



Enhancing Zimbabwe's Global Competitiveness

SUGAR VALUE CHAIN REPORT

DECEMBER 2021

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LIST OF ABBREVIATIONS

| | |
|----------|---|
| CAFTA-DR | Dominican Republic-Central America Free Trade Agreement |
| CCEA | Cabinet Committee on Economic Affairs |
| COMESA | Common Markets of East and Southern Africa |
| COVID-19 | Corona Virus Disease of 2019 |
| CRP | Cash Received Price |
| CSF | Cane and Sugar Fund |
| CZR | Confederation of Zimbabwe Retailers |
| DBRP | Dollar based Reference Price |
| DoP | Division of Proceeds |
| DRC | Democratic Republic of Congo |
| DTIC | Department of Trade, Industry and Competition |
| EAC | Eastern African Community |
| EGP | Egyptian Pound |
| ESA | Eswatini Sugar Association |
| ESIIC | Egyptian Sugar and Integrated Industries Companies |
| ESWADE | Eswatini Water and Agricultural Development Enterprise |
| EU | European Union |
| FAO | Food and Agricultural Organization |
| FRP | Fair and Remunerative Price |
| GOK | Government of Kenya |
| GSP | General System of Preference |
| HCFI | Holding Company for Food Industries |
| HS | Harmonized Commodity Coding System |
| ISO | International Sugar Organization |
| ITC | International Trade Centre |
| MAEQ | Maximum Admissible Export Quota |
| MDP | Mill Door Pricing |
| MFN | Most Favoured Nations |
| MMT | Million Metric Ton |
| MoSIT | Ministry of Supply and Industry |
| MSP | Minimum Support Price |
| NCC | National Competitiveness Commission |
| NCPDZ | National Chemicals Products Distillers Zimbabwe |
| NSD1 | National Development Strategy 1 (2021-2025) |
| NEC | National Employment Council |

| | |
|--------|--|
| NRZ | National Railways of Zimbabwe |
| OECD | Organization of Economic Cooperation and Development |
| PPA | Power Purchasing Agreement |
| RBZ | Reserve Bank of Zimbabwe |
| SADC | Southern African Development Community |
| SASA | South African Sugar Association |
| SASRI | South African Sugar Research Institute |
| TRQ | Tariff Rate Quota |
| UAE | United Arab Emirates |
| UNCTAD | United Nations Conference on Trade and Development |
| USMCA | United States – Mexico – Canada Agreement |
| VAT | Value Added Tax |
| WTO | World Trade Organization |
| ZETDC | Zimbabwe Electricity Transmission and Distribution Company |
| ZINWA | Zimbabwe National Water Authority |
| ZN | Zimbabwe-Natal |
| ZSA | Zimbabwe Sugar Association |
| ZSAES | Zimbabwe Sugar Association Experiment Station |
| ZSS | Zimbabwe Sugar Sales |

FOREWORD

The National Competitiveness Commission (NCC) has produced a Sugar Value Chain Report with the core objective of helping identify challenges weighing on competitiveness. The report proffers recommendations on measures that need to be taken to enhance productivity, address current and emerging costs challenges.

The report was informed by stakeholder consultations with respect to the country's sugar value chain players. It is important to note that the report was developed within the context of the global, continental and regional competitiveness agenda and emphasizes on finer details that impact on industrial competitiveness, with particular focus on local and global sugar value chains, trade and export promotion, in line with the objectives of the Zimbabwe National Industrialization Development Policy (ZNIDP 2019-2023) and the National Development Strategy (NDS1 2021–2025) in attaining the realities of Vision 2030.

However, due to Corona Virus Pandemic (COVID-19) induced travel restrictions, the Commission adopted secondary desk research for the international sugar value chain analysis, since international benchmarking visits to other sugar producing countries were not possible. As a result, a complete set of data on industry cost structures, Government support initiatives and regulations was not readily available online for comparative analysis with other sugar producing jurisdictions. As the COVID-19 pandemic recedes, it is, thus, pertinent that going forward, value chains benchmarking visits be undertaken to provide evidence-based information on value chains processes and the nature of technology used with comparator countries.

Findings and recommendations of this report will be channeled to Government through Ministry of Industry and Commerce. On its part, the Commission will take a holistic approach by developing an implementation matrix and continuously engage all relevant stakeholders on proposed recommendations.

May I, through the presentation of this report, thank all the stakeholders along the various nodes of the sugar value chain for their valuable input. I want to urge all of you, within your various roles and capacities, to commit to the development of the sugar value chain for the benefit of all Zimbabweans and beyond.



P. Phiri

Executive Director

NATIONAL COMPETITIVENESS COMMISSION



P. Phiri

*Executive Director National Competitiveness
Commission*

PREFACE

Achievement of the Nation’s Vision 2030, “*Towards a Prosperous and Empowered Upper Middle-Income Society by 2030*,” requires that we foster on the improvement of the nation’s industrial competitiveness across all sectors of the economy. Guided by its mandate, the NCC, will continuously monitor industry cost drivers using the value chain approach, in order to advise on measures to be taken to enhance competitiveness and productivity, address current and emerging costs challenges. This is key in identifying the main competitiveness gaps facing the business sector in Zimbabwe, and proffer policy responses to deal with identified challenges in order to ensure industry viability, product affordability and availability to consumers.



*B. Shayanewako
Director National Competitiveness
Commission*

The Commission is in the process of establishing Competitiveness Labs for various value chains, which will be key in enhancing the country’s global competitiveness and strengthening of existing value chains as espoused in NDS1. This will be done through identification of value chain nodes and analysis in order to come up with intervention programs that address impediments to competitiveness.

NDS1 identified sugar production as one of the prioritised sub-sectors under the agro-processing value chains, which the nation can take advantage of in driving its competitiveness and growth objectives, hence, this report seeks to proffer recommendations on what needs to be addressed for the value chain to be competitive.

It is my hope that this report will bring together all stakeholders in the sugar value chain to collaborate in tackling the competitive gaps identified. This will go a long way in ensuring that our sugar and its by-products are competitive in both the regional and international markets.

A handwritten signature in black ink, appearing to be 'B. Shayanewako'.

B. Shayanewako

Director Competitiveness

NATIONAL COMPETITIVENESS COMMISSION

EXECUTIVE SUMMARY

The Sugar industry in Zimbabwe is a monopoly and this contrasts with what is obtaining in other sugar producing countries. Sugarcane is a strategic crop which generates employment, electricity and also supports other downstream industries. This report identifies challenges that are weighing on competitiveness, and proffer recommendations on what needs to be addressed to enhance competitiveness in the sector. The report was developed through an engagement process with the relevant stakeholders across all the nodes along the value chain. A validation visit to Chiredzi where most sugarcane farmers are located was undertaken. International/regional visits for sugar value chain benchmarking exercise could not be undertaken due to COVID-19 restrictions among other issues. However, a comparison with other countries was done to assess international competitiveness of the sector.

Zimbabwe is one of the seven Southern African Development Community (SADC) member states, that produces surplus sugar for export. The other countries are Malawi, Mauritius, Mozambique, South Africa, Eswatini and Zambia. In terms of sugar cane yield, Zimbabwe is very competitive compared to other sugar cane producing countries, as it is ranked 17th globally, 9th in Africa and 4th in the SADC region, after Malawi, Zambia and Eswatini.

The overall findings of the report illustrate that the competitiveness of the sugar value chain is adversely affected by macroeconomic challenges such as exchange rate disparity between the auction and the parallel market, foreign currency shortages, high inflation, high cost of borrowing, utilities, fuel and coal. In addition, inefficient infrastructure and high input costs such as fertilisers and herbicides, among others, generally affect farm productivity and weigh down on competitiveness of the value chain. These in turn have an effect on the cost structures and price of sugar given that they are factored in the production process. Furthermore, given that sugar is an input to other industries, high production costs in the value chain, have contagion effect, which lead to high prices of products produced by those industries.

A comparison of sugar prices for Zimbabwe against Eswatini, Kenya, Malawi and Zambia reveals that the local price is only competitive to that of Kenya. However, to enhance competitiveness of the sector, the Report recommends the following critical action points:

- Expedite the amendment of the Sugar Production Control Act of 1964, to reflect current developments in the industry with a view to enhance competitiveness of the sector as well as breaking monopolistic tendencies;
- Recapitalize Zimbabwe Electricity Transmission & Distribution Company (ZETDC), ZINWA and National Railways of Zimbabwe (NRZ) to enhance efficiency and competitiveness of the sector;

- Extend the Command Agriculture facility to sugarcane out-growers to enhance competitiveness of the sector. This should be complemented by reviewing land holding fees and excise duty rates on fuel;
- Gazetting Sugar Cane Seed in the Mandate Crops List as well as availing support, which is being accorded to other strategic crops such as maize, tobacco and cotton;
- Engage a reputable independent consultant with experience in developing/ evaluating Division of Proceeds (DoP) formula to carry out comprehensive research to come up with a DoP ratio, acceptable to both out-growers and millers;
- Provide title to land as most farmers were allocated A2 farms in the low-veld, which do not have 99-year leases or title deeds. This will help in attracting investments in the value chain, thereby improving productivity and competitiveness;
- Review of the foreign currency retention threshold from the current 40% to 20% to enable producers, particularly millers and refineries, to generate sufficient foreign currency to adequately finance retooling, importation of inputs, equipment and spares that are not locally produced;
- Extend Value Added Tax (VAT) zero rating to milling services;
- Joint venture between the Government and farmers to establish Mkwesine Sugarcane Milling Plant; and
- Adopt new technology for mechanical harvesting of sugarcane and eliminate manual harvesting of sugarcane to improve production efficiency and competitiveness.

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NATIONAL COMPETITIVENESS COMMISSION
"Enhancing Zimbabwe's global competitiveness".

The National Competitiveness Commission [NCC] is a statutory body established by an Act of Parliament [*Chapter 14:36*] and it falls under the purview of the Ministry of Industry and Commerce.



The following are some of the key functions of the Commission:

1. Provide detailed research and analysis on issues that will enhance Zimbabwe's competitiveness in all sectors of the economy, benchmarking against competitors in Regional and International economic communities; and
2. Provide a platform for dialogue between the public and private sector, labour, academia and non-State actors as well as build awareness and advocacy on matters related to competitiveness.

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1.0 INTRODUCTION

- 1.1 The NCC is mandated to facilitate the creation of a competitive environment for Zimbabwean business through the development, coordination and implementation of key policy improvements required for domestic, regional and global competitiveness, in order to directly contribute to the achievement of the Nation's Vision 2030, "*Towards a Prosperous and Empowered Upper Middle-Income Society by 2030.*"
- 1.2 The Commission's overall functions include continuous monitoring of cost drivers in the value chains as well as advise on measures to be taken to enhance competitiveness and productivity, address current and emerging costs challenges.
- 1.3 Against this background, the Commission conducted a Sugar Value Chain Analysis, to help identify challenges that are weighing on competitiveness, proffer recommendations that enhance competitiveness.
- 1.4 For the purposes of this Value Chain Analysis, the meaning of 'Sugar' shall be according to the International Sugar Agreement definition, which means sugar in any of its recognized commercial forms, derived from sugar cane or sugar beet, including edible and fancy molasses, syrups and any other form of liquid sugar, but does not include final molasses or low-grade types of non-centrifugal sugar produced by primitive methods. These sugars are covered under Tariff Headings 17.01¹, 17.02² and 17.03³ of the Harmonized Commodity Coding System (HS).
- 1.5 This Report, excludes the Sugar Cane to Fuel Value Chain, given that it is a complex product value chain, which can have a macro wide income impact to the economy. In this regard, the Commission anticipates undertaking a standalone and comprehensive Sugar Cane to Fuel Value Chain Analysis in 2022.

Methodology

- 1.6 The Commission engaged stakeholders in the value chain through seminars, one-on-one meetings, online surveys, desktop research and conducted a validation visit to Chiredzi from 27 September to 2 October 2021. The visit was meant to have an appreciation of operations and provided an opportunity for the Commission to get input from stakeholders in the value chain.
- 1.7 However, due to COVID-19 induced travel restrictions and non-availability of foreign currency, the Commission could not undertake benchmarking visits to other sugar producing countries to get an appreciation of the operations.

¹ Cane or beet sugar and chemically pure sucrose, in solid form

² Other sugars, including chemically pure lactose, maltose, glucose and fructose, in solid form; sugar syrups not containing added flavouring or colouring matter; artificial honey, whether or not mixed with natural honey; caramel

³ Mollasses resulting from the extraction or refining of sugar

2.0 SUGAR INDUSTRY OVERVIEW

2.1 According to the International Sugar Organization (ISO), there are about 110 countries that produce sugar from either cane or beet, of which 8 countries produce sugar from both cane and beet. The ISO is an inter-Governmental organization, based in London, which was established by the International Sugar Agreement of 1968, as the body responsible for administering the Agreement. The Agreement does not have the power to regulate the international sugar trade by price-setting or export quotas, but seeks to promote trade in and consumption of sugar by gathering and publishing data on the sugar market, research into new uses and related products and as a forum for inter-Governmental discussions on sugar. 88 countries, including Zimbabwe, are signatory to the International Sugar Agreement.

2.2 Global Sugar Developments

- 2.2.1 Sugarcane, on average, accounts for nearly 80% of global sugar production. Only 3% of beet sugar is produced in Africa, all of it in North Africa. Sugar cane, therefore, forms the primary source of refined sugar in SADC and the rest of Sub-Saharan Africa (SSA) (Food and Agricultural Organization - FAO, 2017a).
- 2.2.2 Over the period 2001 and 2018, global sugar consumption increased by 39.7% from 123.454 million tons to 172.441 million tons. However, there has been considerable deceleration in global sugar consumption growth to an average of less than 0.84% per annum.
- 2.2.3 According to Illovo, (2012:36), about 70% of world's sugar production is consumed within the country of origin and the rest traded in world markets. Table 1 shows the top 10 largest producers of cane and beet sugar in the world for the year 2019.

Table 1: Top Ten Largest Producers of Cane and Beet Sugar

| Cane-Sugar Producers | | Beet-Sugar Producers | |
|----------------------|-----------------------|--------------------------------|-----------------------|
| Country | Metric Tons (million) | Country | Metric Tons (million) |
| India | 29.66 | EU | 16.42 |
| Brazil | 29.17 | Russia | 7.20 |
| Thailand | 14.05 | United States of America (USA) | 3.96 |
| China | 9.31 | Turkey | 2.49 |
| Mexico | 6.18 | Egypt | 1.53 |
| Pakistan | 5.30 | Ukraine | 1.47 |
| Australia | 4.25 | China | 1.27 |
| USA | 3.36 | Iran | 0.75 |
| Guatemala | 2.96 | Japan | 0.65 |
| Indonesia | 2.23 | Beralus | 0.64 |

Source: International Sugar Organization, 2019

Southern African Development Community

- 2.2.4 Of the 16 SADC member states, 7 countries, namely, Malawi, Mauritius, Mozambique, South Africa, Swaziland, Zambia and Zimbabwe, are surplus producers of sugar, and 4 member states, namely, Botswana, Lesotho, Namibia and Seychelles, are non-producers of sugar. The remaining countries, Angola, Comoros, the Democratic Republic of Congo (DRC), Madagascar and Tanzania produce some sugar, but not enough to meet domestic consumption demands.
- 2.2.5 In terms of cost-competitiveness, SADC sugar industries in general count under the most cost-competitive sugar producers. However, price competitiveness of the SADC sugar industries is severely eroded by the world sugar price that trends below the cost of global sugar production. In the SADC region, as well as the broader African Continental Free Trade Area, there is significant scope for growth and investment, in particular, if the multiplier effects of tapping into regional refined sugar markets are taken into account.

2.3. An Overview of the Sugar Industry by Country

- 2.3.1 The following paragraphs give a synopsis of the sugar structure, challenges and milestones for selected sugar producing countries around the world.

South Africa

- 2.3.2 The South African sugar industry is one of the world's leading cost competitive producers of high-quality sugar, consistently ranking in the top 15 out of approximately 110 sugar producing countries worldwide. It is a diverse industry combining the agricultural activities of sugarcane production with the manufacture of raw and refined sugar, syrups, specialized sugars and a range of by-products.
- 2.3.3 The cane growing sub-sector comprises 21 926 registered sugarcane growers farming in KwaZulu-Natal and Mpumalanga. There are 20 711 small-scale growers, 1 126 large-scale growers and 89 miller-cum-planters. Sugar is manufactured by 6 milling companies with 14 sugar mills operating in the cane growing regions. The industry produces an estimated average of 2.2 million tons of sugar per season. About 60% of this sugar is marketed in the Southern African Customs Union. The remainder is exported to markets in Africa, Asia and the Middle East. Tables 2 and 3 indicate total cane to sugar production and sugarcane crushed by mills (tons).

Table 2: Total Cane Production in South Africa

| TOTAL CANE/SUGAR PRODUCTION: 2005/2006 TO 2018/2019* | | | | | SA SUGAR SALES/TONS: 2005/2006 - 2018/2019* | | | | | | |
|--|---------------------|-------------------------|-----------------------------|--------------|---|--------------------|--------------------|---------------------|----|-------------------------|------|
| Season | Cane crushed (tons) | Saleable sugar produced | | | Season | White Sugar (tons) | Brown Sugar (tons) | Direct Sales (tons) | % | Industrial sales (tons) | % |
| | | National Market (tons) | International Market (tons) | Total (tons) | | | | | | | |
| 2005/2006 | 21,052,266 | 1,261,808 | 1,238,696 | 2,500,504 | 2005/2006 | 1,112,153 | 215,640 | 810,017 | 61 | 571,776 | 39 |
| 2006/2007 | 20,278,603 | 1,340,524 | 886,329 | 2,226,853 | 2006/2007 | 1,121,273 | 224,297 | 771,216 | 57 | 574,354 | 42.7 |
| 2007/2008 | 19,723,916 | 1,399,657 | 873,842 | 2,273,499 | 2007/2008 | 1,121,263 | 241,292 | 784,293 | 58 | 578,263 | 42.4 |
| 2008/2009 | 19,255,404 | 1,438,587 | 821,657 | 2,260,244 | 2008/2009 | 1,162,113 | 264,949 | 822,224 | 58 | 604,838 | 42.4 |
| 2009/2010 | 18,655,089 | 1,412,273 | 766,177 | 2,178,450 | 2009/2010 | 1,191,342 | 307,510 | 867,616 | 58 | 631,236 | 42.1 |
| 2010/2011 | 16,015,649 | 1,583,457 | 325,779 | 1,909,236 | 2010/2011 | 1,230,945 | 319,132 | 861,273 | 56 | 675,882 | 43.9 |
| 2011/2012 | 16,800,277 | 1,685,312 | 137,176 | 1,822,488 | 2011/2012 | 1,296,866 | 392,697 | 930,119 | 55 | 759,443 | 44.9 |
| 2012/2013 | 17,278,020 | 1,701,731 | 249,785 | 1,951,516 | 2012/2013 | 1,200,970 | 409,712 | 877,553 | 54 | 733,128 | 45.5 |
| 2013/2014 | 20,032,969 | 1,543,264 | 800,386 | 2,343,650 | 2013/2014 | 1,156,505 | 393,409 | 788,553 | 51 | 761,361 | 49.1 |
| 2014/2015 | 17,755,537 | 1,649,056 | 458,617 | 2,107,673 | 2014/2015 | 1,169,842 | 384,349 | 567,401 | 41 | 810,015 | 58.8 |
| 2015/2016 | 14,861,401 | 1,573,504 | 46,826 | 1,620,330 | 2015/2016 | 1,205,069 | 386,077 | 538,977 | 40 | 812,414 | 60.1 |
| 2016/2017 | 15,074,610 | 1,534,741 | 4,998 | 1,539,739 | 2016/2017 | 1,180,432 | 462,568 | 625,517 | 43 | 834,679 | 57.1 |
| 2017/2018 | 17,388,177 | 1,190,281 | 795,434 | 1,985,715 | 2017/2018 | 844,037 | 334,262 | 461,647 | 43 | 606,275 | 56.7 |
| 2018/2019** | 19,031,688 | 1,241,479 | 939,682 | 2,181,161 | 2018/2019* | 864,255 | 447,228 | 575,745 | 49 | 588,666 | 50.5 |

Source: South African Sugar Association, 2020

* Estimates for 2018/2019

Table 3: Sugarcane Crushed by Mills (Tons)

| SUGARCANE CRUSHED: 2011/2012 TO 2018/2019* | | | | | | | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| REGION | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19* |
| NORTHERN IRRIGATED | | | | | | | | |
| Malelane | 1,658,943 | 1,556,390 | 1,685,846 | 1,655,413 | 1,718,777 | 1,327,829 | 1,312,874 | 1,597,041 |
| Kamati | 2,358,719 | 2,075,805 | 2,360,039 | 2,330,859 | 2,183,539 | 1,713,307 | 1,896,859 | 2,362,678 |
| Pangola | 1,176,158 | 1,189,869 | 1,320,453 | 1,185,297 | 1,250,826 | 907,586 | 1,159,182 | 1,257,740 |
| Total Northern Irrigated | 5,193,820 | 4,822,064 | 5,366,338 | 5,171,569 | 5,153,142 | 3,948,722 | 4,368,915 | 5,217,459 |
| ZULULAND | | | | | | | | |
| Umfolozi | 1,130,078 | 1,029,298 | 1,121,817 | 1,105,047 | 1,076,588 | 772,047 | 1,030,416 | 1,234,114 |
| Felixton | 1,705,537 | 1,464,812 | 2,088,930 | 1,877,159 | 1,571,884 | 1,556,670 | 1,670,459 | 1,793,981 |
| Amatikulu | 1,142,650 | 1,164,581 | 1,268,101 | 1,003,230 | 650,603 | 377,301 | 1,138,088 | 1,256,000 |
| Total Zululand | 3,978,265 | 3,658,691 | 4,478,848 | 3,985,436 | 3,299,075 | 2,706,018 | 3,838,963 | 4,284,095 |
| NORTH COAST | | | | | | | | |
| Danall | 876,867 | 915,110 | 1,064,473 | 860,544 | - | 834,418 | 866,923 | 1,037,171 |
| Gledhow (KwaDuzuka) | 1,078,925 | 1,109,374 | 1,507,969 | 1,257,948 | 938,253 | 1,227,606 | 1,238,956 | 1,310,350 |

| SUGARCANE CRUSHED: 2011/2012 TO 2018/2019* | | | | | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| REGION | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19* |
| MaidStone | 808,565 | 906,131 | 1,059,728 | 849,936 | 869,646 | 950,180 | 975,180 | 975,136 |
| Total North Coast | 2,764,357 | 2,930,615 | 3,632,170 | 2,968,428 | 1,807,899 | 3,012,204 | 3,081,059 | 3,322,657 |
| MIDLANDS | | | | | | | | |
| Eston | 1,141,932 | 1,252,853 | 1,359,680 | 1,124,488 | 875,337 | 1,085,777 | 1,247,157 | 1,229,689 |
| Noodsberg | 1,088,697 | 1,425,584 | 1,467,088 | 1,326,214 | 1,083,751 | 1,356,427 | 1,375,221 | 1,485,659 |
| UCL Company | 643,533 | 746,706 | 696,049 | 712,257 | 587,168 | 721,550 | 800,773 | 811,667 |
| Total Midlands | 2,874,162 | 3,425,143 | 3,522,817 | 3,162,959 | 2,546,256 | 3,163,754 | 3,423,151 | 3,527,015 |
| SOUTH COAST | | | | | | | | |
| Sezela | 1,989,673 | 1,668,931 | 2,062,966 | 1,755,129 | 2,054,759 | 2,069,201 | 2,091,272 | 1,909,484 |
| Umzimkulu | - | 772,576 | 969,830 | 711,983 | - | 174,711 | 584,861 | 594,019 |
| Total South Coast | 1,989,673 | 2,441,507 | 3,032,796 | 2,467,112 | 2,054,759 | 2,243,912 | 2,676,133 | 2,503,503 |
| TOTAL | 16,800,277 | 17,278,020 | 20,032,969 | 17,755,504 | 14,861,131 | 15,074,610 | 17,388,221 | 18,854,729 |

Source: South African Sugar Association, 2020

* Estimates for 2018/2019

Mauritius

2.3.4 Sugarcane cultivation covered 54 182 hectares of land in Mauritius in 2017, with an annual hectareage under sugarcane averaging 49 974 hectares, producing 3 713 331 tons of cane at an average yield of 74.3 ton per hectare (Statistics Mauritius 2018a). Cane production from miller-planters and large growers account for around 80%, while the remaining 20% is from small out-growers. There are 4 sugar factories (which decreased to three in 2019) operating in the 4 cardinal zones of the country producing 355 213 tons of sugar (mostly white refined and special sugars) at an average extraction rate of 9.57 per cent. Some 122 273 tons of molasses and 1 259 000 tons of bagasse were produced concurrently as main by-products.

2.3.5 In cane milling, emphasis is laid on the export and continuous supply of bioelectricity⁴ from bagasse by millers during the cropping season, after which, firm Power Purchasing Agreement (PPAs) can be negotiated between the utility and power plants using bagasse during cropping and coal between cropping seasons.

Democratic Republic of Congo

2.3.6 In 2019, sugar cane production for Democratic Republic of Congo (DRC) was 2.32 million tons. Sugar cane production of DRC increased from 623,200 tons in 1970 to 2.32 million tons in 2019, growing at an average annual rate of 3.06%. There are only 2 established sugar manufacturers in DRC, namely, South Kivu Sugar Refinery and Kwilu Ngongo Sugar Refinery. The third sugar refiner, Lotokila Sugar Refinery closed in 2010.

⁴ Electricity produced from bagasse, the residue left after sugarcane is crushed.

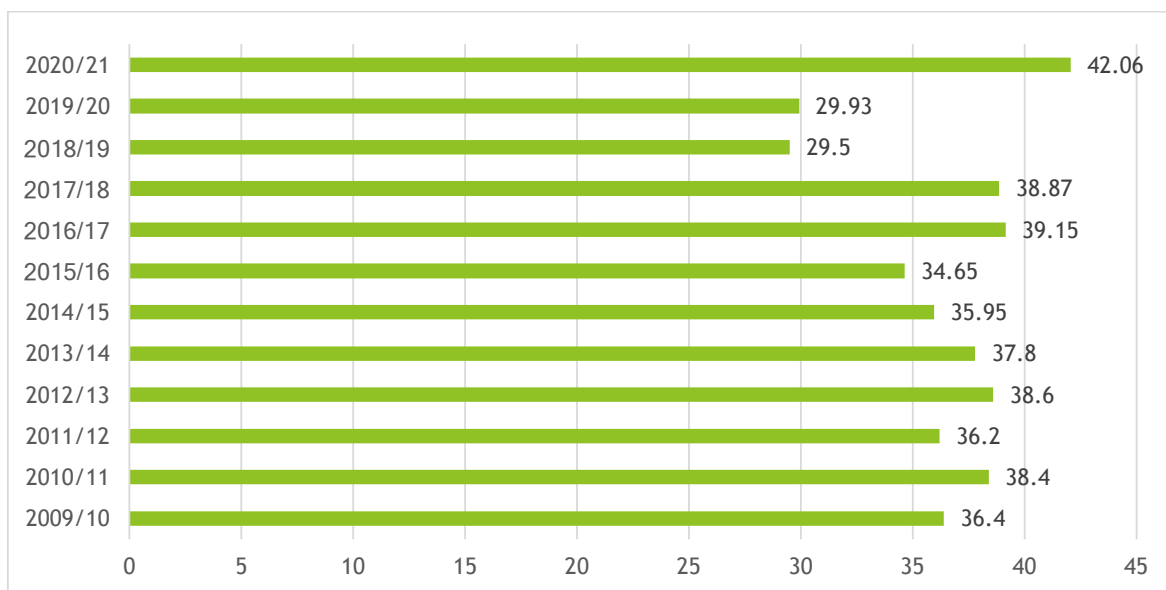
Angola

2.3.7 Angola has been producing sugar since 1961, with annual cane production averaging 650 000 tons and average sugar cane yield is 39 tons per hectare. Angola Bioenergy Company (Biocom), a partnership between Sonangol, Damer and Odebrecht, is currently the only sugar and ethanol producing company. The company, which was established in 2006, is set to produce a total of 250,000 tons of sugar when operating at full capacity. Angola's annual market demand for sugar exceeds 400,000 tons per year, hence the country is a net importer of sugar.

Brazil

- 2.3.8 Brazil is one the countries that produce and export a significant share of the world's sugar output. It supplies 50% of the world's sugar, producing 654.8m tons of sugarcane, 41.25m tons of processed sugar and 29.7bn litres of ethanol annually. In 2019, sugar cane yield for Brazil was about 75 tons per hectare. The success of the Brazilian sugar industry has been attributed to the country embracing technological progress, adoption of new varieties, fertilizers, chemicals, mechanisation and different cropping practices.
- 2.3.9 Sugarcane production in Brazil is a key sector from a social and developmental perspective. Around 40% of the sugarcane processed by Brazilian mills are supplied by 76,000 independent farmers, in turn supporting hundreds of thousands of people.
- 2.3.10 Sugarcane is the largest source of renewable energy in Brazil. It makes up 16.9% of the country's renewable energy output – which in 2016 was 43.5% of all energy generated (in comparison, the world average renewable energy ratio was 13.5% and that of Organization for Economic Cooperation and Development (OECD) countries was only 9.4%).
- 2.3.11 Experts estimate that sugarcane bioelectricity could cover almost a quarter (23%) of Brazil's electricity needs by 2023. It is especially useful during the dry season, when bagasse is abundant and when hydroelectric dams may have reduced output.
- 2.3.12 Moreover, most of the sugar and ethanol plants are located fairly close to the more populous regions of Brazil, where electricity demand is the highest. Figure 1 shows production of bioelectricity from bagasse.

Figure 1: Brazil's Annual Quantity of Bagasse used in the Production of Bioelectricity (*million metric tonnes*)



Source: Global Agricultural Information Network, 2021

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3.0 ZIMBABWE SUGAR INDUSTRY

3.1 The sugar cane plant/crop is a perennial grass adapted to grow in the tropics. It thrives in areas with plenty of sunlight, heat and moisture. As one moves away from the equator, conditions for sugar cane production become less favorable (hence the choice of sugar cane instead of sugar beet in tropic climates for sugar production). Sugarcane is a strategic crop in Zimbabwe that is grown in the South-East Lowveld of the country. In Zimbabwe, sugarcane is planted from March to December, spanning a period of about 10 months, whilst April to November is the milling season. Table 4 shows the sugar industry planting, milling and marketing season

Table 4: Sugar Industry’s Planting, Milling and Marketing Periods

| Activity | | Period |
|------------------------|----------------|------------------|
| Sugar Marketing Season | | All year round |
| Milling Season | | April – November |
| Planting Season | Early Planting | March – June |
| | Mid Planting | July – Sept |
| | Late Planting | Oct – Dec |

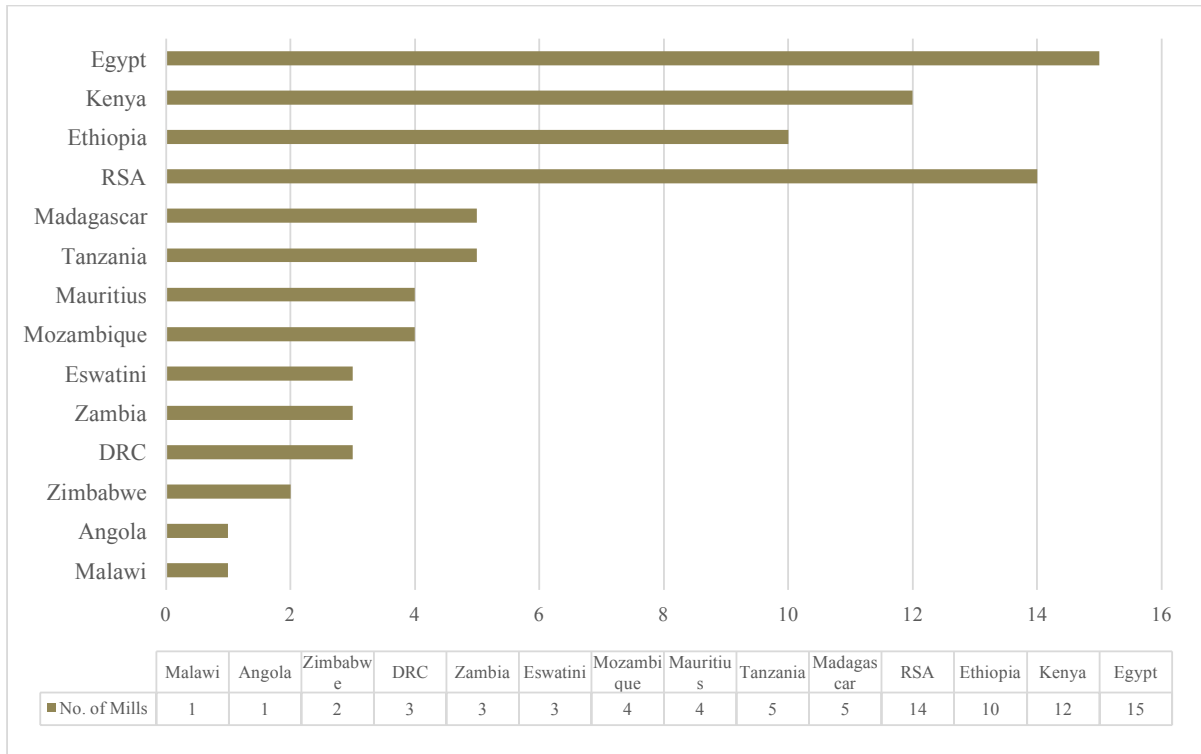
Source: Zimbabwe Sugar Association Experiment Station & Zimbabwe Sugar Sales, 2021

3.2 In the country, sugarcane is mainly grown for the production of sugar and ethanol, hence Zimbabwe is a net exporter of sugar. A number of by-products, namely, molasses, stock feeds and bagasse for co-generation of electricity, are also produced from the sugar manufacturing process.

3.3. Zimbabwe Sugar Industry Structure

3.4 The sugar industry in Zimbabwe is a monopoly, and this contrasts with what is obtaining in other sugar producing countries. For instance, in Egypt, there are 15 sugar processors, eight processing sugarcane and seven processing sugar beet, plus one under development. All eight sugarcane processors are state-run companies affiliated with Ministry of Supply and Industrial Trade’s (MoSIT) Holding Company for Food Industries (HCFI). Of the seven sugar beet processors, three are private sector and the rest are state-run companies. The processor under development will be private sector owned. Fig 2 highlights the number of sugar mills by country.

Figure 2: Number of Sugar Mills by Country



Source: NCC compilation based on International Trade Centre Data, 2021

3.5 Zimbabwe sugar industry comprises of organizations as shown in the chart below:

REGULATORY AUTHORITY

ZIMBABWE SUGAR ASSOCIATION(ZSA)

MEMBERS of ZSA

HIPPO VALLEY ESTATES

TRIANGLE ESTATES

ZIMBABWE SUGARCANE FARMERS

SUGAR REFINERS

RESEARCH

ZIMBABWE SUGAR ASSOCIATION EXPERIMENT STATION (ZSAES)

SUGARCANE GROWERS

HIPPO VALLEY ESTATES

TRIANGLE LIMITED

MWENZANA ESTATES

PRIVATE FARMER GROWERS' ASSOCIATIONS

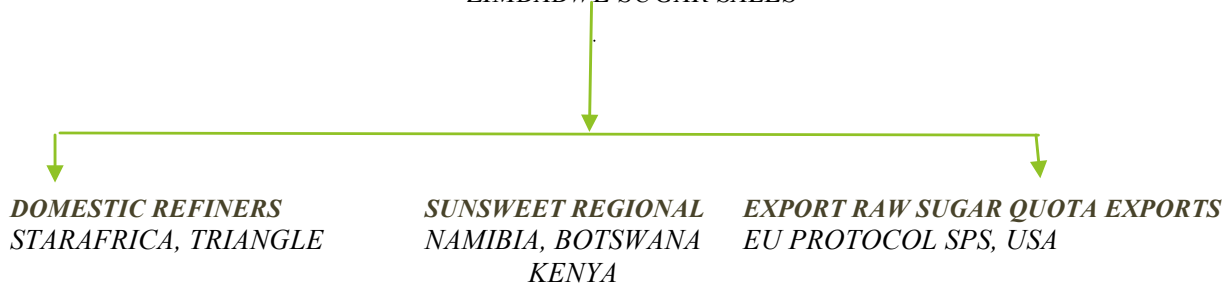
SUGARCANE MILLERS

HIPPO VALLEY

TRIANGLE

SUGAR MARKETING

ZIMBABWE SUGAR SALES



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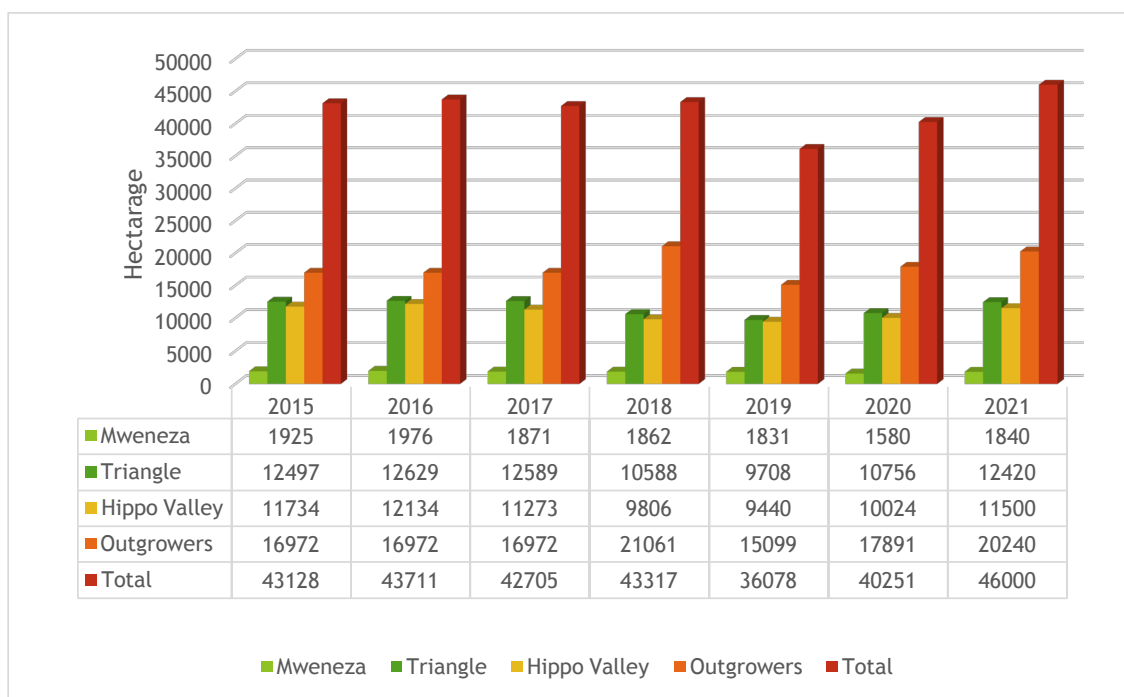
3.6. Zimbabwe Sugar Association Experiment Station

- 3.6.1 The country has a sugar experiment station, the Zimbabwe Sugar Association Experiment Station (ZSAES), which is run by the Zimbabwe Sugar Association (ZSA). Its mandate is to carry out all scientific research on sugar cane in order to increase productivity (excluding ethanol). Research on all environmental requirements, nutrition, water, pests, diseases and weed management of sugar cane is also covered by ZSAES.
- 3.6.2 ZSAES runs a selection program where sugar cane seeds used in the development of new varieties are crossed/bred in Natal South Africa and new varieties selected in Zimbabwe. This is because the South African Sugar Industry through its research wing, the South African Sugar Research Institute (SASRI) invested in special sugar cane crossing facilities that enable the industry to make sugar cane flower and produce seeds needed to make new varieties.
- 3.6.3 As a result, the scope of the crosses, that is choice of traits, to be put into new Zimbabwean varieties is decided and controlled in South Africa. This is because one who makes the crosses determines the destiny and direction of movement.

3.7. Sugar Cane Hectarage

- 3.7.1. The sugar industry covers an estimated 46 000 hectares of land. Mwenezana, Triangle and Hippo Valley (millers-cum-farmers) have a total hectarage of 25 760ha (Mwenezana 1 840ha, Triangle 12 420ha and Hippo Valley 11 500ha), which translates to 56%, of the total hectarage under sugar. Private farmers account for 20 240ha (44%), which is under sugarcane farming. Figure 3 below illustrates hectarage under sugar cane by farmer.

Figure 3: Sugar Cane Hectarage by Farmer



Source: Zimbabwe Sugar Association Experiment Station, 2021

3.8. Irrigation Farming Methods

- 3.8.1. There are two types of irrigation methods used by sugar cane farmers, which are furrow and overhead. Furrow irrigation mainly uses gravity to pump water into canals and in some instances, power and gravity is used to pump water into dams, while overhead irrigation utilizes power. Cane production takes place under irrigation with water being sourced from four dams. Table 5 shows the dam capacity and current water levels, as at 1 October 2021.

Table 5: Dam Level and Water Capacity

| Dam Name | Full Supply Capacity (millions of cubic meters) | Current Capacity (millions of cubic meters) | % Full |
|--------------|--|--|--------|
| Tokwe Mukosi | 1 802.6 | 1 796.8 | 99.7% |
| Mutirikwi | 1 378.08 | 1 342.4 | 97.4% |
| Manjirenji | 309.06 | 284.6 | 92.1% |
| Manyuchi | 274.17 | 261.7 | 95.5% |

Source: Zimbabwe National Water Authority, 2021

- 3.8.2 The use of electricity in sugar cane irrigation is a competitive disadvantage to the country, as other top sugar cane producing countries like Brazil mainly rely on rain-fed sugar cane production, which minimizes costs.

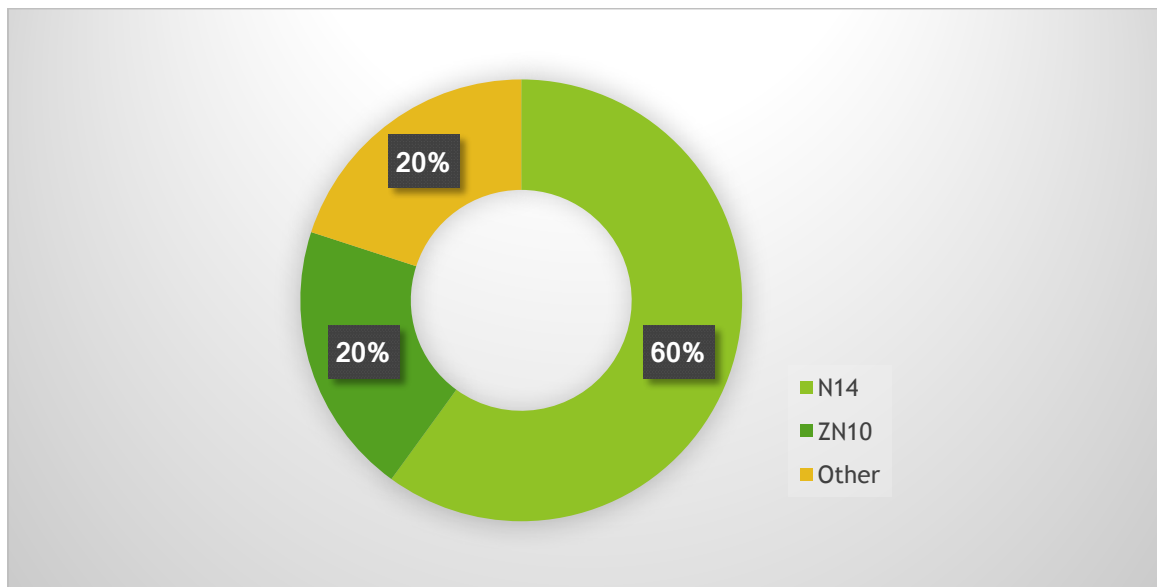
3.9. Varieties and Variety Registration

- 3.9.1 Currently, Zimbabwe uses 14 ‘released’ varieties of sugar cane⁵, of which 4 are direct imports from South Africa, and USA, while 10 were selected locally.
- 3.9.2 However, the released varieties are not yet listed in the Government schedule of locally released varieties as is the case with other crops. This is because sugar cane, has been historically regarded as a ‘private’ crop, hence Government Departments like Seed Services, left the crop out of the Mandate Crops List. Efforts have been made to have the 14 varieties properly recognized by Seed Services and that all future variety releases have **Zimbabwean Plant Breeder’s Rights Act Intellectual Property Protection**. Such intellectual property protection fosters innovation, which is a key competitiveness pillar under the Global Competitiveness Index (GCI)
- 3.9.3 Currently, there are 19 Zimbabwe Natal (ZN) varieties that are at the final stage of release and will go through the Seed Services proper variety release system.
- 3.9.4 The N14 variety accounts for 60% of the sugarcane production and ZN10 is gaining popularity because of its high sucrose content. Initially the industry had planned to limit the ZN10 hectareage to 10% due to its fine particles that could potentially flood mill diffusers,

⁵ Crop variety embodies the genetics or genes that control all activities of all living things for example biomass yield of sugar cane, sugar content, resistance to pests and diseases, fiber content, ratoonability /longevity of cane in a field, nutrient use efficiency, among others

but it has now increased to 20%. Other varieties include ZN3L, ZN8, NCo376, ZN6, CP72-1312, CP72-2086, ZN5, ZN4, ZN2E, ZN1L, ZN7 and ZN9 (released but not accessible to farmers due to its vulnerability to Smut disease). Fig 4 illustrates the percentage of sugarcane varieties grown in Zimbabwe.

Figure 4: Sugarcane Varieties Grown in Zimbabwe in Percentages

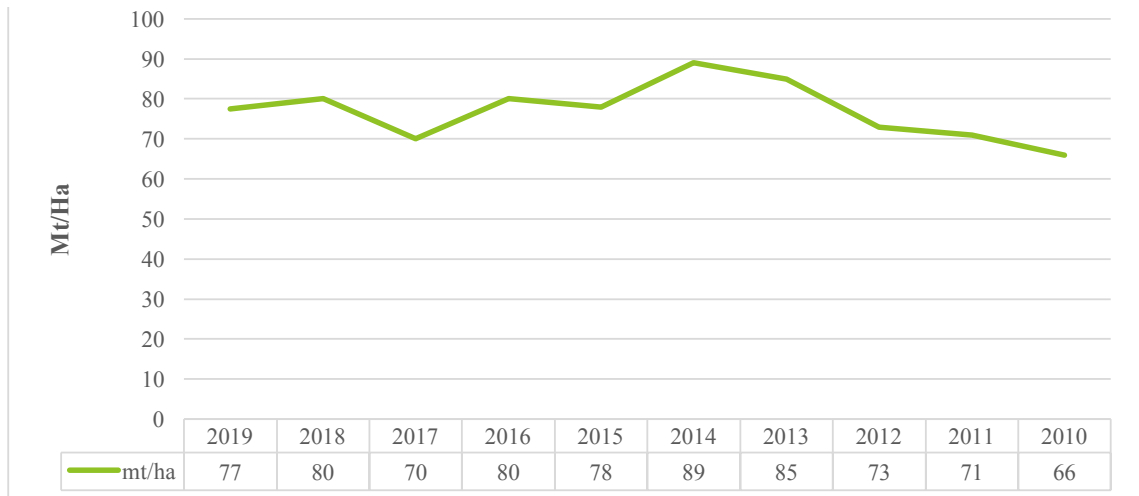


Source: NCC compilation based on Zimbabwe Sugar Association Station

3.10 Sugar Cane Yield

- 3.10.1 Peru is the top country by sugar cane yield in the world, recording an average of 125 metric tons per hectare in 2019. The other top five countries are, Egypt, Senegal, Guatemala, and Malawi, which account for 11.04% of world's cane yield.
- 3.10.2 In Zimbabwe, sugar cane yield currently average 100 t/ha for farmer cum miller, while out-grower farmers average is at 66 t/ha. Thus, around 70% of the sugar cane in Zimbabwe is produced by Hippo Valley and Triangle and the remainder 30% is from the private and resettled farms.
- 3.10.3 Zimbabwe's cane yield has been on an upward trajectory, from an average of 66 mt/ha, in 2010, reaching a peak of 89 mt/ha in 2014, before declining to 77mt/ha in 2019, as indicated in Fig 5 below.

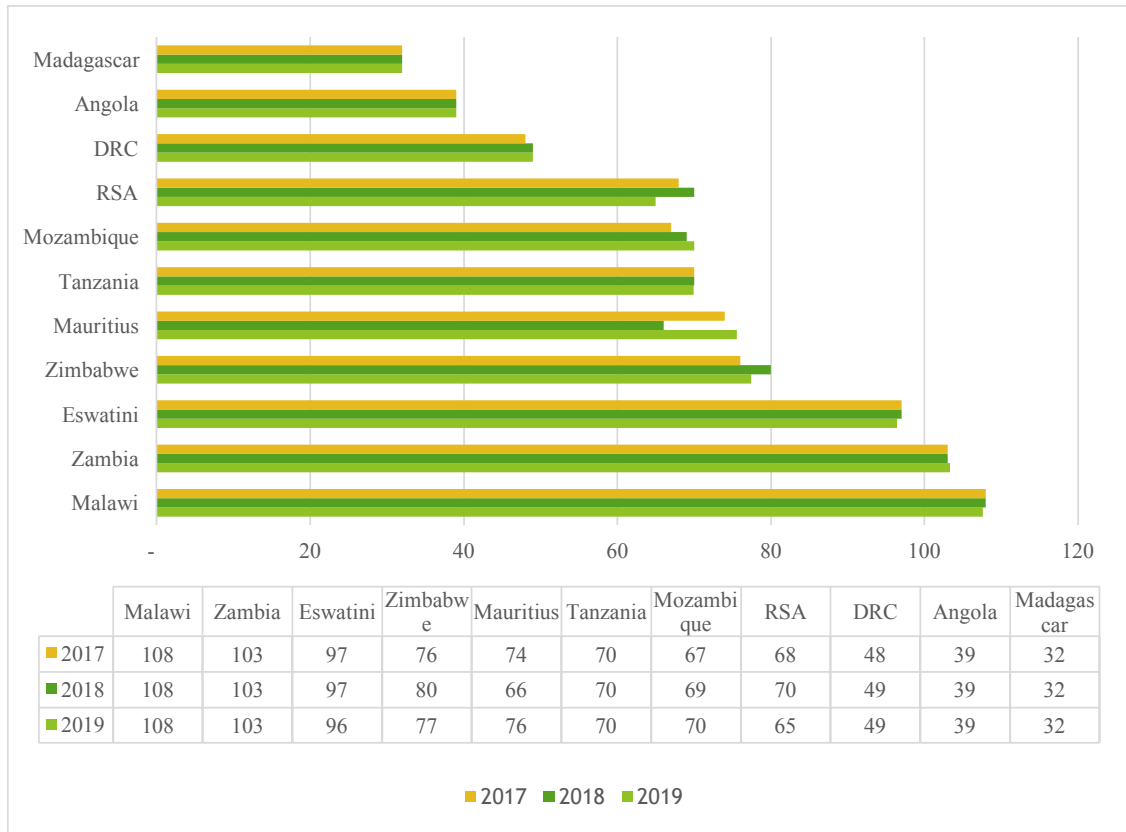
Figure 5: Sugarcane Yield per Hectare (2010-2019)



Source: NCC compilation based on Knoema

- 3.10.4 The fall in the cane yield has been attributed to high input costs, inadequate water supply, power cuts and poor farming techniques by some of the out-grower farmers. These factors are weighing down on local sugar competitiveness, hence this need to be addressed in order to improve the competitiveness of locally produced sugar.
- 3.10.5 In terms of sugar cane yield, Zimbabwe is competitive compared to other sugar cane producing countries, as it is ranked 17th globally, 9th in Africa and 4th in the SADC region, after Malawi, Zambia and Eswatini. Malawi has the highest average sugar cane yield of 108t/ha, followed by Zambia, with an average yield of 103t/ha and Eswatini at 97t/ha. Fig 6 shows sugar yield (t/ha) for SADC producing countries

Figure 6: Sugarcane Yield (t/ha) for SADC Producing Countries



Source: NCC compilation based on Knoema, 2021

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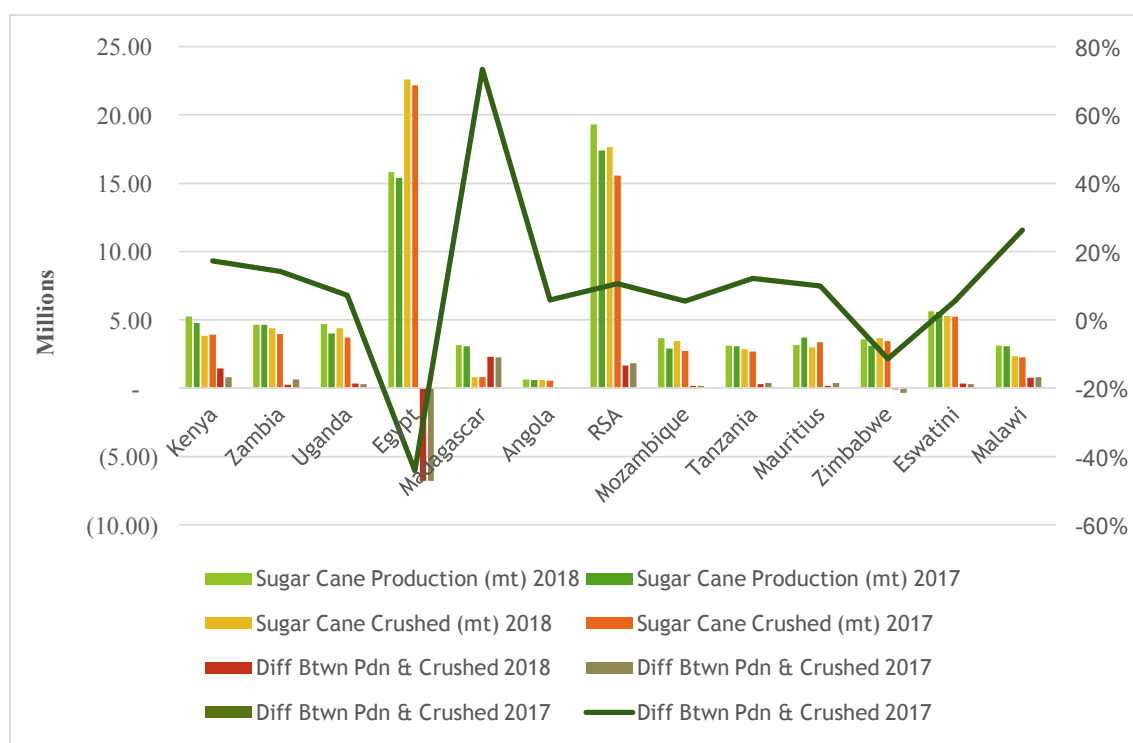
The advertisement features a man in a white apron on the left, a woman in a chef's hat on the right, and three bags of yeast in the center. The background is a golden field under a bright sky. The bottom of the ad is a blue banner with contact information.

3.11 Sugar Cane to Sugar Milling

3.11.1 The bulk of the countries utilize home grown sugar cane for processing into sugar. However, not all grown sugar cane is processed into sugar, as some is eaten as food. Statistics for sugarcane eaten as food in Zimbabwe are, however, not available. During the period 2017 to 2018, in Madagascar about 74% of sugar cane produced was eaten as food, Malawi (25%), Eswatini (6%), Mauritius (5%), Tanzania (10%), Mozambique (6%), South Africa (10%), Angola (6%), Uganda (7%) and Zambia (10%).

3.11.2 Most countries in the region crush sugarcane grown from within their territories, except for Egypt, which imports some sugarcane for crushing. Figure 7 shows the relationship between sugar cane production and crushed for selected countries for the period 2017 to 2018.

Figure 7: Sugarcane Production Against Sugarcane Crushed for Selected Countries



Source: NCC compilation based on Knoema, 2021

3.12 Sugar Recovery Levels

3.12.1 The country's sugar recovery level, expressed as Cane-to-Sugar Ratio⁶, at an average of 8.5 ranks among the best in the world, indicating some level of competitiveness in this respect. For instance, the cane-to-sugar ratio in Bangladesh is between 8.81 and 10.37, Pakistan (8.5) in India, between 6-10 and in Mauritius, the average extraction rate is 9.57.

⁶ Refers to sugar produced after processing of a definite weight of sugarcane.

- 3.12.2 The competitive cane-to-sugar ratio, will however, likely be stifled by the fact that generally, the sugar recovery rate is higher in beet than in sugarcane. In a comparison study undertaken by the Pakistan Society for Horticultural Science (2016), between cane and beet sugar yield, results showed that the standard sugar content in beet was 16% against 12.5% of sugarcane. From the result comparison, it clearly shows that the beet sugar recovery is higher than sugarcane. Sugar recovery in beet is 25% higher.
- 3.12.3 Table sugar for human consumption is refined from which sucrose is extracted from either sugarcane or sugar beet. Sucrose is a type of sugar made up of molecules of glucose and fructose joined together. The higher the sucrose or sugar content in the base sugarcane juice leads to a higher yield of finished sugar.

Table 6 below shows the sucrose content in beets and sugarcane.

Table 6: Comparison of Sucrose content in Beets and Sugarcane

| Type | Approx. Sucrose Content |
|-------------|-------------------------|
| Sugarcane | 12.5% |
| Sugar Beets | 16% |

Source: NCC compilation based on Zimbabwe Sugar Association Station

- 3.12.4 In light of the above and given that some of the country's trading partners such as EU, USA and China, among others, are beet sugar producers, Zimbabwe faces a mammoth task in having a meaningful share in such export markets.

3.13 Division of Proceeds

- 3.13.1 The Division of Proceeds (DoP) is a concept, which has been used since 1936 to distribute the sugar industry's earnings between the partners in the industry, that is, the milling and growing sections. The DoP is based on sugar sales, and in countries such as South Africa, it considers sales from by-products such as molasses. The formula, of course, is revised from time to time, to accommodate changes in the structure of the industry.
- 3.13.2 In the case of Zimbabwe, there has been a long-standing dispute between the farmers and millers. A provisional DoP ratio of 82.65% to farmers and 17.35% to millers was set in June 2014, as a temporary measure, pending interrogation by an independent consultant, Ernst & Young Advisory Services (Pvt) Ltd that was engaged in 2017 by the Ministry of Industry & Commerce. Table 7 indicates a comparison of DoPs that were obtaining in the region in 2014, when the temporary measure was effected.

Table 7: Comparison of DoPs in the Region

| Country | Farmer's Share (%) | Miller's Share (%) |
|--------------|--------------------|--------------------|
| South Africa | 63 | 37 |
| Mozambique | 65 | 35 |
| Eswatini | 68 | 32 |
| Malawi | 60 | 40 |
| Tanzania | 60 | 40 |
| Zambia | 59 | 41 |

Source: United Nations Centre for Trade and Development, 2014

3.13.3 After a study by the Independent Consultant, a ratio of 77:23, was recommended and was implemented in May 2017. The ratio reduced out-growers proceeds from 82.65 to 77, while miller's share increased from 17.35 to 23.

3.13.4 Following the adoption of the DoP recommended by Ernest and Young, the out-growers engaged an independent consultant, Leadway Partners, which recommended a review of the DoP ratio from 77:23 to 85:15 in favour of out-growers. The out-growers position is that the 23% share to the miller is too high and needs to be revised downwards to ensure sustainability, taking into account the following:

- Out-growers distance from the mill given that there are transport costs associated with transporting sugar cane from the farm to zone and from the zone to the mill;
- DoP payment system is archaic as the miller may easily misrepresent figures;.
- Government should facilitate the setting up of a sugar mill in Mkwesine, which will help address costs of transporting cane from zones. Given that Tongaat Hulett is the sole dominant player in the entire sugar milling process, there is mistrust by outgrowers, which emanates from the fact that weighing of cane is done in their absence;
- The consultant that was engaged, Ernst & Young, to review the DoP ratio is alleged by outgrowers to be a Tongaat Hullet external auditor, hence the review favored millers. However, Tongaat Hullet advised that Ernst & Young became the company's External Auditors in 2021 and the Consultant was engaged by Ministry of Industry & Commerce.
- From an international benchmarking perspective, the current DoP is higher in favour of farmers in comparison to the region. This is attributed to the fact that out-growers in those countries get sound support from millers and the Government. The challenges which need to be addressed are out-grower farmers' practices, unreliable and unaffordable input support to out-growers and poor agricultural extension services, in order to further consolidate competitiveness of the local sugar industry. Out-growers are not reaching the required yield of at least 80 tons per hectare in order to remain viable at the set DoP.

Sugar By-Products

- 3.13.5 Sugar production has various by-products with alternative uses as described below. Table 8 illustrates sugar cane by products.

Table 8: Sugarcane By-products

| Sugarcane by-product | Use |
|----------------------|--|
| Molasses | Stock-feeds, yeast and alcohol |
| Bagasse | Electricity (30MW at optimum capacity) |

Source: NCC compilation based on field visit findings, 2021

Ethanol Production

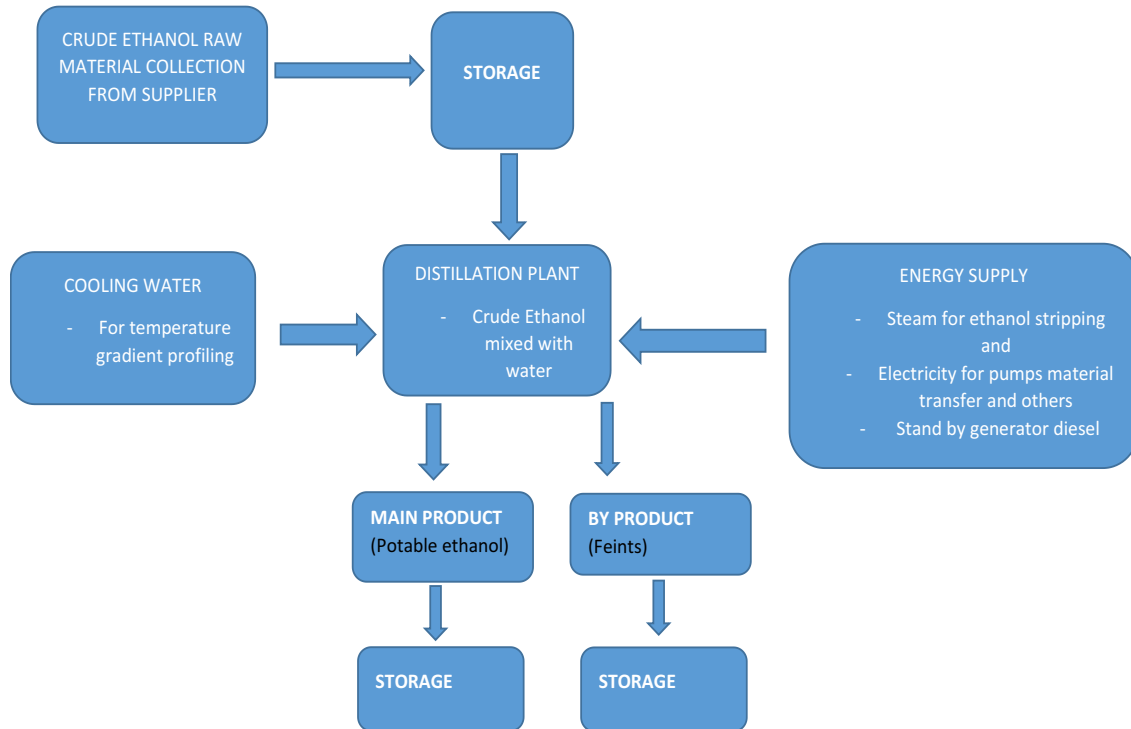
- 3.13.6 Apart from the above mentioned by-products sugarcane also produce Ethanol and Alcohol as value additions. Currently, there are two ethanol producers in the country, namely, Green Fuel (Pvt) Ltd and Triangle (Pvt) Ltd. Green Fuel, is an ethanol producer located in the Southeast Lowveld of Chisumbanje. The company has an ethanol plant that supplies fuel grade ethanol from sugar cane, with a production capacity of approximately 70 million litres, in 2019. The Triangle ethanol plant has a production capacity of 40 million litres and is planning to expand its capacity to 80 million litres as feedstock supply increases over the next three years. The company is expanding its sugar cane hectarage in order to increase its ethanol production to 80 million litres per annum.
- 3.13.7 The two plants are capable of meeting national demand with potential for export into the region. Currently, Greenfuel supplies about 60% and Triangle 40% of fuel grade ethanol. To this end, Zimbabwe has embraced mandatory blending of petrol with ethanol to reduce the import bills and improve its global carbon footprint⁷.

3.14 National Chemical Products Distillers Zimbabwe

- 3.14.1 Zimbabwe has one potable alcohol plant, National Chemical Products Distillers Zimbabwe (NCPDZ), which was established in 1963. NCPDZ is a joint venture between Astra Chemicals (51%) and Hippo Valley (49%). Their main product is neutral potable alcohol with minimum 96% ethanol content obtained from crude spirit from Triangle. Potable ethanol is mainly supplied to African Distillers and WGA Liquor Limited to produce cane spirits and by products are alcohol-based sulphates, lacquer thinners and coloured methylated spirit. Figure 8 illustrates portable ethanol plant production processes and by-products.

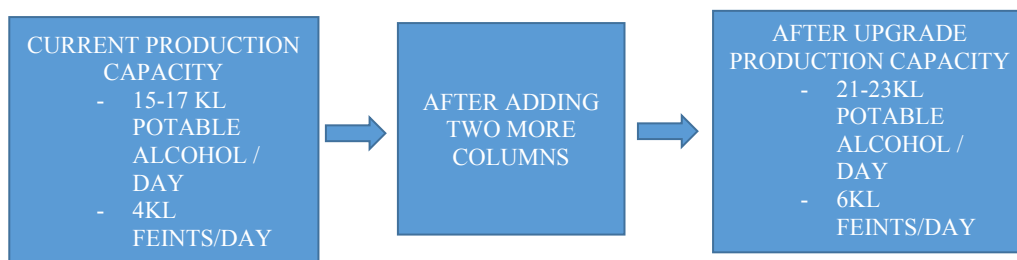
⁷ The total amount of greenhouse gases, including carbon dioxide and methane, among others, that are generated as a result of human activities.

Figure 8: Portable Ethanol Plant Production Processes and By-products



3.14.2 Production capacity is 21 000 litres per day but currently the plant is producing 15 000 litres. Market demand is around 700 000 litres and the production capacity is 420 000 litres per month, hence the plant is failing to meet market demand. The company intends to expand its plant so as to take advantage of economies of scale. Figure 9 indicates information on current production capacity and projections if NCPDZ acquires/establish new columns/ plant.

Figure 9: NCPDZ Current Production Capacity and Projections



3.14.3 Alcohol and ethanol are not direct by products of sugar production, but are value added products from molasses, which is a by product of sugar production. However, these are main products of Green Fuel, which converts sugarcane directly to ethanol, without going through sugar production.

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4.0 INCENTIVES IN THE SUGAR VALUE CHAIN

- 4.1 Zimbabwe is one of the few countries with a favorable incentive regime along the sugar value chain. Furthermore, the country also uses tariffs and non-tariff measures, such as import licensing to level the playing field between imported and locally produced sugar.
- 4.2 However, the country is among the few countries in the world with mandatory fortification⁸ of household sugar with Vitamin A, that became effective on 1 July 2017. The limited fiscal space does not allow the Government to provide subsidies along the sugar value chain, as is the case in developed and top sugar producing countries.
- 4.3 Globally, Government intervention in the world sugar market remains extreme and widespread with a wide variety of measures to support domestic sugar producers. Import tariffs and quotas are predominantly used to support sugar prices. Domestic price supports and input subsidies are also common intervention tools and export subsidies that are availed to global players, for example, in the EU, USA, Brazil, Thailand, India and Pakistan, thus further distorting and depressing the world market. Of late, there has been proliferation of mandatory ethanol blending, and this has greatly increased the indirect price support of sugar worldwide, where, unlike the USA, sugar is the primary feedstock for ethanol production.
- 4.4 Tables 9 and 10 provide an overview of the general policies used by major sugar producing countries.

⁸ Addition of Vitamin A additives.

Table 9: General Policies used by Major Sugar Producing Countries

| | Argentina | Australia | Brazil | Canada | China | Egypt | EU-27 | India | Indonesia | Japan | Zimbabwe |
|-------------------------------------|-----------|-----------|--------|--------|-------|-------|-------|-------|-----------|-------|----------|
| Direct | | | | | | | | | | | |
| Support Price | | | | | x | x | x | x | x | x | |
| Direct Payments | | | | x | x | | x | | | | |
| Supply Control | | | | | | | x | | | | |
| Import Quota | | | | | | | | | x | | x |
| Import Tariff | | x | x | x | x | x | x | x | | | x |
| Single | | | | | | | | | | | |
| Two-Tier (TRQ) | | | | | | | | | | | ✓ |
| Export Subsidies | | | | | | | x | | | | |
| Export Taxes | | | | | | | | | | | |
| Input Subsidies | | | | | x | x | | x | | | |
| Fertilizer | | | | | | | | | | | |
| Irrigation | | | | | | x | | | | | |
| Seed | | | | | | | | | | | |
| Electricity/Fuel | | | | | | | | | | | |
| Indirect | | | | | | | | | | | |
| State Trading | | | | | x | | | | | | |
| Sanitary Import | | | | | | | | | | | |
| Controls | | | | | | | | | | | |
| Long -Term | | | | | | | | | | | |
| Investment | | | | | | | | | | | |
| Assistance | | | x | | | | | x | | | |
| Credit Subsidies | | | x | | x | | | x | | | |
| Transport/Storage | | | x | | | | | | | | |
| Subsidies | | | | | x | | | x | | | |
| Statistics (2008/09-2010/11) | | | | | | | | | | | |
| Share of World Production (%) | 2 | 3 | 23 | <1 | 8 | 1 | 10 | 13 | 1 | <1 | 2 |
| Share of World Consumption (%) | 1 | <1 | 8 | <1 | 10 | 2 | 11* | 16 | 3 | 2 | <2 |
| Export Market Share (%) | 1 | 7 | 48 | <1 | <1 | <1 | 3** | <1 | <1 | <1 | |
| Import Market Share (%) | <1 | <1 | <1 | 3 | 3 | 2 | 6*** | 5 | 5 | 3 | |

Source: International Center for Agricultural Competitiveness



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Table 10: Policy Regime Across Various Countries Along the Sugar Value Chain

| Country | Policy Regime |
|------------------|---|
| Zimbabwe | <ul style="list-style-type: none"> • In terms of Statutory Instrument 172 of 2014, sugar cane is zero rated for VAT purposes. Critical inputs such as fertilizers, pesticides and herbicides are also VAT zero rated. • Refined sugar is considered a basic commodity in Zimbabwe, hence is also zero rated for VAT purposes. • There is, however, VAT on Milling Charges, which is alleged to be causing administrative difficulties for both farmers and millers. • Import duty of 10% plus US\$100/MT on all sugar imports excluding from SADC to protect the domestic industry has also resulted in minimal sugar imports. Sugar imports are also controlled by import permits. • Currently, minimum mandatory blending of vehicle fuels with ethanol is 20% but varies depending on the domestic supply and availability of ethanol. • The Zimbabwean Government passed a regulation for the mandatory fortification of household sugar with Vitamin A effective 1 July, 2017. |
| Mauritius | <ul style="list-style-type: none"> • The Government of Mauritius, through the National Budget July, 2021 to June, 2022, has announced that it will offer a “50% refund on the costs related to [sugar] certification, testing and accreditation with a view to achieving standards such as Bonsucro.”. |

| Country | Policy Regime |
|-----------------|--|
| Egypt | <ul style="list-style-type: none"> • The Government closely regulates the sugar sector and sets beet, cane, and sugar prices. • Decrees suspending white sugar imports. The decree exempts quantities that enter in drug manufacturing and that are approved by the Ministry of Health and Population. • Government sets the sugarcane procurement price. • The Egyptian Government allocated 76,000 ha to the UAE company for the US\$1 billion sugar beet investment project. • The Ministry of Agriculture and Land Reclamation distributes between 20-30 different beet seed varieties to avoid the risk of crop failure due to the susceptibility of a single variety to biotic or abiotic stresses. • All eight sugarcane processors are state-run companies. • Of the seven sugar beet processors, three are private sector and the rest are state-run companies. • The Egyptian Government in fiscal year (FY) 2020/21 (July-June) allocated 36 billion EGP [US\$2.3 billion] to food subsidies, that is rice, cooking oil, sugar, beef, chicken, among others. • Imports are usually imported through the Egyptian Sugar and Integrated Industries Company (ESIIC), which operates as a subsidiary of the Ministry of Supply and Industrial Trade's (MoSIT) Holding Company for Food Industries (HCFI). • Sugar importers to obtain Import Permit from the Ministry of Trade. • Imported sugar is subject to a 25% tax and a shipping cost of \$25/metric tonne. • Egypt has implemented acreage controls of water intensive crops like sugarcane. • Domestic price supports for beet and cane sugar production resulted in an estimated increase in producer profits of 143% for 2018. • The Government also supplies subsidies for financing and inputs. • Since the 1990s, the USA has funded a research project valued at 200 million Egyptian pounds (\$12 million) to develop disease-resistant sugarcane varieties. |
| Eswatini | <ul style="list-style-type: none"> • The Eswatini sugar industry is undergoing an expansion of area planted driven by new dams being built by the Eswatini Water and Agricultural Development Enterprise (Eswade), which is a Government company. • The Eswatini Sugar Association (ESA) provides support services to the entire industry's value chain which includes marketing of all the sugar and molasses, agricultural research and extension, cane testing, warehousing and distribution, and policy advocacy. • ESA is responsible for exporting all the raw sugar. • The revenue obtained through the sale of sugar and molasses is shared between growers and millers based on an agreed process and formula guided by the Sugar Act of 1967 and Eswatini Sugar Agreement. • The Eswatini Sugar Association provides a rebate (discount) to value adding industries located within Eswatini to encourage and support domestic sugar sales. |

| Country | Policy Regime |
|---------------------|--|
| Kenya | <ul style="list-style-type: none"> • In January 2021, Government imposed an import quota on sugar. • In recent years, GOK and the private sector have invested heavily in enhancing mills. • Import duty on raw sugar imports from Non-COMESA and East African Community (EAC) countries is at 100% and refined sugar is at 10%. • In December 2020, COMESA granted Kenya a two-year extension of a sugar import safeguard which began in March 2021 and lasts until February 2023. • Sugar cane prices are determined and set by the Government of Kenya's Sugarcane Pricing Committee (SPC) and is currently at US\$37.06 per MT of cane. • In July 2020, the Government implemented a revitalization program to make the sugar industry more efficient, diversified, and competitive. Under the program, the Government committed to write-off all debt and tax liabilities owed to the Government for state mills and growers backdating to June 30, 2009. |
| South Africa | <ul style="list-style-type: none"> • The South African Sugar Association (SASA) is funded by both growers and milling companies and is the highest decision-making authority in the industry on common issues for sugar cane growers and sugar millers. • SASA provides support services to the entire industry's value chain including the export of all the raw sugar, cane testing, and policy advocacy. • SASA was established by the Sugar Act of 1978 and is under the authority of the Department of Trade, Industry and Competition (DTIC). • The South African Sugar Research Institute (SASRI) is a division of SASA and conducts scientific research on sugar cane varieties, pests, diseases, and crop protection. • SASRI also provides extension and meteorology services for the industry. • South Africa applies the Dollar Based Reference Price (DBRP) mechanism to ensure that, inclusive of the duty, the DBRP (currently US\$680 per ton), is the lowest price that an importer will pay for imported sugar. In the event that the import prices are lower than the DBRP, an import duty is applicable, while an import price higher than the DBRP would result in no import duties payable. • The South African Sugarcane Value Chain Master Plan to 2030, aims to increase local market sugar by 300,000 MT through committing manufacturers to prioritize locally grown and manufactured sugar in their product ranges; improving import protection; the development of small-scale growers and increasing transformation in all sectors of the industry; production diversification support and the potential restructuring of the industry. • The South African Sugar Association is by law the only organization permitted to export raw sugar produced in South Africa. • Sugar milling companies are only permitted to export refined sugar. • South Africa always exports its surplus raw sugar regardless of the global prices and sometimes at a loss because of the domestic sugar regulations that stipulate that the price of cane paid to sugar cane growers should be based on revenue obtained from the sugar sales in the local and export market for that specific season. • The South African sugar industry provides a rebate (discount) to domestic manufacturers to promote the sale and use of locally produced sugar. |

| Country | Policy Regime |
|---------------|---|
| Brazil | <ul style="list-style-type: none"> • The world's leading sugar exporter, that has by far, benefitted from decades of Government cane ethanol subsidies and consumption incentives. • Brazil's expansive ethanol policy is by far the largest driver of domestic sugar prices. As of 2018, the maximum blend rate was 27% by volume of gasoline. • Maintains an average 16.5% import tariff on the HS17 coded products (16% on raw cane and beet sugar). • Uses a myriad of other input subsidies such as the guaranteed low interest loans and debt forgiveness, along with other more generic subsidies on inputs such as fertilizers and equipment. |
| China | <ul style="list-style-type: none"> • Provide financial incentives to encourage sugarcane planting and promote mechanization. • Local Government sets an Annual Reference Price for sugar cane growers, many of which are smallholder farmers, in order to protect their interests. • Application of a Tariff-Rate Quota (TRQ) on imported sugar, and the within-quota tariff is 15% on 1.945 million metric tons and the out-of-quota tariff is 50%. • About 70% of the quota is allocated to State Owned Enterprises (SOEs). • From 2017-2020, China was imposing an additional safeguard duty on top of the out-of-quota rate. • China's Government restricts the development of the saccharine industry to protect the domestic sugar market and to address environmental, food safety and consumer health concerns. |
| EU | <ul style="list-style-type: none"> • The EU maintains strict quotas under licensing for exports of raw and refined sugar. • It also maintains an average applied tariff of HS17 products of 6.8%. • Special arrangements limit duty-free EU imports to 3.5 Million Metric Tonne (MMT) from a number of developing countries. • The EU uses decoupled and coupled payments for sugar. Coupled payments remain at least through the 2020 Common Agriculture Policy expiration. • The EU maintains a biofuels policy that continues to expand its goals for renewable fuel production. • Until production quotas were lifted in late 2017, "out of quota" production in EU member states had to either be exported or used for ethanol production (could not be used for food purposes). |

| Country | Policy Regime |
|--------------|--|
| India | <ul style="list-style-type: none"> • The Union Cabinet increased the Fair and Remunerative Price (FRP) for sugarcane in Marketing Year 2020/2021 by US\$ \$0.135 to a total of US\$ \$3.80/100 kilograms. • Cabinet Committee on Economic Affairs (CCEA) approved the MY 2020/21 sugar subsidy of US\$ \$475.8 million to export six MMT of sugar under its Maximum Admissible Export Quota (MAEQ). • The MAEQ subsidy covers marketing expenditures such as handling, quality upgrading, debugging, and other processing costs; internal transportation and freight charges including loading, unloading, and distribution services; and ocean freight (shipments to destination ports). • India launched an export subsidy program for 5 MMT of sugar in 2018. • Several countries, led by Brazil and Australia, have filed a complaint with the World Trade Organization against Indian sugar production and export subsidies. • Effective February 6, 2018, India imposes a 100% import duty on white and raw sugar, and there is no export tax, since March 20, 2018. • Sugar mills can import sugar duty free, but must export 1 MT of sugar for every 1.05 MT of sugar imported duty free. • The Government of India supports research, training of farmers, development of new varieties, and improved production technologies, including seeds, machinery, and pest management methods. • Sugar industry remains under tight production controls by the State Government, which include sugar industry licensing, cane land reservation, minimum distance criteria, cane price formula adoption, specified cane procurement areas for sugar mills, and cane pricing. • Consistent with India’s 2018 National Biofuel Policy, the Indian Government has advanced its 20% blending with gasoline (E-20) target by five years to 2025 from 2030. The 10% (E-10) target ethanol blending rate in gasoline by 2022 remains in place. |

| Country | Policy Regime |
|-----------------|--|
| Mexico | <ul style="list-style-type: none"> • Increase in planted area due to Government cash support to cane producers through the Production for Wellbeing Program. • In 2019, Mexico’s Ministry of Agriculture and Rural Development announced that it will provide direct annual supports of 7,300 pesos (\$383) to each of the country’s 170,000 sugarcane farmers, regardless of farm size. About 95% of these are small-scale cane farms. In total, the payments will amount to about \$65 million. • In Marketing Year 2020/21, the Government of Mexico gave economic support of \$7,300 pesos (US\$340) total per sugar cane producer (up to 20 hectares) through the “Production for Wellbeing” program, aimed to strengthen the income of producer families and to sustain and promote production. • The support was conditioned on producers investing in actions that would improve orchards’ productivity, and funds had to be dedicated to the renewal of plants, fertilizer application, investment in irrigation or other water management systems, phytosanitary management, and agronomic practices. The program is expected to continue indefinitely. • The Government sets a minimum price that the mills must pay growers for their cane, using a formula based on sugar sale prices to domestic and foreign markets. • Mexico uses numerous indirect subsidies through preferential financing arrangements, loan guarantees for domestic sugar supplies, and funding for research and development. |
| Pakistan | <ul style="list-style-type: none"> • Minimum Support Price (MSP) for cane producers, which was \$43-\$44/ton for 2017/18, and the provincial Governments set procurement prices for sugarcane. • Provincial Governments support research, development, training of farmers and transfer of new technologies to growers in order to raise cane yields and sugar recovery rates. • The Government provides an untargeted subsidy through state-controlled Utility Stores by selling sugar to those members of the general public in geographic proximity to a Utility Store at Rs. 68 per Kg (US\$442 per ton) whereas industry end users and other members of the general public without access to a Utility Store, pay significantly more -- approximately Rs. 98.12 per Kg (US\$637 per ton) at prevailing open market prices. • The Trading Corporation of Pakistan (TCP), a Government entity that supplies the state-owned Utility Stores Corporation (USC), maintains reserves by procuring sugar from domestic sources or through imports pursuant to Government policy. This arrangement helps in maintaining adequate sugar supplies and in controlling sugar prices in the domestic market. • Pakistan has an average applied tariff for the HS17 category of 15% according to the WTO; but, the general duty on sugar imports was set at 40% in April 2018 along with a 15% regulatory duty, a 15% general sales tax, and a 1% excise duty on raw sugar imports. • Pakistan subsidizes sugar exports. The Government set a minimum export price of \$425/ton and operated an export quota which was expanded to 500,000 MT in 2017/18 and provides an inland freight subsidy of \$97/MT for sugar exports. |

| Country | Policy Regime |
|-----------------|--|
| Thailand | <ul style="list-style-type: none"> • Sugar mills are required to hold combined safety stocks of 250,000 metric tons per month, which is equal to a month of average monthly domestic sugar consumption. • Government has a sugarcane price support program. • The retail ceiling exists to protect consumers from upward price fluctuations. • Even though the Government has changed the method of computation, the market price of domestic wholesale sugar at 17.25 baht/kg (25 cents/lb.) remains higher than world market price, which is around 12-13 baht/kg. (17-18 cents/lb.) This price difference will be collected from sugar mills to fund the state-run Cane and Sugar Fund (CSF), which subsidizes cane growers when market prices of sugarcane are lower than the intervention prices. |
| Russia | <ul style="list-style-type: none"> • Russia had been a major sugar importer, but Government programs to increase sugar beet planting resulted in a sharp rise in Russian sugar production over the past decade. • Russia's limited budget means that almost all sugar policy is based on import tariffs. • As of 2017, Russia maintained a US\$250/MT duty on sugar imports from inside the customs union. • Russia maintains a system of subsidized interest rate loans to agricultural producers through commercial banks. • Russia provides seed, fuel, fertilizer, and machinery subsidies. |
| Turkey | <ul style="list-style-type: none"> • Mandatory ethanol blending with gasoline types raised to 3 % from 2% in 2014. • If imported for the domestic market, the tariff on sugar is 135% and the High Fructose Corn Syrup (HFCS) tariff is also 135%. • Implements an export restriction on sugar. • At the beginning of the harvest period, the Government announces a base procurement price (for a polarity rate of 16), and the factories pay the farmers according to the polarity rate (the amount of sugar obtained from a beet) of their beets, relative to the base price. • The Government gives support for fertilizer (80 TL/ha), and gasoline (150 TL/ha). |
| USA | <ul style="list-style-type: none"> • The Feedstock Flexibility Program, another aspect of the tangled web of protectionism surrounding sugar, mandates that during periods of sugar surplus, the U.S. Government buy sugar for resale to ethanol plants at a loss. The result is that American consumers and industries pay double the world market price for sugar and products containing it. |

Source: United States Department of Agriculture's Global Agricultural Information Network Reports, 2021

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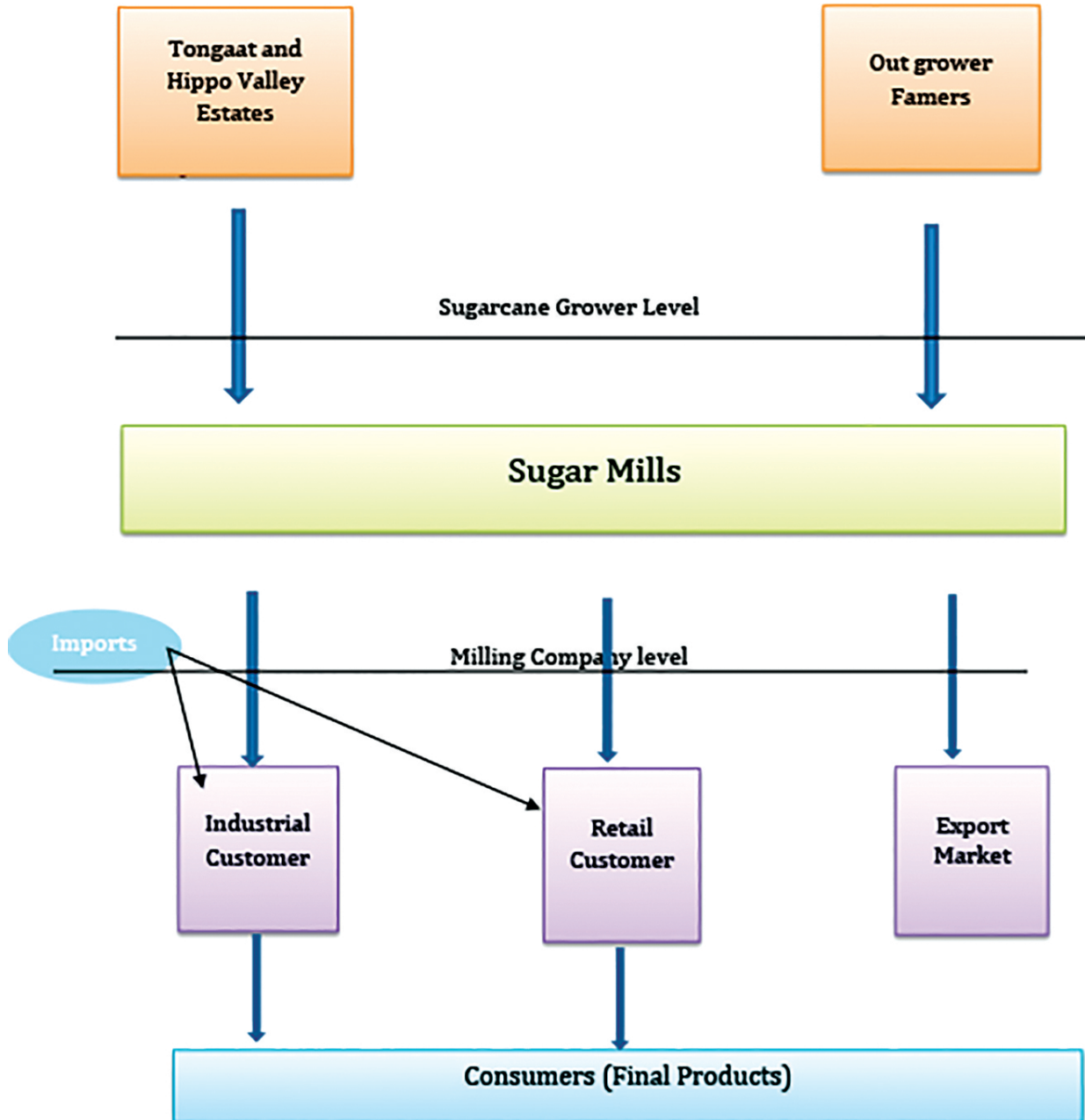
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5.0 SUGAR VALUE CHAIN NODES SYNOPSIS

5.1.1 The sugar value chain is comprised of various nodes as illustrated below:



5.2 Node 1: Farmers/Out-growers

5.2.1 Farmers/out-growers denotes the first node of the five nodes of the Sugar Value Chain. Below are the cost drivers affecting sugarcane farmers

5.2.3 *Inputs (Fertilizers & Herbicides)*: CropLife estimated that 98 percent of raw materials used in the manufacture of fertilizers and herbicides are imported from China, South Africa and South America. Cost build-up of these inputs is attributed to logistics, exchange rate as well as the availability of foreign currency. Escalating cost of utilities such as electricity, water and fuel also contribute to the high cost of fertilizers and herbicides, as well as pesticides in the country.

5.2.3 Three types of fertilizers are applied in the farming of cane in Zimbabwe, namely, Muriate of Potash (MOP), Super Single Phosphate (SSP) and Ammonium Nitrate (AN) amounting to US\$581.00/ha. Table 11 indicates the amount of fertilizers required and the attendant costs per hectare.

Table 11: Cost of Fertilizer per Hectare

| Type of Fertilizer* | Quantity [50kg bags] * | Cost/50kg bag** | Total Cost/ha |
|---------------------|------------------------|-----------------|-------------------|
| MOP | 4 | US\$33.00 | US\$132.00 |
| SSP | 8 | US\$22.00 | US\$176.00 |
| AN/Urea | 7 | US\$39.00 | US\$273.00 |
| Total | 9 | | US\$581.00 |

Source: National Competitiveness Commission Compilation, *Commercial Sugarcane Farmers Association of Zimbabwe; **ZFC prices, 2021

5.2.4 *Water*: The lowveld of Zimbabwe is generally characterized by high temperatures (average of 23.4°C throughout the year) and below normal rainfall (average of 588mm/annum). As a result, supplementary water to irrigate the crop is required. Sugarcane farmers have indicated that, on average, 15mega litres of water is required to irrigate one hectare of sugarcane per annum. Zimbabwe National Water Authority (ZINWA) is currently charging US\$6.82/mega litre (converted at the official interbank rate).

5.2.5 *Electricity*: Farmers irrigate crops through overhead and furrow systems. Whilst overhead irrigation exclusively uses power, furrow system can utilize either power or gravity. In cases where power is required to irrigate the crop, electricity becomes the cost driver that affect a number of farmers. In the event of power being used to irrigate, the utility is charged an average of US\$4.75/kWh. Consequently, farmers pay an average power bill of ZW\$1,799.73/ha/month.

5.2.6 *Labor*: Labor rates in the sugarcane industry are determined by the National Employment Council (NEC) for the sugar industry. As shown in Table 12, wages vary from grade A1 to C2/. Grade A1 is the entry level and grade A2 is for the experienced workers while supervisors are in grades C1 and C2. To cultivate a hectare of sugarcane it requires one labor unit, supervisor and at times crop guards.

Table 12: Cost of Labour per NEC Grade as at 26 October 2021

| Labour | Grade | Z\$ wage/month |
|---------------------------|-------|--------------------|
| Farm worker | A1 | \$9,348.00 |
| Supervisor | C1 | \$20,067.00 |
| Crop Guard | A1 | \$9,348.00 |
| Total labor per Ha | | \$38,763.00 |

Source: National Employment Council for the Agricultural Industry in Zimbabwe

5.2.7 *Land Tenure:* In the absence of land security, farmers cannot use land as collateral to access funding from financial institutions for operations, retooling, maintenance of irrigation equipment to avoid water losses due to lack of collateral. Those who access the funds are charged interest rates averaging 60% per annum, which is not viable and sustainable.

5.2.8 *Transport Costs:* Table 13 shows the different types of transport costs incurred by sugarcane farmers in Zimbabwe.

Table 13: Farmers’ Different Types of Transport Costs

| Inputs rate | Rates for transporting inputs are being charged at a rate of Z\$10.06/km/t |
|----------------------|--|
| Infield rate | Infield rates are charged based on Perry Haulage Wet Rates for an average distance of 10km to the loading point. The rates are calculated per bundle premised on distance, fuel consumed [on traveling (empty & loaded) and loading and offloading]. An average bundle weighs approximately 5 tons. Rate: Z\$4,651.02/bundle |
| Loading Zone to Mill | Some farmers opt to transport their sugarcane direct to mills using tractors. Those in the surrounding areas of Hippo Valley make use of the Hippo Valley light train to ferry sugarcane to the mill. Road Charges: US\$150 and 60 litres of fuel per load Rail: Z\$849.38/t (Equiv to US\$8 using auction rate) |

Source: *Mkwesine Sugarcane Farmers, 2021*

5.2.9 The payment structure by millers for sugarcane delivered to mills by the outgrower farmers is complex. Farmers are paid using a concept of Mill Door Pricing (MDP). According to Zimbabwe Sugar Sales (ZSS), MDP price for 31 October 2021 if a farmer delivers 80t of cane, the quoted price for the cane will be Z\$67,343.58/t, which is an estimate. Once the sugar is sold, farmers are paid using the Cash Received Payment (CRP) method which is the market value of raw sugar. In this scenario, the farmer will be paid Z\$58,477.73/t of raw sugar as at 31 October 2021 for the 2020/2021 crop. Table 14 shows farmer’s earnings after delivering 80ton of cane to miller using ZSS rates as at 31 October 2021.

Table 14: Earnings for 80t of Cane using MDP and Rates as 31 October 2021

| Av output/ha | Conv. rate (8:1) | MDP@Z\$67,343.58/t | CRP@Z\$58,477.73/t |
|---------------------|-------------------------|---------------------------|---------------------------|
| 80 tons of cane | 10t raw sugar | Z\$67,343.58/ha | Z\$58,477.73/ha |

Source: *NCC compilation based on Commercial Sugarcane Farmers Association of Zimbabwe*

5.2.10 Table 15 illustrates price per ton, as at 31 October 2021, for the MDP and CRP for September and October 2021, respectively

Table 15: Sugar Price per Ton

| Market & Currency | Volume Proportion | MDP 2020/21 Crop | | | CRP 2020/21 Crop | | |
|-------------------|-------------------|------------------|--------------|-------|------------------|--------------|-------|
| | | 30 Oct 2021 | 31 Sept 2021 | Var % | 30 Oct 2021 | 31 Sept 2021 | Var % |
| Domestic in Z\$ | 63% | 100,933.37 | 100,933.37 | 0% | 45,296.15 | 42,269.11 | 7% |
| Domestic in US\$ | 32% | 697.72 | 697.72 | 0% | 283.06 | 272.32 | 4% |
| Export in US\$ | 5% | 263.05 | 263.05 | 0% | 199.12 | 230.59 | -14% |

Source: Zimbabwe Sugar Sales, 2021

International Benchmarking

- 5.2.11 It is important to note that data on industry cost structures, Government support initiatives and regulations is not readily available online for comparative analysis with other sugar producing jurisdictions. It is, thus, pertinent that going forward, Value Chain Benchmarking Visits be undertaken to provide the evidence-based information on the value chain processes and the nature of technology used.
- 5.2.12 In the case of Brazil, only data relating to cane establishments costs, which was obtained, shows that the cost of seed cane is higher by about 59% in Zimbabwe as compared to Brazil. This huge disparity in the cost of seed cane makes locally produced sugarcane less competitive in comparison to other countries, and Brazil in particular. Table 16 indicates the sugarcane producing costs between Brazil and Zimbabwe:

Table 16: Comparison of Sugarcane producing costs between Zimbabwe and Brazil

| | Zimbabwe | Brazil-Hand Planting | Brazil-Machine Planting |
|--|---------------------------------------|---------------------------------------|---------------------------------------|
| <i>Cost Activity</i> | <i>Absolute costs incurred (US\$)</i> | <i>Absolute Costs Incurred (US\$)</i> | <i>Absolute Costs Incurred (US\$)</i> |
| Cane planting on 10% of area planted | | | |
| Land preparation (Rip, Disc and Ridge) | 134.48 | 69.8763 | 111.7922 |
| Cost of Seed cane | 775.6 | 314.6286 | 314.6286 |
| Labour | 289.1 | 477.7721 | 405.327 |
| Subtotal -cane establishment per hectare | 1 199.18 | 862.277 | 831.7478 |

Source: Louisiana State University Agricultural Center, 2021

- 5.2.13 Table 17 is a summary of cost drivers affecting farmers.

Table 17: Summary of Cost Drivers Affecting Farmers

| Node | Cost Drivers |
|----------------|---|
| Farmers | <i>Inputs:</i> fertilizers and herbicides <i>Market:</i> monopoly and complex structure <i>Logistics:</i> use of haulage to ferry sugarcane, NRZ expensive and unreliable <i>Fuel</i> – ever rising fuel price in US\$ and Z\$ <i>Utilities:</i> Water, electricity and rates are very expensive <i>Irrigation:</i> cost of maintaining the equipment, loss of water in canals <i>Labor:</i> sugarcane production is labor intensive <i>Cost of borrowing:</i> high interest prevailing on the market impeding borrowing <i>Land Security</i> – no 99-year lease or title |

5.2.14 Table 18 gives a summary of the average growing costs per 15ha of sugarcane.

Table 18: Sugar Cane Farmer's Average Growing Costs Per 15ha

| COST DRIVER | % Contribution to Total Cost |
|-----------------------------------|-------------------------------------|
| Cane establishment costs | 5.37% |
| Farm tools | 1.17% |
| Personal protective equipment | 1.21% |
| Fertilizers & herbicides (ratoon) | 8.58% |
| Employee costs (excl seasonal) | 15.65% |
| Management farm admin expenses | 11.28% |
| Irrigation expenses | 3.45% |
| Electricity charges | 2.19% |
| Land holding fees | 0.27% |
| Vehicle and tractor maintenance | 3.80% |
| General maintenance | 1.03% |
| Harvesting costs | 2.59% |
| Other seasonal labour costs | 0.45% |
| Cane haulage costs | 14.03% |
| Wear and tear | 15.01% |
| Insurance costs | 6.97% |
| Bank charges | 2.42% |
| Advance price (Z\$ MDP) interests | 1.42% |
| Association levies | 1.62% |
| Compliance | 0.99% |
| Sundries | 0.50% |

Source: NCC compilation based on field findings from Farmers Associations, 2021



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5.3. **Node 2: Farmer-cum-Miller**

5.3.1 Triangle Estates and Hippo Valley are farmers-cum-millers by virtue of them owning sugar estates and are affected by the same factors that affect out-growers. Table 19 illustrates cost drivers affecting farmers cum millers.

Table 19: Cost Drivers Affecting Farmer Cum Miller

| Node | Cost Drivers |
|----------------------------|--|
| Farmers cum millers | <p><i>Inputs:</i> fertilizers and herbicides <i>Insurance:</i> high insurance premiums <i>Logistics:</i> use of haulage to ferry sugarcane, NRZ expensive and unreliable <i>Fuel</i> – ever rising fuel price in US\$ and Z\$ <i>Utilities:</i> Water, electricity and rates very expensive <i>Irrigation:</i> cost of maintaining the equipment, loss of water in tunnels <i>Employment Costs:</i> sugarcane production is labor intensive <i>Cost of borrowing:</i> high interest prevailing on the market impeding borrowing <i>Forex:</i> erratic supply of forex for spares and retooling Disbursement taking an average of 10wks from date of allocation High surrender retention of 40% to RBZ <i>Coal:</i> high cost of coal: Logistics Forex for capex and working capital Cost of fuel High mining taxes</p> |

Coal

5.3.2 Millers cited coal as one of the major cost drivers in their operations. The high cost of coal is attributed to the fact that coal mining is expensive because equipment such as excavators, rigs, spares, blasting and drilling materials such as explosives and ammonium nitrate are imported from countries such as China. As a result, they face challenges of shortage of foreign currency and delays in disbursements.

5.3.3 Coal is a bulky commodity, which should ideally be transported by rail. However, it is currently being transported from Hwange using haulage trucks due to the malfunctioning rail transport system, thereby contributing to the high costs and undermining competitiveness of locally produced sugar.

5.3.4 The coal sub-sector also uses high volumes of fuel averaging 1,3 million litres of diesel per month, which is very expensive, thus also contributing to the cost drivers. Other drivers to the cost of coal are taxes in the mining sector, which are too high as well as cost of borrowing money which ranges from 40 to 60%.

5.4 **Node 3 and 4: Refinery and Distribution**

5.4.1 There are two refineries in the country, Gold Star and Triangle. Gold Star produces 80% and Triangle produces 20% of white granulated sugar, which is used for household consumption and the manufacture of confectionery, dairy, pharmaceutical, beverage products, and specialty sugars (icing, castor, syrups, invert and caramel).

5.4.2 To achieve the high-quality refined sugar, raw sugar used in the production process should be of high quality. Poor quality of raw sugar leads to high processing costs and low efficiencies at the refining stage. In distribution, Zimbabwe Sugar Sales (ZSS) is the company that sells and distributes sugar on behalf of Hippo Valley Estates and Triangle Limited.

Table 20: Factors Affecting Refiners and Distributors

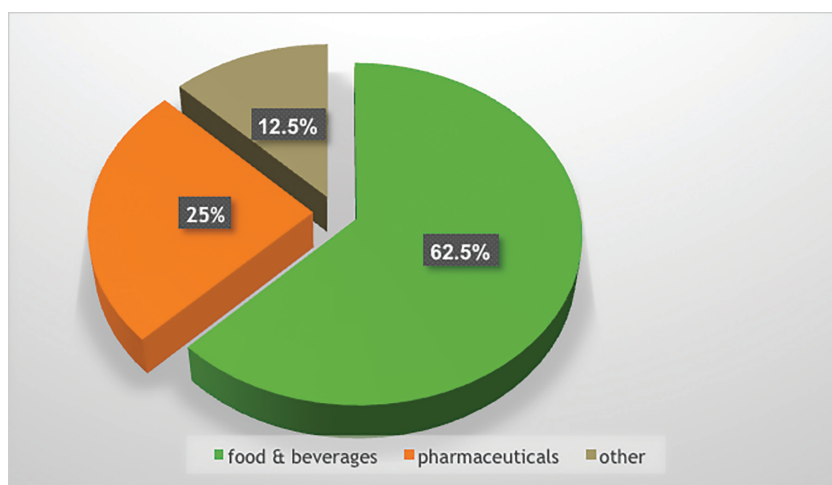
| | |
|-------------------------|--|
| Quality | Quality of raw sugar impacts on refining costs and price of the final product to the consumer, hence millers should always supply good quality product to enhance refining efficiencies. |
| Transport | <p>Rail is important in transporting raw sugar, finished goods, coal and other inputs and has a significant contribution in the cost of production. Rail turnaround time for transportation of products is over 4 days (for undedicated wagons) compared to 1 day by road. Transit losses are difficult to recover from NRZ. Below are rail charges for the transportation of goods.</p> <p>Rail transportation charges: Ethanol Z\$6,035/t Molasses Z\$846.38/t Sugar (Refined) Z\$6,603.48/t</p> <p>Export: Maputo US\$17.53/t Botswana US\$42.65/t</p> <p><i>Road:</i> Road transport is faster and more secure. Road charges Z\$10.06/km/t</p> <p>Coal, as a bulk commodity, is best transported by rail. Rail charges for coal transportation: Coal from Zambezi Gas: Z\$4,735.62/t Coal from Makomo Resources: Z\$7,972.72/t</p> |
| Utilities | <p>Electricity and water shortages impact on productivity, thereby leading to uncompetitive market prices.</p> <p><i>Electricity:</i> Electricity supply largely remains erratic due to inadequate power generation, breakdowns of old generating & power distribution equipment, lack of maintenance and foreign currency shortages.</p> <p><i>Water:</i> Water supply has been very erratic due to breakdowns on aged pumping and water distribution network. This has forced the alternative sourcing of water from more costly boreholes and bulk suppliers. Additional costs have been incurred in putting up internal water storage tanks to provide buffer capacity. Current clear water tariff of US\$0.86/1000ltrs is high, compared to Zambia (US\$0.62), Mozambique (US\$0.74) and South Africa (US\$0.67).</p> |
| Foreign Currency | Shortage of foreign currency and delays in disbursements on the auction market is negatively affecting the industry. |
| Coal Supply | <p>Coal costs contribute a significant portion in the cost of refined sugar (above 5%). Coal supply to the refineries has been constrained due to antiquated equipment, foreign currency shortages and seasonal pit flooding.</p> <p><i>Pricing:</i> Coal suppliers base their prices in US\$. However, prices in ZWL indicate use of alternative rates (US\$1: Z\$180) which are higher than the average auction rate (US\$1: Z\$105) making the local currency prices very expensive.</p> <p><i>Quality:</i> Poor coal quality with high ash content from the mines is causing production inefficiencies thereby increasing production costs.</p> |
| Packaging | <p>Packaging materials for 50 kg and 2 kg packs are sourced locally while 1ton bags are sourced from South Africa subject to the availability of foreign currency on the RBZ foreign currency auction system.</p> <p><i>Pricing:</i> Local 1ton bag – US\$11</p> <p>Imported 1ton bag - US\$7 landed for the bags from RSA.</p> <p>Imported bags are 57% cheaper than locally manufactured bags.</p> <p><i>Quality:</i> Poor quality 2kg packs are made from substandard materials by local manufacturers and have high rejection rate on the packing machines thus increasing packaging cost.</p> |

| | |
|--|---|
| Vitamin A Fortification² | The Zimbabwean Government passed a regulation for mandatory fortification of sugar with Vitamin A effective July 1, 2017. The cost of fortification averages US\$9-10 per metric ton of fortified sugar produced. Notwithstanding the health benefits, mandatory fortification adds to the already high cost of production for local sugar and makes it uncompetitive since the local sugar competes in the export market with countries that do not have mandatory sugar fortification regulations. According to Bio-analyt (2020), there are nine countries which mandate Vitamin A fortification of sugar, namely, Guatemala, El Salvador, Honduras, Malawi, Mozambique, Nigeria, Rwanda, Zambia, and Zimbabwe and many more that allow it on a voluntary basis. |
| End Users | Raw sugar contributes over 71% of the refining costs. Any delays in paying for supplies by end users negatively affect production. |

5.5 Node 5: End Users

5.5.1. The major consumers of sugar in Zimbabwe are food and beverages, pharmaceuticals, hospitality and confectionary sectors, since it is used as a raw material, as well as for household consumption. Food and beverages consume approximately 62.5%, pharmaceuticals 12.5% and other (hospitality and domestic users) 25% of sugar in the domestic market. Figure 10 shows sugar consumption and Table 21 shows the end products by sector in which sugar is an ingredient. Zimbabwe's sugar per capita, is currently 23kg/year and is relatively low compared to an average of 30kg/year in the region. To this end, performance of the sugar value chain has an impact on the downstream sectors of the economy.

Figure 10: Sugar Consumption by Sector



Source: NCC 2021 End User Node Survey

Table 21: Products Produced Per Sub-sector

| Sub-sector | Products |
|--------------------|--|
| Food and Beverages | carbonated drinks lagers/ clear beers still beverages cordials/syrups Energy drinks Confectionary |

| Sub-sector | Products |
|-----------------|---|
| Pharmaceuticals | cough syrup antibiotic powders anti-diarrhoeal gripe water |
| Other | Chewing/bubble gums Lollipops Sweets, Toffees |

Source: NCC 2021 End User Node Survey

- 5.5.2 End users' competitiveness is affected by factors such as an outdated Act, slow clearing processes at ports of entry, high cost of utilities, among other costs. Table 22 below shows a summary of regulations and cost driver impeding on the node's competitiveness.

Table 22: Summary of the Factors Affecting End Users of Sugar

| Node | Cost Drivers |
|-----------|--|
| End Users | <p><i>Sugar Permits</i> – inefficiency in processing applications Permits are physically processed No time limit on applications Sugar Production Control Act, which is outdated and no longer considers current developments in the industry</p> <p><i>Availability of product</i> – product only available for 6-7 months per year</p> <p><i>Logistics</i>: use of haulage, NRZ expensive and unreliable Scarce transport during festive season due to high demand for transport Slow clearing process at Beitbridge border post</p> <p><i>Fuel</i> –ever rising fuel price in US\$ and Z\$</p> <p><i>Utilities</i>: Water, electricity, and rates very expensive</p> <p><i>Cost of borrowing</i>: high interest prevailing on the market impeding borrowing</p> |

6.0 VAT TAXATION ALONG THE SUGAR VALUE CHAIN

- 6.1 Zimbabwe is one of the few countries with a favorable tax regime along the value chain, hence the sugar industry should take advantage of this to leverage on global competitiveness.
- 6.2 Table 23 gives a comparison on the application of VAT taxation along the value chain in different countries:

Table 23: Comparison on Application of VAT Taxation along the Value Chain in Different Countries

| Country | Seeds, Fertilizers, Pesticides, Herbicides | Sugar Cane | Refined Sugar |
|------------------------|--|------------|---------------|
| Zimbabwe ¹⁰ | 0% | 0% | 0% |
| Eswatini | 12% | 12% | 0% |
| South Africa | 15% | 15% | 15% |
| Egypt | 0% | 14% | Exempt |
| Malawi | 0% | 16.5% | 16.5% |

¹⁰ Notwithstanding the VAT zero rating of key inputs, sugarcane and refined sugar. The Value Chain is subject to a 2% Intermediated Money Transfer Tax (IMTT).

| Country | Seeds, Fertilizers, Pesticides, Herbicides | Sugar Cane | Refined Sugar |
|----------------------|--|------------|---------------|
| Tanzania | Exempt | 18% | 18% |
| DRC | 16% | 16% | 16% |
| Mauritius | 0% | 0% | 15% |
| Madagascar | 20% | 20% | 20% |
| Kenya | 14% | Exempt | 14% |
| Algeria | 19% | 19% | 19% |
| Morocco | 20% | 20% | 20% |
| Nigeria | 7.5% | 7.5% | 7.5% |
| Mexico | 16% | 16% | 16% |
| Thailand | Exempt | Exempt | Exempt |
| United Kingdom | 20% | 20% | 20% |
| Bangladesh | 15% | 15% | 15% |
| Indonesia | Exempt | Exempt | Exempt |
| Saudi Arabia | 15% | 15% | 15% |
| Chile | 19% | 19% | 19% |
| Guatemala | 12% | 12% | 12% |
| United Arab Emirates | 5% | 5% | 5% |

Source: NCC compilations based on Ernst & Young Report

6.3 Tariffs on Imported Sugar in Selected Countries

6.3.1 Globally, very few countries are committing to free, unprotected trade in sugar. Zimbabwe is no exception and levies a tariff of 10% plus US\$100/ton on imported sugar. In the region, the EAC Members States levies the highest tariff on sugar of 100% or US\$460/mt, whichever is higher. This is despite the fact that countries such as Tanzania, are not net sugar exporters and rely on imported gap sugar to bridge local consumption. Table 23 shows obtaining levels of tariffs on sugar in selected countries.

Table 24: Sugar Tariffs in Selected Countries

| Country | Applied MFN Rate of Duty | Preferential Rate of Duty |
|--------------|---------------------------|---|
| Zimbabwe | 10% + US\$100/ton | 10% + US\$100/ton under SADC 0% under COMESA |
| DRC | 20% | 20% |
| Eswatini | 527.75c/kg, AVE of 58.81% | 0% under COMESA |
| Egypt | 20% | 0% under COMESA |
| Ethiopia | 5% | 4.5% under COMESA |
| Madagascar | 10% | 0% under COMESA |
| Malawi | 10% | 0% under COMESA |
| Mauritius | 10% | 0% under COMESA |
| Mozambique | 7.5% | 0% under SADC |
| South Africa | 527.75c/kg, AVE of 58.81% | - |

| Country | Applied MFN Rate of Duty | Preferential Rate of Duty |
|-----------|---|---------------------------|
| Tanzania | 100% or US\$460/mt, whichever is higher | 25% under SADC |
| Zambia | 25% | 0% under COMESA and SADC |
| Congo | 25% | |
| Kenya | 100% or US\$460/mt, whichever is higher | 0% under COMESA |
| Sudan | 25% | 0% under COMESA |
| Uganda | 100% or US\$460/mt, whichever is higher | 0% under COMESA |
| China | 50% | |
| Indonesia | 50% | |
| Algeria | 50% | |
| Nigeria | 10% | |
| Iran | 5% | |
| USA | 1.4606C/Kg less 0.020668c/kg for each degree under 100°C and fractions of a degree in proportion but not less than 0.943854c/kg | 0% for GSP Countries |

Source: NCC compilation based on International Trade Center Data

6.4 Sugar Sweetened Beverages (SSB) Taxes

- 6.4.1 Of late, there is global momentum to encourage the substitution of sugar with healthier options to reduce obesity rates, especially in developed countries, through implementation of Sugar Sweetened Beverages (SSB) taxes. The tax is now in place in more than 40 countries around the world, covering over 2 billion people, including countries with some of the highest SSB consumption and obesity rates in the world, such as Chile, Colombia, Mexico, Peru, Qatar, Saudi Arabi, United Arab Emirates, Mauritius, South Africa, Zambia, Fiji, Malaysia, Philippines, Thailand, Finland, Belgium, Estonia, Latvia, Portugal, Spain, Denmark, France, Hungary, Ireland, Norway and the UK. In Zimbabwe the 2022 National Budget proposed to introduce a flat rate of excise duty on energy drinks at a rate of US\$0,05/ litre, or the local currency equivalent. Whilst this may reduce consumption of such drinks and promote health, this has negative implications on competitiveness.
- 6.4.2 South Africa introduced SSB tax on 1 April 2018, through the Rates and Monetary Amounts and Amendments of Revenue Laws Act. The tax is fixed at 2.1 cents per gram of the sugar content that exceeds four grams per 100ml, which means the first teaspoon of sugar in 100ml is levy free. It is important to note that only beverage producers that use more than 500kg annually are taxed and fruit juices are exempt.
- 6.4.3 In Mauritius, the Government imposes excise tax rate on SSBs of 0.06 Mauritian rupees (US\$0.0015) per 100 grams of sugar content in the beverages, whether they are imported or locally manufactured. In Zambia, a SSB rate of 3% was introduced on sugary beverages in January 2019.

Impact

- 6.4.4. With sugar taxes being introduced, beverage manufacturers are looking for alternatives to sugar that will allow them to produce at competitive rates. The use of artificial sweeteners such as aspartame and sucralose, and natural sweeteners such as stevia, as cheaper or lower-calorie alternatives to regular white sugar is increasing. The most important alternative sweetener is High-Fructose Corn Syrup (HFCS), also called glucose-fructose syrup. The use of such artificial sweeteners remains a subject of contention as the HFCS has been accused of being more harmful to humans than cane or beet sugar since it contributes to weight gain by affecting normal appetite functions (CEO 2016).

7.0 SUGAR MARKETS

Domestic Consumption

- 7.1 Sugar industry is currently meeting 85% and 100% of the local market requirements for refined sugar and brown sugar, respectively. According to the Confederation of Zimbabwe Retailers (CZR), Zimbabwe consumes an average of 80% to

Sugar Prices

- 7.2 Sugar is one of the most heavily subsidized products in the world. Globally, sugar producers on average receive income of almost double the world price of sugar. The average price of sugar on the world market is consistently below the average cost of production of this sugar. Policy making in such a distorted market runs the risk of falling into the trap of a race towards the bottom of ever-increasing subsidization and protectionism. There are two major sources of sugar, either it is sourced from the local market and/or import.
- 7.3 Whereas the foreign currency price of sugar is explicit and not subject to changes, the local currency price varies from time to time in line with developments in prices of inputs and related services along the value chain. Table 25 shows the price of sugar for Zimbabwe in local currency and in US\$.

Table 25: Price of Sugar in US\$ and Local Currency as at 14 October 2021

| | Z\$ Delivered Price per Ton | US\$ Delivered Price per Ton |
|---------------------------|------------------------------------|-------------------------------------|
| Raw Sugar | 78,800.00 | 493.00 |
| Manufacturer's sugar | | |
| Brown Sugar | 118,800.00 | 743.00 |
| White Sugar | 127,900.00 | 799.00 |
| Bottler's Sparkling Sugar | 120,600.00 | 754.00 |
| Table Sugar | | |
| Brown Sugar | 166,000.00 | 1,037.00 |
| White Sugar | 175,900.00 | 1,099.00 |

Source: Zimbabwe Sugar Sales, 2021

7.4 Table 26 illustrates comparison of Zimbabwe sugar price and the region.

Table 26: Comparison of Sugar Prices in the Region

| Country | Wholesale Price (local currency)/ ton | Wholesale Price (US\$)/ton |
|----------|---------------------------------------|----------------------------|
| Zimbabwe | 96,000 | US\$738.46 |
| Zambia | 8,782 | US\$493.51 |
| Malawi | 468,718 | US\$574.61 |
| Eswatini | 7,230 | US\$505.36 |
| Kenya | 821,200 | US\$753.83 |

Source: <https://www.selinawamucii.com/insights/prices/sugar>

7.5 Sugar users highlighted that perennially, there has been critical refined sugar shortage on the market during planting season despite concerted efforts by Triangle and Gold Star to supply the product.

Table 27: Summary of the Cost Drivers Affecting End Users of Sugar

| Node | Cost Drivers |
|-----------|---|
| End Users | <p><i>Sugar Permits</i> – inefficiency in processing applications</p> <p>Permits are physically processed</p> <p>No time limit on applications</p> <p>Sugar Production Control Act which is outdated and no longer takes into account current developments in the industry</p> <p><i>Availability of product</i> – product only available for 6-7 months per year</p> <p><i>Logistics</i>: use of haulage, NRZ expensive and unreliable</p> <p>Scarce transport during festive season due to high demand for transport</p> <p>Slow clearing process at Beitbridge border post</p> <p><i>Fuel</i> – ever rising fuel price in US\$ and Z\$</p> <p><i>Utilities</i>: Water, electricity and rates very expensive</p> <p><i>Cost of borrowing</i>: high interest prevailing on the market impeding borrowing</p> |

7.6 International Trade in Sugar: Global Developments

7.6.1. World sugar trade averages about 64 million tons per year. Raw sugar accounts for around 60% of international trade volumes. Although many countries produce sugar, top five exporters, namely Brazil, Thailand, EU, Australia and India accounted for nearly 70% of the world trade during the period 2016-18. Brazil, as the largest producing and exporting country in the world, dominates world trade, accounting for about 45% of global exports. Indonesia, China and the USA were world's largest importing nations in 2018.

Table 28: Top 10 Largest Net Exporters and Importers of Sugar, 2019

| Ten (10) Largest Net Exporters (Million Metric Tons) | | | | | | |
|--|----------|-------|-----------|-------|-------------|------|
| | Total | | Raw Sugar | | White Sugar | |
| Rank | Country | Qty | Country | Qty | Country | Qty |
| 1 | Brazil | 17.89 | Brazil | 15.98 | Thailand | 4.60 |
| 2 | Thailand | 10.41 | Thailand | 5.81 | India | 4.24 |

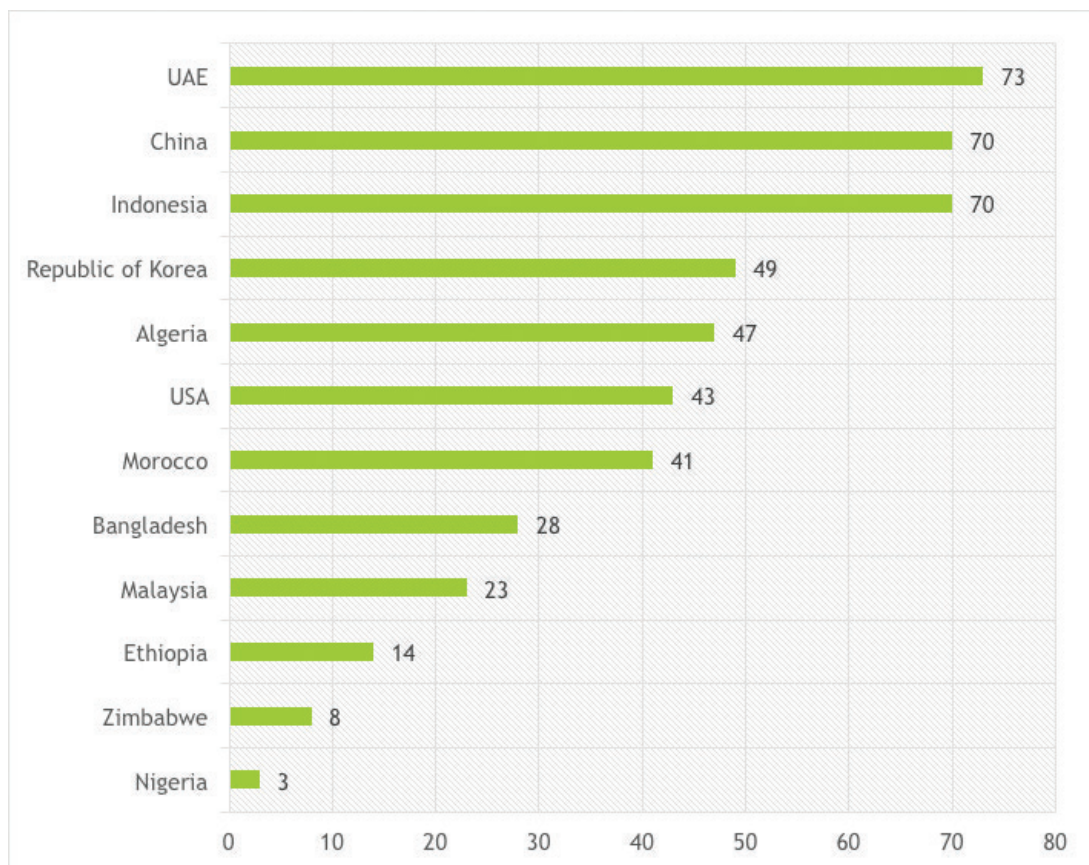
| Ten (10) Largest Net Exporters (Million Metric Tons) | | | | | | |
|---|-------------------|------|-------------------|------|----------------------|------|
| | Total | | Raw Sugar | | White Sugar | |
| 3 | India | 4.02 | Australia | 2.59 | Brazil | 1.91 |
| 4 | Australia | 2.71 | Mexico | 1.82 | Guatemala | 1.04 |
| 5 | Mexico | 2.34 | RSA | 1.21 | EU-28 | 0.77 |
| 6 | Guatemala | 2.06 | Guatemala | 1.02 | Pakistan | 0.61 |
| 7 | RSA | 0.89 | Cuba | 0.57 | Morocco | 0.52 |
| 8 | Eswatini | 0.79 | El Salvador | 0.49 | Mexico | 0.52 |
| 9 | Cuba | 0.62 | Nicaragua | 0.37 | UAE | 0.51 |
| 10 | Pakistan | 0.62 | Eswatini | 0.34 | Eswatini | 0.45 |
| Ten Largest Net Importers (Million Metric Tons) | | | | | | |
| 1 | China | 4.25 | Indonesia | 3.97 | China | 1.34 |
| 2 | Indonesia | 4.12 | China | 2.92 | Sudan | 1.29 |
| 3 | USA | 2.82 | USA | 2.25 | Sri Lanka | 0.63 |
| 4 | Bangladesh | 2.17 | Algeria | 2.19 | USA | 0.57 |
| 5 | Algeria | 1.89 | Republic of Korea | 1.83 | Chile | 0.48 |
| 6 | Malaysia | 1.78 | EU-28 | 1.80 | Israel | 0.45 |
| 7 | Republic of Korea | 1.66 | Bangladesh | 1.74 | Bangladesh | 0.43 |
| 8 | Nigeria | 1.36 | Malaysia | 1.36 | Syrian Arab Republic | 0.42 |
| 9 | Iran | 1.33 | Saudi Arabia | 1.33 | Uzbekistan | 0.39 |
| 10 | Sudan | 1.29 | Nigeria | 1.29 | Ethiopia | 0.37 |

Source: International Sugar Organization

7.7 Non-Tariff Measures for Sugar

7.7.1 Sugar remains the most regulated commodity in international trade. Countries trading in sugar should meet a number of set conditions in export markets. For sugar export from Zimbabwe to selected countries, some of the requirements pertain to sanitary and phytosanitary measures (SPS), labelling & packaging requirements, transport & storage conditions, traceability of the goods, certification, among others. Figure 11 summarizes the number of import requirements for sugar exported from Zimbabwe to selected countries:

Figure 11: Number of Import Requirements by Country

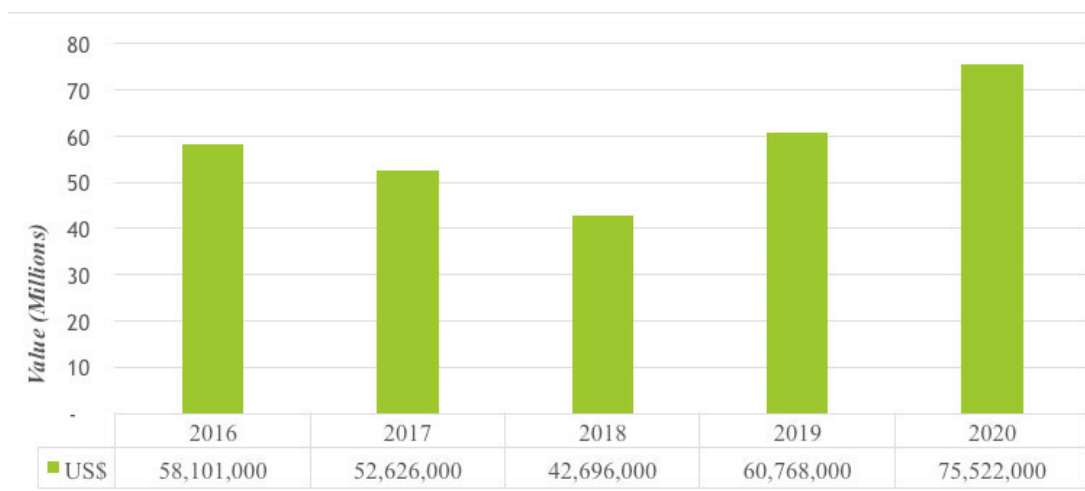


Source: International Trade Centre, 2020

7.8 Zimbabwe's Sugar Export

- 7.8.1 In Zimbabwe, 65% of the sugar produced is for the domestic market and 35% is exported into the region, USA and to the European Union as raw sugar. The export value for the 2018/9 marketing year amounted to US\$62.8 million, translating to 0.37% of the GDP. According to RBZ, Zimbabwe Sugar Sales Company has exported US\$10.2 million worth of raw sugar for the period January to July 2021.
- 7.8.2 Ironically, despite the falling sugar cane yield, Zimbabwe's sugar export has been on an upward trend, increasing by about 30% from US\$58.1 million in 2016 to US\$75.5 million in 2020, as indicated in figure 12 below. The trade statistics indicates that if sugar productivity challenges are addressed, there is potential for the country to export more, as locally produced sugar becomes more competitive.

Figure 12: Zimbabwe’s Sugar Export, 2016 – 2020



Source: International Trade Organization (ITC)

Exports to the EU

7.8.3 According to the International Trade Centre (ITC), there were no sugar exports to the European Union (EU) over the last three years. This may be due to unfavorable prices and low returns when compared to other export markets such as East Africa. The EU also changed its domestic sugar policy in 2017 and removed restrictions for domestic sugar beet production. This change resulted in an increase in sugar supply and decrease in sugar prices in the EU. This is also expected to result in a further decrease in EU imports from other countries over time.

Exports to the USA

7.8.4 The USA is one of Zimbabwe’s major export markets for raw sugar. The country enjoys an annual Tariff Rate Quota (TRQ)⁹ of 13,000 tons and in the 2019/2020 season, an additional TRQ allocation of 6,000 tons was granted. As a result, the ZSS was recognized by ZimTrade as the Overall 2020 Exporter of the Year.

7.8.5 Currently, the USA allocates the WTO raw sugar TRQ to 40 countries. The basic in-quota tariff is 1.4606 cents per kilogram for raw sugar and 3.6606 cents per kilogram for refined sugar. The out-of-quota tariff is 33.87 cents per kilogram for raw sugar, and 35.74 cents per kilogram for refined sugar. However, most countries qualify for an exemption from these tariffs under either the Generalized System of Preferences (GSP) program that provides non-reciprocal, duty-free treatment for USA imports from 119 eligible developing countries. Zimbabwe, in common with other competitive sugar producing and developing countries, such as Brazil, Egypt, Tunisia, among others, are beneficiaries of the GSP.

⁹ TRQs limit imports of sugar by permitting a given quantity to enter duty-free or at a low duty (in-quota tariff rate). Any quantity in excess of the TRQ amount can still be imported, but at a higher rate of duty (over-quota tariff rate).

7.8.6 However, this competitive advantage is under threat from preference erosion, as the USA continue to negotiate various Free Trade Agreements (FTAs) and include sugar TRQs. Under the USMCA (United States-Mexico-Canada Agreement, previously NAFTA), sugar from Mexico (but not Canada) is duty-free and quota-free, although there will be constraints to Mexican access so long as the U.S.-Mexico sugar suspension agreements, or the Anti-dumping and Countervailing Duties (AD/CVD) duties, remain in place. The USMCA affords Canada a TRQ of 9,600 MT for refined beet sugar and a TRQ of 9,600 MT for sugar-containing products. The USMCA also provides that should US\$A announce an increase in the U.S. WTO refined sugar TRQ, Canada will be granted an additional allocation equal to 20 percent of such increase, which may be made from raw sugar not of Canadian origin. Mexico is amongst the top ten sugar producers in the world, and the trade developments with the US does not favour Zimbabwe.

7.8.7 All other FTAs that the USA has negotiated condition sugar access on the country demonstrating a trade surplus as defined in each agreement. Each of these FTAs provides that the maximum duty-free negotiated quantity increases each year by a small, fixed amount. The FTAs that include significant potential access for sugar are (with access as of 2020 listed):

- The Dominican Republic-Central America (CAFTA-DR, a set of bilateral agreements with six countries)—144,860 MT
- Colombia –56,000 MT
- Panama –7,585 MT
- Peru –2,000 MT

7.8.8 Table 29 shows the 2021 raw sugar unused reallocation under the TRQs system, by country, of which Zimbabwean sugar has to compete with such countries, majority of which are competitive than the country.

Table 29: Raw Sugar Unused Reallocation (MTRV), 2021

| Country | Raw Sugar Unused Reallocation (MTRV) |
|-----------------------------|---|
| Argentina | 3,962 |
| Australia | 7,648 |
| Belize | 1,014 |
| Bolivia | 737 |
| Brazil | 13,361 |
| Colombia | 2,211 |
| Costa Rica | 1,381 |
| Dominican Republic | 16,217 |
| Ecuador | 1,014 |
| El Salvador | 2,396 |
| Eswatini (Swaziland) | 1,474 |
| Fiji | 829 |
| Guatemala | 4,423 |
| Guyana | 1,106 |
| Honduras | 921 |
| India | 737 |
| Jamaica | 1,014 |
| Malawi | 921 |
| Mauritius | 1,106 |
| Mozambique | 1,199 |
| Nicaragua | 1,935 |
| Panama | 2,672 |
| Peru | 3,778 |
| South Africa | 2,119 |
| Thailand | 1,290 |
| Zimbabwe | 1,106 |
| | |

Source: NCC compilation based on United States Department of Agriculture

Table 30: Summary of Compendium of Cost Drivers Affecting the Sugar Value Chain

| Node | Cost Drivers |
|----------------------------|---|
| Farmers cum Millers | <p><i>Inputs:</i> fertilizers and herbicides <i>Insurance:</i> high insurance premiums <i>Logistics:</i> use of haulage to ferry sugarcane, NRZ expensive and unreliable <i>Fuel</i> – ever rising fuel price in US\$ and Z\$ <i>Utilities:</i> Water, electricity and rates very expensive <i>Irrigation:</i> cost of maintaining the equipment, loss of water in tunnels <i>Employment Costs:</i> sugarcane production is labor intensive <i>Cost of borrowing:</i> high interest prevailing on the market impeding borrowing <i>Forex:</i> erratic supply of forex for spares and retooling Disbursement taking an average of 10wks from date of allocation High surrender retention of 40% <i>Coal:</i> high cost of coal: Logistics Forex for capex and working capital Cost of fuel High mining taxes</p> <p>Accounting & Audit Fees:</p> |
| End Users | <p>Sugar Permits – inefficiency in processing applications Permits are physically processed No time limit on applications Need to export to obtain permit Sugar Production Control Act: amend the Act Availability of product – product only available for 6-7 months per year Suppliers can only satisfy 40% of their requirements <i>Logistics:</i> use of haulage, NRZ expensive and unreliable Scarce transport during festive season due to high demand for transport Slow clearing process at Beit-bridge border post <i>Fuel</i> – ever rising fuel price in US\$ and Z\$ <i>Utilities:</i> Water, electricity and rates very expensive <i>Labour:</i> expensive labour <i>Cost of borrowing:</i> high interest prevailing on the market impeding borrowing</p> |

8.0 OVERALL FINDINGS

8.1 The Commission’s findings show that the competitiveness of the sugar value chain is adversely affected by macroeconomic challenges such as, exchange rate disparity between the auction and the parallel market, foreign currency shortages, high inflation, high cost of borrowing, utilities, fuel and coal. In addition, inefficient infrastructure and high input costs such as cane seed, fertilizers and herbicides, among others, generally affect farm productivity and exert pressure on competitiveness of the value chain. These in turn have an effect on the cost structures and price of sugar given that they are factored in the production process. Below are major findings from stakeholder engagements and analysis of the value chain.

8.2 Macroeconomic Environment

- 8.2.1 Macroeconomic stability is one of the key fundamental drivers of economic growth, as a stable economy allows business to grow and fosters a competitive environment. The value chain, like other industries, has been severely affected by broad macroeconomic factors such as high cost of borrowing averaging 60%, which limit access to working capital as well as long term financing for retooling. In addition, high utility costs (water, electricity), inflation, and exchange rate disparity between the auction and parallel market, foreign currency shortage, high cost of fuel, which is now averaging US\$1.30 compared to the regional average of US\$0.77. This, in turn is contributing to high production costs within the value chain, which is adversely impacting on sugar yields with out-growers averaging around 66 tons/ hectare. The resultant low yield weighs down on the sector's competitiveness.
- 8.2.2 The Hippo Valley and Triangle out grower farmers advised that 95% of the sugar is sold on the local market while 5% is exported. This suggests that the bulk of the farmers' payments are in local currency. However, prices for inputs such as fertilizers and herbicides are either priced in foreign currency or indexed to the parallel market rates thereby increasing sugarcane production costs. The spillover effect in the cost build up is a higher price of the final commodity, thus impeding on competitiveness.
- 8.2.3 Furthermore, sugar is an input to other industries, such as food & beverages, pharmaceuticals, hospitality and confectionary sectors. Thus, the competitiveness of locally produced sugar has a direct impact on other downstream sectors of the economy.

8.3 Infrastructure

- 8.3.1 Efficient infrastructure such as water canals and transport are key in determining competitiveness as they tend to reduce the effects of distance by connecting industry with markets and factors of production, at lowest possible cost. To this end, infrastructure deficit in the following, is weighing on competitiveness of the value chain:
- 8.3.2 *Water*
- 8.3.2.1 The volume of water flowing from major water reservoirs, through canals managed by ZINWA to water points accessible to farmers, can no longer cope with increased number of out grower farmers as well as expansion of the hectarage under sugarcane cultivation. To this end, it is taking longer for downstream farmers to get water leading to rationing of water and access to farmers on a rotational basis. This compromises the quality of sugarcane crop, the yield per hectare, hence affecting farmer's competitiveness.
- 8.3.2.2 Furthermore, out grower farmers and ZINWA entered into an agreement in which the utility provider supplies 15ML per annum to irrigate sugarcane crop at an agreed rate. However, it was noted that ZINWA charges farmers irrespective of whether water has been received or not, and these high charges are weighing down on competitiveness of the sector.

8.3.3 *Transport*

- 8.3.3.1 Ancillary to competitiveness of the sugar value chain, is the road and rail infrastructure required for transportation of inputs to farms as well as sugarcane from *farm-to-zone* and *zone-to-mill*. Whereas the rail infrastructure exists, it is relatively inefficient and is not well connected to cater for all farmers. Consequently, farmers opt to use road transport which is relatively expensive rendering the value chain uncompetitive.

8.4 **Farming Equipment**

- 8.4.1 Farm mechanization coupled with best farming practices are key in enhancing yield thereby improving competitiveness of the value chain. To realize maximum potential yield of 120 tons/ hectare, sugarcane farming requires implementation of best farming practices and usage of different types of sophisticated equipment for land preparation, administration of chemicals, irrigation and harvesting. The major producers of sugarcane such as Triangle and Hippo Valley are partially mechanized. However, there is a huge gap in terms of mechanization of farming processes on out grower farmers who do not have tillage tractors, overhead irrigation equipment and aerial sprayers. As a result, the sugarcane yield and quality for out growers is lower compared to farmers-cum millers.

8.5 **Business Dynamism**

- 8.5.1 Manufacturers in the sugar value chain indicated intention to embrace latest technology and to expand operations to meet market demand. A case in point is the NCPDZ whose monthly production capacity of neutral portable alcohol is 420 000 litres against a monthly market demand of 700 000 litres. The company is constrained to meet market demand due to inadequate capacity, which renders the production process uncompetitive. The gap is, however, being filled by imports from Eswatini and South Africa.
- 8.5.2 The company intends to expand its plant by way of installing additional production columns so as to take advantage of the existing market and potential export market in Zambia, riding on its proximity to the Zambian market. However, the expansion project requires a minimum capital outlay of US\$2 million, which the company is constrained to raise.

8.6 **Farmer Cum Miller**

- 8.6.1 The only two mills in the country, owned by Triangle and Hippo Valley, are old with frequent breakdowns of which spares are not locally available, resulting in production inefficiencies.
- 8.6.2 Millers have a power supply agreement with ZESA, and pay a premium to access uninterrupted electricity which they mainly use for irrigation. Despite the agreement, millers are subjected to loadshedding, which impacts on crop productivity.

8.6.3 Furthermore, Millers produce electricity from bagasse which is used in the milling process and irrigation. However, power generated is not adequate to cover all irrigation processes, which in turn affects crop yield. During the start of the harvesting season, sugar cane deliveries are usually low thereby impacting negatively on power generation. To compensate for the low production of electricity, millers use coal, which is expensive and weighs on competitiveness.

8.7 Mkwanise Sugarcane Milling Plant

8.7.1. Mkwasi farmers are approximately 65km from the Triangle Mill and 57 km from Hippo Valley sugar mills incurring unproportionately high cost of transporting cane to the mills. To address this challenge, farmers proposed that an additional mill, with a production capacity of between 5 000 to 10 000 tons of cane per day, be installed in Mkwasi. To facilitate this process, farmers have already identified a potential investor who is willing to engage the farmers under a 15 – 20 year Built Operate and Transfer (BOT) arrangement valued at US\$550 million. The arrangement comes with the following ancillaries:

- Molasses plant with production capacity which ranges between 50 – 400 kilo litres per day;
- 10 mega watt solar plant; and
- Mukazi dam with holding capacity of 18 000 mega litres. This is expected to alleviate the current water challenges affecting the farmers.

8.7.2 The plant will significantly enhance competitiveness of the farmers and break the existing monopoly on the milling node of the value chain.

8.8 Innovation

8.8.1 It has also been observed that competitiveness of the sugar value chain is undermined by lack of research equipment to produce sugarcane seed varieties that best suit local climatic conditions. The ZSAES is resourced with experts that can produce suitable varieties. However, the research centre lacks the requisite equipment. As a result, the seed varieties used in Zimbabwe are imported mainly from South Africa. Such varieties are usually designed for the unique climatic conditions of the native country. If planted in Zimbabwe, the yield per hectare is compromised, hence competitiveness.

8.9 Division of Proceeds

8.9.1 There have been calls for a review of the DOP formula between the miller and out grower farmers. Currently the ratio stands at 77% to 23% for farmer and miller, respectively. The 23% is a charge for the milling services. However, all parties agreed on the urgent need for an independent review of Sugarcane Milling Agreements to address concerns of mutual interest, determination of a robust formula for an equitable and economically sustainable DOP for the mutual benefit of all parties.

9.0 RECOMMENDATIONS

9.1 Complementary effort from all relevant stakeholders including the Government, out grower farmers, farmers-cum millers, service providers and suppliers of inputs, is key in ensuring that binding constraints from the findings are addressed. This will result in enhanced productivity, which determines competitiveness. Below are the specific recommendations to be addressed in order to enhance the competitiveness of the value chain.

9.2 GOVERNMENT

9.2.1 The Macroeconomic Environment

9.2.1.1 Macroeconomic stability is a prerequisite for any industry to grow, and as a result Government is urged to address costs associated with the current macroeconomic challenges. In view of the concerns raised by the sugar cane growers with regards to constrained access to concessionary sources of finance, it is recommended that the facility be availed to sugarcane farmers to enhance competitiveness of the sector.

9.2.1.2 Furthermore, the Government should eliminate exchange rate distortions through availing more foreign currency to the highest bidders on the auction market.

9.2.1.3 To complement such initiatives, it is recommended that land holding fees and excise duty rates on fuel be reviewed.

9.3 *Export Retention*

9.3.1 There is need for a review of the foreign currency retention threshold from the current 40% to 20% to enable producers, particularly millers and refineries, to generate sufficient foreign currency to adequately finance the importation of inputs, equipment and spares that are not locally produced.

9.4 *Access to foreign currency*

9.4.1 The RBZ to prioritise access to foreign currency by millers for retooling to enhance productivity given that sugar is a strategic crop.

9.5 *Research in Innovative Plant Breeding*

9.5.1 ZSAES requires an innovation hub to engage in the breeding of suitable sugarcane seed varieties. The NCC recommends that a joint effort between the Government and private sector be prioritized to capacitate ZSAES to become a National Project. This will enable creation of factor conditions such as crop varieties, which can improve competitiveness resulting from the following:

Enhanced performance

- 9.5.2 Sugar varieties crossed and selected in Zimbabwe are likely to perform better in tropical and subtropical places than varieties from South Africa. While Zimbabwe has a better environment for sugar cane production than South Africa, seed varieties grown are imported from South Africa since it is the only country in Africa with crossing facilities.
- 9.5.3 A deliberate effort to invest in crossing facilities will cover the gap and meet the huge export market for sugar cane varieties, which also comes with royalty fees, thereby generating foreign currency. Such an investment will also aid ZSAES to develop ethanol type canes required by Green Fuel for fuel blending.

9.6 *Improved Harvesting Methods (Self Trashing Varieties)*

- 9.6.1 Zimbabwe currently burns sugar cane before taking it to the mills. This practice is environmentally unfriendly and increases the carbon footprint. The burning is done to remove all the trash that can clog the mills and reduce the extraction of sugar. Other countries have invested in what are called ‘self-trashing’ varieties that shed their leaves before harvest. Such varieties can be harvested green. To get such varieties one has to make crosses. Zimbabwe currently cannot forge in that direction because there are no crossing facilities.
- 9.6.2 A crossing facility consists of a photoperiod house, crossing house and ancillary structures for seed handling. Blueprints have been developed on what needs to be done in constructing such. A ballpark figure of US\$1 million is estimated to be the total cost of the required equipment. Efforts have been made by ZSAES to raise the funds internally without success. The sugar cane research levy is little to raise enough money to build the crossing facilities, hence the need to make ZSAES a national project with possible capitalization from the Government.

9.7 *Legislative Amendment: The Sugar Production Control Act*

- 9.7.1 There is need to expedite the amendment of the Sugar Production Control Act of 1964, to reflect current developments in the industry. This will go a long way in enhancing competitiveness of the sector as well as breaking monopolistic tendencies.
- 9.7.2 Furthermore, Government should consider gazetting Sugar Cane Seed in the Mandate Crops List as well as availing support, which is being accorded to other strategic crops such as maize, tobacco and cotton.

9.8 *Division of Proceeds*

- 9.8.1 In view of the challenges associated with the current DOP ratio, it is recommended that a reputable independent consultant with experience in developing/ evaluating DoP formula be engaged to carry out comprehensive research to come up with a DoP ratio, acceptable to both out-growers and millers.

9.9 Value Added Tax

- 9.9.1 It has been observed that agriculture inputs and implements are VAT zero rated. The final product is also VAT zero rated. However, milling services are standard rated, hence attract VAT at a rate of 14.5%. The implication of the current scenario is that farmers can get a refund of VAT on milling services. However, some of the out-grower farmers do not meet the VAT registration threshold, hence cannot claim VAT refunds. This places them at a competitive disadvantage. The industry thus proposes that milling services be VAT zero rated.

9.10 Recapitalization of Utility Providers

9.10.1 ZESA

- 9.10.1.1 Government to assist in creating an enabling environment through availability of affordable electricity by recapitalization of Zimbabwe Electricity Transmission and Distribution Company (ZETDC).

9.10.2 ZINWA

- 9.10.2.1 ZINWA to be recapitalized to facilitate construction of additional water canals and rehabilitation of existing canals to minimize water leakages. There is need to review the current water supply agreement by the utility provider who charges a flat amount payable on 15 mega litres of water irrespective of whether the farmer used the water or not.

9.10.3 NRZ

- 9.10.3.1 It is also recommended that the National Railways of Zimbabwe (NRZ) be recapitalized to enhance efficiency in the transportation of sugarcane as well as distribution of the final product.

9.11 Land Tenure

- 9.11.1 There is need for title to the land as most farmers were allocated A2 farms in the low-veld and these farms do not have 99-year leases or title. This will help in attracting investments in the value chain, which in turn contribute to improving productivity and competitiveness of the value chain, as well as using land as collateral for borrowing purposes by farmers

9.12 Farmers

9.12.1 Productivity

- 9.12.1.1 Sugar production in Zimbabwe is mainly constrained by lack of mechanized equipment for the farming activity as well as access to critical inputs. This undermines productivity and competitiveness of the sugar industry.

- 9.12.1.2 Therefore, there is need for farmers to invest in critical farming equipment to improve production efficiency. In this regard, it is critical for farmers to positively engage innovation hubs at various universities to design and tailor make equipment suited for the sugar value chain such as aerial spraying drones that cater for large tracts of land.
- 9.12.1.3 In addition, large scale farmers, such as Hippo Valley and Triangle should consider acquiring new technology for mechanical harvesting of sugarcane and eliminate manual harvesting of sugarcane thereby improving production efficiency and competitiveness.

9.13 Extension Services

- 9.13.1 Farmers-cum millers and Agritex (under the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development should collaborate to capacitate out growers through trainings so as to adopt good agricultural practices that enhance productivity and competitiveness. NCC recommends that sugar cane production standards should be established and made certifiable in future to enhance good agricultural practice.

9.14 Mkwesine Sugar Mill

- 9.14.1 Farmers in Mkwesine incur huge haulage costs in transporting sugarcane from *field-to-zone* and from *zone-to mill*, mainly because of their geographical location and distance from the existing mills. This renders the production process relatively costly and uncompetitive.
- 9.14.2 The establishment of the mill requires a joint venture between the Government and farmers. Apart from the required Government support and approval, the Mkwesine sugarcane milling plant requires an estimated US\$550 million to completion.
- 9.14.3 In this regard, it is recommended that approval processes for the impending Mkwesine sugar processing be expedited.

9.15 Manufacturing of Portable Ethanol

- 9.15.1 In the view of the existing gap in the supply of portable ethanol, it is recommended that Government avails concessionary loan facilities to NCPDZ through lines of credit to facilitate the expansion plan thereby enhancing the manufacturing sector growth in line with NDS1 thrust.

10.0 CONCLUSION

- 10.1 Zimbabwe is ranked Ninth in Africa and fourth in the SADC region, in terms of sugar cane yield, after Malawi, Zambia and Eswatini. This requires that competitiveness gaps identified in the sugar value chain be addressed by all stakeholders through the implementation of recommendations highlighted in this report. As a result, this is expected to also enhance competitiveness of both sugar and its by-products.

- 10.2 On the part of Government, it is critical to ensure that the macroeconomic environment is stable and conducive to foster competitiveness of the sector. The sugar industry should prioritize investing in cutting edge technologies to ride on production efficiencies. Cognisant of the fact that sugarcane is now a strategic crop, priority should be accorded to the value chain in terms of utility provision including water, electricity, and transport, among others. This will enhance viability of the value chain, which in turn promotes availability and affordability of sugar and related by-products to end users. Furthermore, this facilitates production of quality products that can penetrate regional and international markets.
- 10.3 Competitiveness of the sugar value chain thus requires complementary effort from the Government, Sugar Industry Players and related service providers of inputs and utilities. The Commission will continue to collaborate with all stakeholders to identify existing and emerging challenges in the sector.
- 10.4 To this end, the Commission is in the process of establishing Sugar Value Chain Competitiveness Lab, which will continuously engage to deliberate on key issues affecting the various nodes in the value chain. This is key in ensuring that sugar products are available and affordable to the end users.
- 10.5 The Commission is open to work with stakeholders towards actionable agendas to close identified competitiveness gaps in the value chain.

NCC CHIREDDZI VISIT



NCC at NCPDZ



NCC meeting with ZSAES



NCC touring sugarcane mill



NCC team touring Tongaat Hullet Sugarcane farms