winter since there are a few alternative commercial winter crops. Wheat is generally cheaper from the world market than producing. A simple domestic resources analysis might suggest Zimbabwe abandoning wheat production and depend on imports from the world market. That simple partial analysis is biased since it does not consider the opportunity costs of not producing during winter months. Both areas planted and average yields have dropped leading to wheat shortages and drastic increases in wheat and flour imports. Despite domestic produced wheat having poor baking quality, landed wheat prices have generally been below market prices in the country causing wheat millers and processors to prefer wheat imports than domestically produced wheat. As farmers have reduced wheat production due to several factors such high inputs costs, late payments, high electricity tariffs, electricity load shedding, lack of finance and other factors, wheat imports and wheat import bills have ballooned causing budgetary constraints.

4.4 Traders

Although wheat farming is declining, there are still fairly a large number of farmers into wheat production. These farmers until recently sold all their produce to a statutory government monopoly the Grain Marketing Board (GMB). Trade in grains within and outside the country has been statutorily dominated by GMB, a statutory body which had monopoly power emanating from government controls prior to 2009. The deregulation of grain trade in 2009 has resulted in the emergence of private players participating in storage and trade of grains and legumes from within and outside the country. Formal private grain intermediaries which have been active include Denote Enterprises, Crop Link, Intergrain (Paperhole Investments) and Staywell (Oregon Corporation). The GMB has an established storage infrastructure consisting of silos and depots with a capacity to hold 5 million mt of grains and or legumes throughout the country. These facilities are also leased to private traders or large farmers. In addition to procuring grain from the domestic market, formal traders also import grain and its by-products to augment local supplies. The foreign trade sector affects the wheat industry at each level in the marketing chain. The informal sector is also very active in local wheat trade through Mbare Musika in Harare and other urban and rural service centers. They buy wheat from farmers and bulk it up for re-sale to formal traders and processors, as well as directly to consumers. Deregulation of marketing has allowed new market players thereby introducing competition to the GMB.

4.5 Wheat Millers

The milling industry is highly dominated by four major processors sharing more than 80 percent of the wheat market. Wheat marketing deregulation has introduced new small scale players with proliferation of hammer mills in settlement areas. There are about 35 formalized small scale hammer mill based firms and together with the four major processors they have a total capacity of 189 mt / hour, converting to 400 000 mt of flour (equivalent to 500 000 mt of wheat) per year. Milling capacity ranges from 0.4 - 34t / hour. The millers mill the wheat into flour and wheat bran. The flour goes into the baking industry while wheat bran is used mainly in animal feed manufacturing. The milling industry is however under threat. For example, Blue Ribbon Foods, one of the major millers is contemplating liquidating because its running losses. The major constraints millers are facing is availability of wheat grain for processing, lack of working

capital, expensive borrowing costs due to the general illiquidity conditions in the market. Further, millers are facing stiff completion from wheat and flour imports depressing domestic prices.

4.6 Baking Industry

The baking industry is highly decentralized with several wholesale and retail producers throughout major settlement areas. The National Bakers Association of Zimbabwe (NBAZ), a part of the Confederation of Zimbabwe Industries (CZI) represents bakers. Major bakeries in Zimbabwe are Bakers' Inn, Proton, Perfect Bake, Super-bake and in-house bakeries in supermarkets, restaurants and hotels. About 90% of the flour used in baking industry is used for bread making while the other proportion goes into other baking products such as cakes, scones, buns and others. There is no significant competition with imports in the baking industry since bread is a perishable. Some bakeries actually import wheat or flour. Households also buy flour for home baking.

4.7 Consumers

Products from wheat such as flour, bread and other confectionery products are consumed by mainly urban households and other consumers such as hotel guests, restaurants guests etc through the numerous wholesale and retail outlets in mostly urban and growth points areas. Wheat bran, a wheat milling by product, is used for manufacturing livestock feed. Wheat and bread consumption per capita has through time increased in Zimbabwe. Although bread used to be luxury product especially among the urban and rural poor, it has through time become a necessary good, a staple food. Bread is gradually becoming an important source of carbohydrates for most house-holds especially urban families. Bread is substituting maize meal (sadza) and other sources of carbohydrates such as rice and potatoes.

4.8 Performance of the Wheat Value Chain

Although time and budgetary constraints would not allow this study to do a detailed survey to collect quantitative performance indicators of the whole value chain and individual components of the value chain, however the following qualitative measures emerged for farm production, milling industry and bakers.

Farm Production

The average total cost of producing one hectare of wheat is \$ 1,788.00 of which about 31 % of the costs are fertilizers and lime, 20 % irrigation costs, 13 % tractor power, 9 % seeds, 9 % combine harvester, 9 % fixed costs and the balance of 9 % other costs. Figure 3 below summarizes these figures.

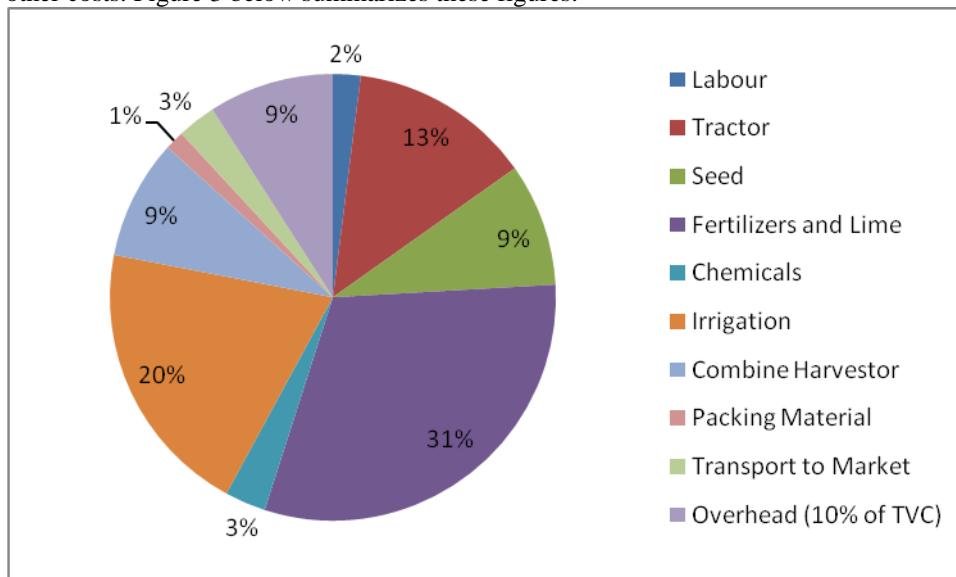


Figure 3: Costs of Production in Wheat Farming in Zimbabwe.

Wheat production is currently unprofitable and not viable. Average gross margin per hectare are negative, about - \$461.00 and profits are about -\$623.81 per hectare. Table 1 below shows the details of the performance analysis.

Table 1: Performance of wheat farming

Yield level (t/ha)	2.50
Blend selling price (\$/t)	466.00
Gross Income (\$/ha)	1165.00
Total Variable Costs (TVC) (\$/ha)	1626.19
Total Fixed Costs (10%) of TVC (\$/ha)	162.62
Total Cost	1788.81
Gross Profit (\$/ha)	-623.81

Wheat Milling

The average milling cost of wheat is about \$579.00 per tonne. The composition of the costs is as follows; 81 % is procurement costs of wheat raw material, 17 % are residues mark-up, 1 % is labor and 1 % packaging material as shown in Figure 4 below.

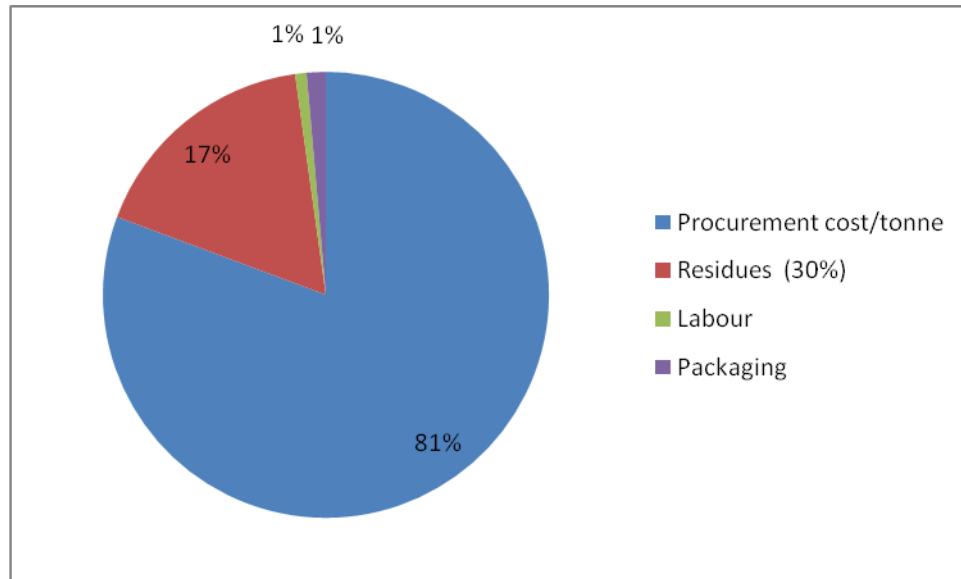


Figure 4: Production costs in milling industry

The viability and profitability of milling business depends to a large extend the cost of maize. The GMB provides the price ceiling farmers receive. Most private traders and millers buy wheat from farmers at GMB price discount, about USD 400 when GMB sets price of USD 466 per tonne. Millers are collecting a profit of \$111.23 per tonne of wheat milled. Although milling seems profitable and is dominated by five major players with several hammer mills scattered throughout residential areas, urban centers and rural areas, the subsector has excess capacity. The major millers are operating below full capacity reducing their economies of scale benefits. Blue Ribbon Foods Industries is contemplating liquidating sighting capacity underutilization and other factors.

Table 2: Performance of wheat milling in Zimbabwe

Item	Value (\$)
Total Cost	578.77
selling prize (16% mark up)	690
Profit Margins/t	111.23

Bread Making

The cost of making one standard loaf of bread is currently at \$0.84 and the composition of these costs is as follows; 38 % flour, 16 % premix, 18 % overheads, 10 % distribution, 7 % bakery fuel and the remaining balance on other costs. Details of the cost structure are as given in Figure 5 below.

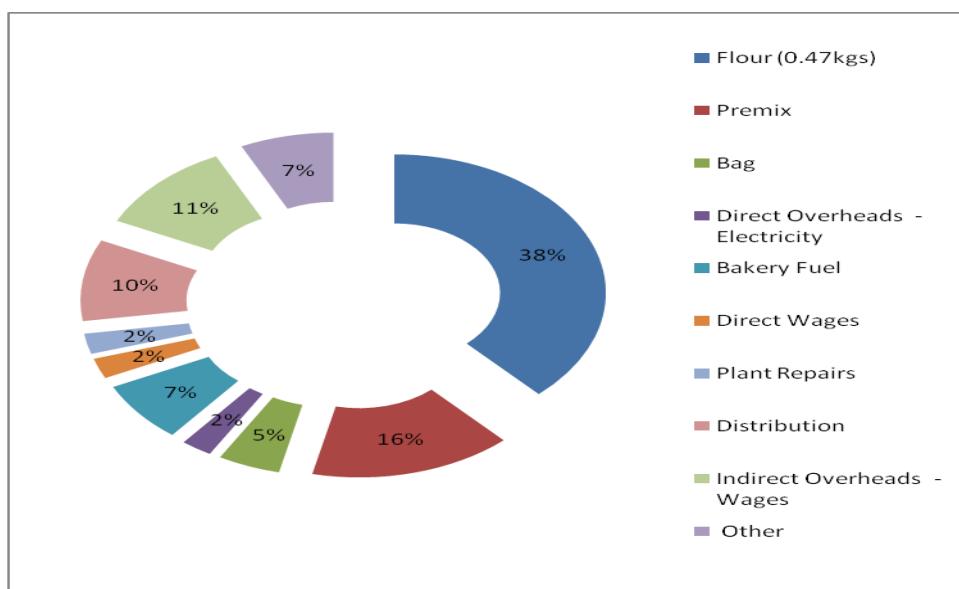


Figure 5: Cost of production in bread making

Bread making is viable and profitable in Zimbabwe with bakers realizing a profit of \$0.16 per loaf of bread baked. A detail of the profitability analysis is as indicated below in Table 3.

Table 3: Performance in Bread Making Industry

Item	Value (\$)
Total Cost Per Loaf	0.84
Retail Price	1.00
Profit	0.16

4.9 Competitive Constraints in the Wheat Value Chain

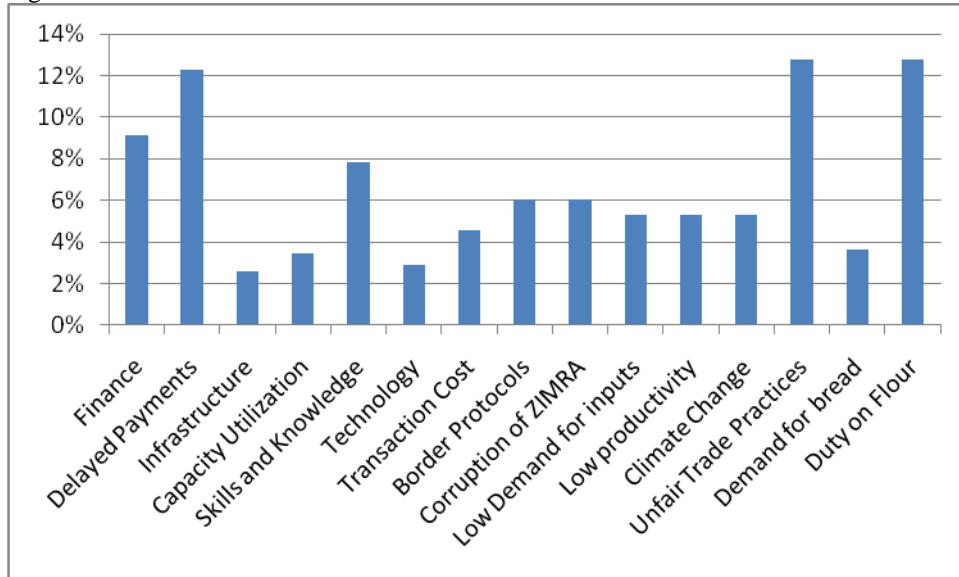
Survey results emerging from analysis of stakeholders' responses identified a number of issues affecting the performance of the food value chain. These factors were clustered as the broad cross cutting issues and stakeholder specific issues. Factors cross cutting the value chain were those factors that affected all key players in the value chain. These constraints were found to be:

- i. Non-availability and costly finance,
- ii. Delayed payments,
- iii. Poor infrastructure for wheat production,
- iv. Poor supply of raw materials,
- v. Low capacity utilization,
- vi. Skills and knowledge gaps,
- vii. Technology gap,
- viii. Increased search / transactions costs,
- ix. Border protocols, and
- x. Corruption at border posts.

Besides these broad cut across constraints, other constraints identified as specific to stakeholders at a particular level in the value chain were also identified. For example, low demand for improved farm inputs was identified as the major specific constraints facing farm input suppliers. Low productivity and effects of climate change were identified as major specific constraints facing farmers. Unfair trade practices and dumping of wheat flour were identified as major specific constraints affecting the milling industry. Decreasing demand for bread and duty on imported flour affected the consumers in the value chain.

4.10 Prioritization of Constraints

Results from prioritization of constraints indicated that the main business environment factors were availability and cost of finance (9.14%), delayed payments (12.25%), unfair trade practices such as dumping of wheat flour (12.80%), skills and technology gap (7.86%) and duty on flour (12.80%) among other factors. Figure 6 below summarizes the proportionate weight of score of these constraints.

**Figure 6: Proportionate weights of scores of constraints in wheat production**

Some of the major constraints affecting the wheat industry are now discussed in detail and the recommendations to improve on those constraints are also discussed.

Finance

The major constraint facing the food chain is access to credit due to creditworthiness considerations. According to Kanyenze et al. (2011), a lot of empirical and theoretical literature on the finance growth nexus shows that a well developed financial sector plays a causal and central role in promoting development of all sectors. The current uncertainty on landownership rights in Zimbabwe has compromised the financial sector's ability to mobilize financial resources from savings for lending to the productive sector at reasonable interest rates. This challenge has caused

operational, infrastructural and other investment deficits in agriculture. The effects have trickled throughout the food chain affecting crop production, agro processing, wholesaling and retailing in grains, legumes and animal feed value networks. Access to credit has been limited because of lack of land security, a high risk profile of the country, general illiquidity conditions in the banking sector and global financial recession. Financial products available in the market are limited and short term, typically not appropriate for agriculture, and offered at high interest rates (USAID, 2012). The general financial outlook in Zimbabwe is such that there is currently an estimated USD 1.8 billion in circulation compared to a demand of USD 10 billion to efficiently oil the economy. A situation of financial disintermediation may be prevalent, with an estimated USD 2-3 billion circulating in the informal sector. Most deposits are demand deposits that merely pass through the bank and are immediately withdrawn as the public have lost faith in the country's financial sector's trustworthiness with public funds following previous policy failures.

The industry requires finance for the acquisition of materials, re-capitalization and re-tooling. Issues of property rights continue to affect the risk profile of the country. The market is characterised by a cash poor-debt free general population. Credit is crucial and policy efforts should ensure availability of credit for investment in agriculture and agribusiness. Interest rates in Zimbabwe are very high averaging 15-25 per cent per annum excluding administrative charges. This compares to rates of 7-8 per cent per annum in South Africa, 10 percent per annum in Zambia, and 4 percent per annum in world markets.

Delayed Payments

The input supply sector especially fertilizer companies were complaining that the government failed to settle a USD 50 million debt stretching back to several seasons. The build-up of this debt creates serious liquidity challenges and constrains the ability of input supply companies to service their own debts, acquire more credit from financial institutions and mobilize resources for day-to-day operations. Because of the time value of money, these overdue debts are also costing companies foregone income as money that is received today is worth more than money to come at a future date unless value adjusting measures are employed to update the value of money, that is, if interest could be charged on the amount outstanding.

Furthermore, the Government is currently pursuing a policy (Grain Marketing Act) on grain marketing in which it announces the floor prices for maize and wheat that are higher than the regional price and even the world market price. The GMB then procures such commodities from farmers at these seemingly attractive prices, but then delays payments for commodities by as long as more than a year because it does not have the funds. This practice is deceptive on farmers by offering high prices but failing to meet the promise. It creates wrong expectations and incentives, and encourages speculative behaviour, which is counterproductive. This situation was experienced in maize, wheat and soya especially in 2011 season. Other players are also adopting the bad habits since they have seen GMB getting away with it. Millers and oil pressers are now only paying after 180 days. One wheat farmer noted in the public press that he delivered his 250 tonnes of wheat to GMB last season and has been paid only 10 per cent to date. Corruption has also been observed following the de facto floor prices in which prominent persons were importing maize and grain at lower prices and selling to GMB at a high price and using their influences to get paid before local producers and making profits by sidelining local grain production. In response to this marketing issue, farmers are proposing that the Agricultural Marketing Authority should intervene to ensure that contract defaulters are penalized; grain exchange is privately operated; and marketing is free and fair.

Infrastructure Problems

Water, electricity, road and rail infrastructure development, maintenance and servicing were major issues of concern. The railway system was said to be underutilized, besides not being maintained and serviced. Rail transport was considered a cheaper option for transport compared to road but because of the attendant problems, the cost advantage of using the railway system in not being exploited.

According to informed sources, the electricity sector in Zimbabwe is characterised by a demand of 2 100 megawatts against a domestic capacity of only 1 130 megawatts. This creates a deficit gap. Half of this deficit of 970 megawatts could be met domestically if non-functional thermal power stations in the country could be returned to service. As it stands, electricity is has to be imported from Mozambique, South Africa and DRC, but financial constraints do not allow for imports to fill the gap completely.

Water infrastructure is another cause of concern; broken-down infrastructure renders most irrigation systems non-functional. Most of the water for irrigation is powered by electricity, and power shortages also affects the supply of water for irrigation. Emerging problems in the value chain network related poorly maintained water, electricity, road and rail infrastructure are:-

- Erratic Supply of electricity
- Disrupted irrigation programmes
- High cost of water
- High transport costs

Water charges have evolved from the former water rights attached to land rights policy in which there were no charges attached to water. With the water law reforms ZINWA and the catchment and permit system were effected and the private water by arrangement law that claim all water to be state owned attracted user charges for water by different clusters of farming units that are high and not affordable at farm level. Electricity charges are also another cause of concern. Electricity bills are often based on estimates that do not match availability and consumption. In some cases, there are inefficient systems such as many billing points at one farm which should be removed.

The use of road facilities has been associated with high transport costs compared to the alternative of rail. Because of the prevailing challenges in the railway system, the use of rail is minimal, limiting opportunities to cut transport costs. Respondents believed that the use of rail can lower transport costs by 50 per cent, thus improving on cost efficiency and competitiveness of trading business within and outside the country. These challenges associated with infrastructural issues affects performance of the sector. According to the World Bank, 2010, the quality and availability of infrastructure including electricity, transportation and communication can have a large impact on productivity and growth potentials as well as the likelihood that new firms can join the industry. It is paramount that these infrastructural deficiencies be corrected if wheat production and other sectors are to be sustained in Zimbabwe.

Proposed as alternatives to challenges affecting the supply of water and electricity were the imposition of an import surtax on all imported grain and legumes and the money raised should be channelled into power and water, infrastructure rehabilitation. This proposal is however against the principles of competitiveness, the public sector should find alternative sources of finance to finance efficient and effective provision of transport, water and electricity in order to enhance the competitiveness of agriculture and agribusiness.

Low Capacity Utilization

The entire value chain network at large is not producing all at full capacity because of pending problems. Firms therefore cannot capitalize on economies of scale, which results in high costs. The newly resettled farmers are not able to fully utilize the arable land available to them because of financial challenges, lack of human and other resources capacity to fully utilize the land. Agribusiness industry is operating a between 20-45 percent utilization as a result of lack of operating finance and raw material challenges.

Skills and Knowledge Gaps

The new types of farmers, namely the A1, A2 and new large scale commercial that emerged from the land reform programme, often do not have the necessary skills and knowledge in farming for them to operate efficiently. Technical and business development training is needed to improve the performance of farmers. In the agro processing sectors the effect of brain drain has resulted in shortages of critical manpower in specialized technical areas such as engineering among others.

Technology Gap

The majority of stakeholders in the value network indicated that they were way behind modern technology developments both in agriculture and agribusiness as they were relying on using old and inefficient technologies that requires upgrading but this has not been possible given the problems with finance in the economy.

Increased Search/Transactions Costs

Lack of a formal trading system that provides a platform for interaction between buyers and sellers increases search/transaction costs for both farmers and processors. The absence of reliable price-finding mechanisms negatively affects competitiveness.

Border Protocols

Lack of coordination among key Ministries controlling cross-border movements was also noted as a serious challenge delaying the delivery of much needed imports to close the huge gap in local supplies and demand. Proposals are for a one-stop border post to minimize transactions costs and time spent on border protocols.

Corruption at Boarder Posts

Corrupt practices by officials within the country and at boarder posts is on issue that is also threatening competitiveness as transactions costs are increasing, unnecessarily building on the costs of production and with government being deprived of potential revenue.

Low Demand for Improved Farm Inputs

The demand for fertilizers and other improved farm inputs such as seeds and chemicals by farmers remains low, creating serious business challenges. Part of the problem is poor access to credit by farmers and subsistence oriented farming practices. The sector is likely to require demand levels around USD 2 billion per year to operate optimally. However, that amount corresponds to 50 per cent of the national budget which means that government alone cannot sustain the sector, but that increasing demand from the private sector needs come in.

Low Productivity

At the producer level, productivity in the maize, wheat soya beans and sorghum of below one tonne/ ha for grains and about 1.5t/ha in soya beans are far below theoretical thresholds, regional and global comparisons and even past performance averaging 2t/ha in maize, over 1t/ha for sorghum, up to 7t/ha for wheat and 3t/ha for soya beans. With the current yield levels, production is not competitive as variable and fixed costs weigh heavily on small outputs compared to more efficient systems. **Error! Reference source not found.** shows regional and global comparisons in yields and prices for the four commodities for 2010. Lower yields levels are evident across all commodities in Zimbabwe and corresponding prices are higher in comparison to regional and international prices.

Climate Change

The effects of climate change and climate variability on production and productivity of grains and legumes represent any issue that cannot be ignored. Yields and production areas have decreased. Adoptive and mitigation strategies will require time and resources before they can be implemented to produce positive results.

Unfair Trade Practices: Dumping of Wheat Flour

The milling industries have been complaining about the evil of cheap imports, in particular of wheat flour. Normally, imports are supposed to complement (not substitute for) local supply. In Zimbabwe, however, wheat flour imports have replaced local flour produced from local and imported wheat. The country requires 20 000mt of flour per month for bread making, industrial uses and confectionary. Flour imports coming from Turkey, Mozambique, Russia and Asia have flooded the market causing the local industry to operate at 30 per cent of capacity. As a result GMAZ participation in local wheat contract farming is zero due to viability problem. More than 18 000 workers have lost jobs as the flour import permit regime have failed to control imports through illegal means as corruption and boarder post coordination is poor.

Wheat flour is coming in at prices much lower than the normal price at source; this is synonymous with dumping and is in violation of Article 4 of the World trade Organization Anti-dumping Agreement and Article 18 of the SADC Trade Protocol. For instance, wheat flour from Turkey is costing USD 493/t in Zimbabwe, compared to USD 580/t at source (Istanbul). Some countries give export incentives (subsidies) to their nationals which enables them to export below cost. As if that is not enough, the quality of the cheap imported wheat flour is below specifications and contains illegal additives like bromide and soya mix. The actual quantities that are being imported are not known and so are the brands. The industry is emphasizing the need to arrest the evil of cheap imports by invoking the World Trade Organization provisions on dumping, subsidies and sanitary and phyto-sanitary (SPS) measures. There is also the SADC Trade Protocol which provides for the protection of infant industries.

Decreasing Demand for Bread

Dwindling disposable incomes are shrinking the market, further threatening the viability of the industry. Further to this, pressure from substitutes such as potatoes and pasta, alternative starch sources are lowering the demand for bread.

Duty on Imported Flour

In contrast to the demands by the milling industry, bakers are complaining about the duty on imported flour that was pegged at 5 per cent prior to lobbying by the GMAZ; the July 2012 mid term budget review raised the duty to 20 per cent. This will further worsen the position of bakers who felt that 5 per cent was too high. Tables 3 summarize the applicable tariff rates on wheat and its associated products.

Table 3: Applicable tariff rates on wheat and its associated products.

Product	Tariff (%)				
	General	COMESA A	RSA	SADC	VAT
Other wheat and meslin	0	0	0	0	15
Buckwheat	10	6.5	12.5	0	15
Wheat or meslin flour	25	0	0	5	0
Groats and meal of wheat	20	2	0	0	15
Wheat starch	15	4	0	0	15
Wheat Cluten whether dried or not	15	2	0	0	15
Bulgur wheat	40	5	0	10	15
Bran, sharps and other residues of wheat	10	0	0	0	15

ZIMRA, 2009

The tariff structures is for wheat products and by products are both complicated and protective as evidenced by different tariffs imposed by COMESA, RSA and SADC (Table 3) although there are country overlaps since Zimbabwe belongs to both SADC and COMESA blocs. It has been pointed out that Zimbabwe's compliance rate to both blocs has been very low. This has posed huge challenges in harmonizing with the proposed COMESA and SADC common external tariffs (Mudzonga and Chigwada, 2009).

5. Conclusions And Recommendations

Wheat production has been increasing during the period 1960 to 1990. This is mainly due to policies adopted during the pre- and post-independence eras. The wheat value chain comprises of five levels; input suppliers, farmers, traders, millers and consumers. The structure varies from being dominated by monopolies and monopolists selling to several farmers in the input markets, to many farmers selling to GMB and four major millers. There is competition with imports at each level of the value chain. At the farmer level, wheat imports have ballooned sucking huge government expenditure in import bill. Traders are also importing wheat flour to satisfy domestic demand. As a result, the performance of local wheat producers has been curtailed. Local wheat production is not viable and profitable thus creating a serious disincentive to produce locally by the farmers. This has seen wheat production decreasing over the years. If the situation is not attended to, Zimbabwe will end up moving from the current dependency on imports of over 80% to complete reliance on imports, a position that may not be socially and economically desirable especially for a

staple food like wheat. The current policy environment has discouraged production of local inputs and production wheat and is encouraging the importation of both wheat and wheat products such as flour. Consequently the country is constrained by mounting food import bills. Since bread is a staple food, the government has to carefully administer it to avoid social and political despondence and unrests. These trends can however be reversed by increasing domestic wheat production reducing import demand.

It is therefore recommend that the government create a favorable environment for direct foreign investment, in order to improve access to finance and infrastructure development. The link between farmers and markets needs to be strengthened through the establishment of a futures exchange that will provide farmers with a ready market for their wheat. Investment in farmer training and research in technology development is recommended to improve production and processing in order to increase efficiency and lower costs. To some extent it can be argued that the local industry needs protection from unfair trade practices such as dumping of wheat flour through government protective policy on imports. Although Zimbabwe has to still rely on wheat imports, for food security purposes, there is still need for it to produce its own wheat. However, the capacity to produce has to build over time.

Other recommendations that are made to improve Zimbabwe's wheat industry are as follows:

- Improve efficiency in the wheat value chain by addressing the various constraints identified by pragmatically refocusing both sector specific and macroeconomic to stimulate domestic production and exports. For example, there is need to re-thinking about the land tenure and indigenization policies to encourage both domestic and foreign direct investment. These policy reforms would rejuvenate the economy with little budgetary costs.
- Improve regulatory controls over contract farming to ensure level playing field and strengthen the power of farmers to negotiate. Contracts need regulation to ensure challenges of side marketing, delayed payments and prevented abuse of partnerships.
- Creation of rural land markets creates land as collateral for loans. The land market creates opportunities for free entry and exist allowing land held by title deeds or transferable 99-year leases immediately restoring market value of land. This will re-valued land without undoing the land reforms.
- Establishment of a land bank will be important to establishing the land market. Agribank, a banking parastatal in Zimbabwe, can be capacitated to provide long term loans to agricultural development. These privatization strategies could unleash unprecedented economic activities raising employment and overall economic activities.

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