

Illovo Sugar Africa (Pty) Ltd

Maragra Açúcar SA social, economic & environmental impact assessment

FY2020/2021

Table of contents

Introduction 3

Summary of findings 6

Sugar market leader 7

Sustainable agriculture..... 15

Value and quality-driven industry 23

Community connected 31

Recommendations 37

Annex 1: Methodological note 38

Introduction

Illovo Sugar Africa (Pty) Ltd (Illovo Sugar Africa), a wholly owned subsidiary of Associated British Foods plc, is a Pan-African, consumer-centric agri-business with over 130 years in operation that has roots in growing and making sugar and related products, sustainably. The company is Africa's leading and most diversified sugar Group with operations in Eswatini, South Africa, Mozambique, Malawi, Tanzania, Zambia and most recently, Rwanda.

The Group employs 44,000 people across its six locations, excluding Rwanda. As a significant employer, producer of sugar distributed to principally domestic markets and purchaser of agricultural raw materials, Illovo Sugar Africa can positively shape the socio-economic fabric of the economies and communities of which it is part.

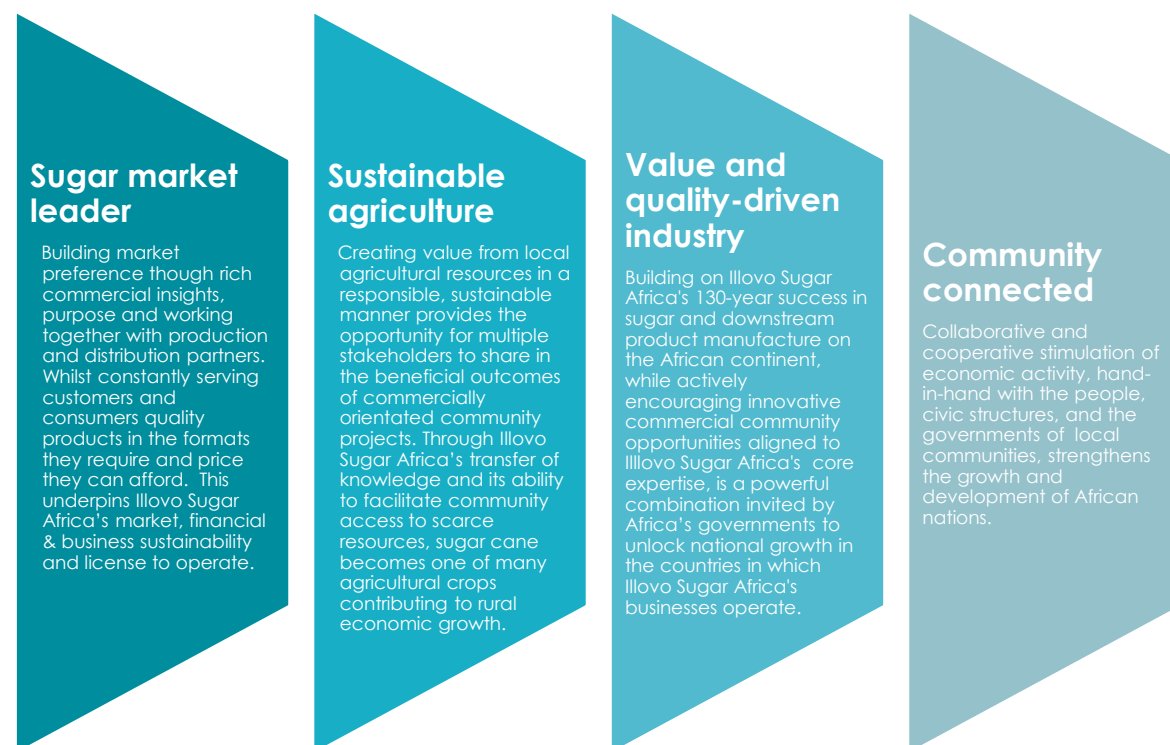
About this report

This report is an update to the socio-economic impact assessments carried out for Illovo Sugar Africa and its subsidiaries in 2013 and 2017. These reports are available on Illovo Sugar Africa's [website](#). Illovo Sugar Africa commissioned Corporate Citizenship, an independent sustainability consultancy, to undertake these assessments to form a deeper understanding of the company's impact on its communities and use the insights to enhance the value it brings and achieve its self-identified company purpose to create thriving communities.

"We recognise that a successful business on the continent is one that evolves alongside its host markets, whilst creating shared economic value in the countries where we operate and the communities surrounding our operations. This is the essence of our Illovo Sugar Africa purpose."
- [Illovo Sugar Africa](#)

Illovo Sugar Africa's purpose is entrenched through its four key pillars:

Figure 1: Illovo Sugar Africa's sustainability pillars



This report is for the 2020/21 fiscal year (FY), which for Illovo Sugar Africa and its subsidiaries runs from September 1st to August 31st. Data from FYs 2016/17, 2018/19 and 2019/20 has also been provided in some sections for trend analysis purposes. Unless otherwise indicated, all years cited in this report refer to fiscal years. Due to its recent establishment in 2019, Illovo Sugar Kigali (ISK) in Rwanda has not been assessed in the updated impact assessments.

Expanding on previous reports that focused on Maragra Açúcar SA's socio-economic impacts, the 2022 assessment has been broadened to include additional information on Illovo Sugar Africa's direct and indirect environmental impacts. Key findings from the assessment are structured against Illovo Sugar Africa's four key pillars. Further information about this report including details on the methodology can be found in Annex I on Illovo Sugar Africa's [website](#).

Illovo Sugar Africa in Mozambique

In Mozambique, Illovo Sugar Africa operates through its subsidiary, Maragra Açúcar SA. The company is one of four major sugar producers in the country with a combined annual production of 300,000 tonnes. The company produces raw sugar, primarily marketed domestically by the industry marketing association, the Distribuidora Nacional de Açúcar, with an export surplus being exported directly by Maragra Açúcar SA. Along with Illovo Sugar (Malawi) plc and Zambia Sugar plc, Maragra Açúcar SA fortifies its direct consumption of brown sugar with Vitamin A to contribute to the reduction of micronutrient deficiency, particularly in children under five years old. The factory and cane supply area – comprising both company and independent growers - are adjacent to the coastline of Mozambique, approximately 80 kilometres north of Maputo. Since Illovo Sugar Africa acquired Maragra Açúcar SA's sugar estate in 1996, it has invested to rehabilitate the land and upgrade the factory.

Mozambique is particularly vulnerable to natural disasters such as floods, droughts and cyclones, and is the most frequently and severely affected among virtually all African countries.³ In 2021, tropical cyclone Eloise impacted 262,216 people and flooded 142,189 hectares of crops.⁴ These events caused significant damage to the cropland owned by both the company and external growers, and extensive work was conducted to recover viable production areas following these events. Following the damage caused by Cyclone Eloise and other coincident weather events (including Cyclone Guambe), the company supported small-scale growers by taking on some of their debt – held through a Cooperative – and by writing off historic lending that Maragra Açúcar SA had advanced to support the growers. This left these growers debt-free and able to re-invest in their lands and benefit from the associated agricultural revenues.

Table 1: Mozambique demographic data

Mozambique country data ¹	
Economic indicators	
Gross Domestic Product (GDP) at purchasing power parity (PPP)² (2021)	\$15.78bn
GDP per capita (2021)	\$491.8
Annual GDP growth rate (2021)	2.4%
Labour market indicators	
Population (2021)	32.1m
Labour force (2021)	14.1m
By occupation (2019)	Agriculture 70.0% Industry 9.0% Services 21.0%
Population location (2021)	Rural 62.0% Urban 38.0%
Unemployment rate (2021)	4.0%
Poverty indicators	
Population living below \$2.15 per day (2014)	64.6%
Population living below national poverty line (2014)	46.1%
Adult literacy rate (2017)	61.0%
Life expectancy at birth (2020)	61 years

¹ [World Bank Open Data](#)

² [Eurostat](#) The purchasing power parity is the exchange rate that removes price level differences between countries.

³ [Foley, C. \(2007\). Mozambique: A case study in the role of the affected state in humanitarian action](#)

⁴ [OCHA \(2022\). 2021-22 Floods and Cyclones – Revised Emergency Appeal](#)

NOTE: At the time social and environmental data was collected for this independent impact assessment (post the completion of the Illovo Sugar Africa 2020/21 financial year), Maragra Açúcar Sarl in Mozambique was operating normally, reporting an increase in sugar cane production and related revenues for the year.

In the first quarter of 2023, the business suffered a catastrophic flood of its cane fields and agricultural infrastructure which has consequently resulted in a decision not to operate the mill in 2023. Illovo, together with its key local stakeholders including Government, are working to assess the best way forward for the business over the longer term. In order to give a full account of Illovo Sugar Africa's combined impact across all of its businesses for the 2020/21 year, information, data and findings about Maragra are presented as is.

Summary of findings

Maragra Açúcar SA is a well-established organisation contributing to the economy in the Manhiça District and wider area in Mozambique. The company also plays an important social role, supporting significant direct and indirect employment in rural areas, providing financial support, technical assistance and capacity building to small-scale growers, and supporting the Mozambique government's domestic production agenda.

The main findings for the fiscal year 2020/21 are summarised in the table below.

Table 2: Key quantitative impact findings by pillar

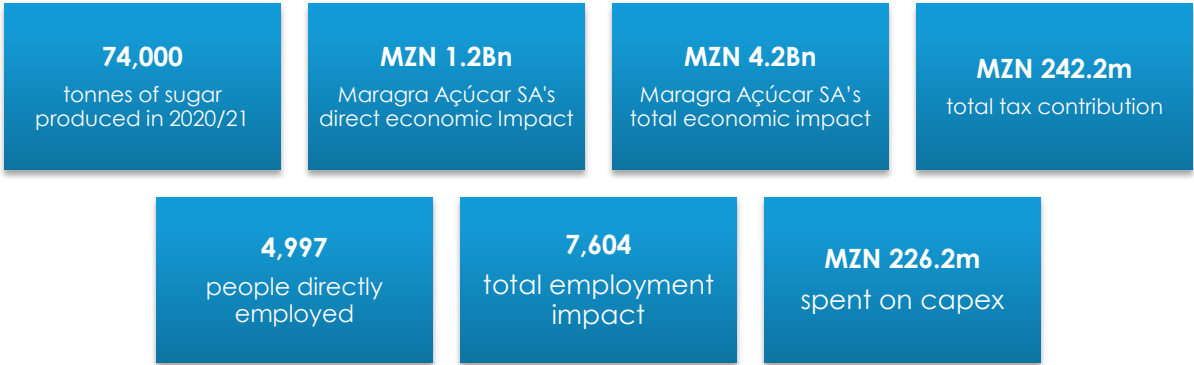
In 2020/21, Maragra Açúcar SA's quantitative social, economic and environmental impacts in Mozambique included the following:	
Sugar market leader	<ul style="list-style-type: none"> • 74,000 tonnes of sugar produced with 82% to the domestic market • Total economic impact estimated at MZN 4.2Bn, including MZN 1.2Bn direct impact (gross value added) and the remainder in indirect & induced impact through multiplier effects in the supply chain and wider economy • MZN 67.0m direct tax contribution and MZN 175.2m indirect tax contribution (collected on behalf of the government) • 4,997 directly employed including 801 permanent and 4,196 non-permanent roles. Through direct jobs only, Maragra Açúcar SA contributes to supporting an estimated 21,987 livelihoods once families and dependents are taken into account (based on an average household size of 4.4) • Estimated total employment impact of 7,604, including direct, indirect and induced employment supported in grower communities and the wider economy
Sustainable agriculture	<ul style="list-style-type: none"> • 6,290 ha of Maragra Açúcar SA -owned cropland, which produced 399,752 tonnes of sugar cane output • 4,544 ha of grower cropland, working with 2,618 independent growers who supplied 279,314 tonnes of sugar cane (41% of Maragra Açúcar SA's total sugar cane) • 1,367 growers reached via development programmes
Value and quality-driven industry	<ul style="list-style-type: none"> • 97% of energy production from renewable sources • 120 829 MWh of renewable energy generated • 11% increase in scope 1 & 2 emissions (2019/20 to 2020/21) • MZN 452k invested in safety training and a Lost Time Accident Frequency rate of 0.14 • MZN 3.5m invested in training, with 2,440 employees trained • MZN 31.6m invested in employee and community health, housing and education benefits • MZN 2.0Bn spent on procurement with MZN 1.3Bn (66%) going to local suppliers. In addition, all cane raw material is procured locally.
Community connected	<ul style="list-style-type: none"> • MZN 45.9m spent on the community within and outside the estate providing healthcare, through projects such as installing water supply systems, supporting education, managing malaria through its Maragra Malaria Control Programme and helping to eliminate micronutrient malnutrition. • 3,499 COVID-19 vaccinations for employees • 17% women in Maragra Açúcar SA's workforce with 13% in the management level

Sugar market leader

Building market preference through rich commercial insights, purpose and working together with production and distribution partners. Whilst constantly serving customers and consumers quality products in the formats they require and price they can afford. This underpins Illovo Sugar Africa's market, financial & business sustainability and license to operate.

Key pillar findings:

Although the smallest of Illovo Sugar Africa's subsidiaries by revenue, Maragra Açúcar SA is an ambitious player in Mozambique's sugar market, with a particularly strong approach to quality employment. While operating amid a challenging period for Mozambique's agricultural sector, with many plantation workers striking, it has continued to improve both its economic and employment impacts and despite a severe labour strike at another local sugar mill, Maragra Açúcar SA's improved employment practices and unions engagement ensured there was no spill over strike impact on Maragra Açúcar SA. Maragra Açúcar SA, with a focus on domestic sales, has seen a 10% increase in total economic impact since 2017, and a 5% increase in employment impact.

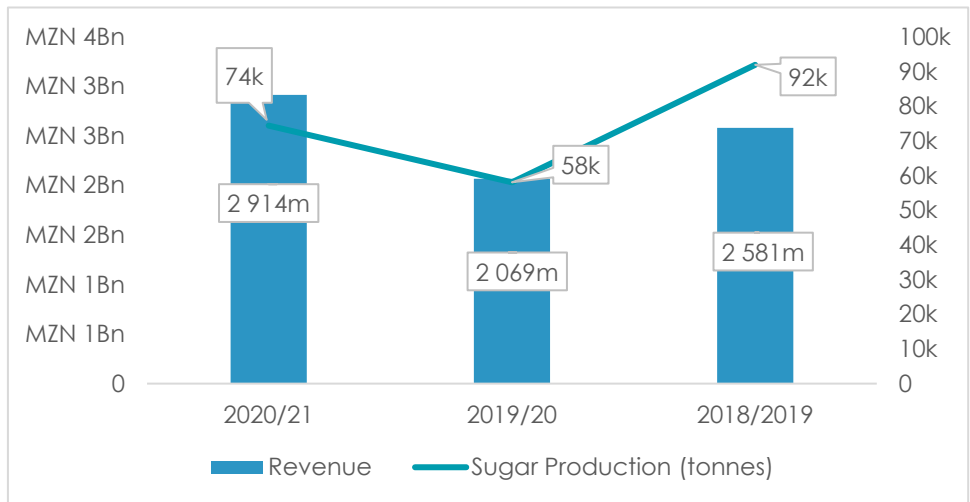


Note: Definitions for direct economic impact, indirect economic impact, induced impact, total impact, and employment impact are provided on pgs. 8-9 and 12.

Meeting demand & beyond

As one of the four key sugar producers in Mozambique, Maragra Açúcar SA contributes to meeting domestic and regional demand for sugar.

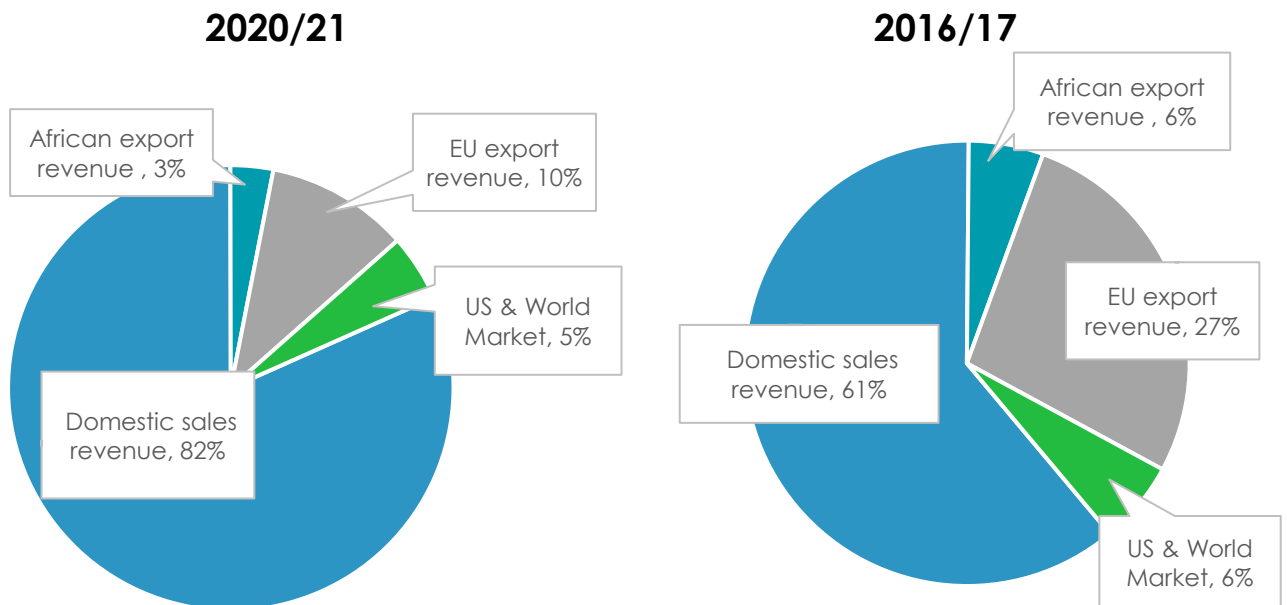
Figure 2: Maragra Açúcar SA's sales and production volume, 2018/19 – 2020/21



Sales by segment

In 2020/21, 82% of sales were in the domestic market, with other African markets accounting for an additional 3% of sales. This expansion of Maragra Açúcar SA's business footprint in domestic markets, totalling MZN 2.4Bn, marks an overall increase in domestic sales revenue of 199% in MZN since 2018/19, and 32% since 2016/17, where revenues were MZN 797m and MZN 1.8Bn respectively.

Figure 3: Maragra Açúcar SA's sales revenue by market segment for 2016/17 and 2020/21



Economic contributions

As one of the largest four sugar producers in Mozambique, Maragra Açúcar SA plays a significant role in the nation's sugar sub-sector and has considerable responsibility both to its employees and the growers around the Manhiça District in which it operates. With severe weather events such as the winds and extreme rainfall brought by tropical storm Chalane and cyclones Eloise and

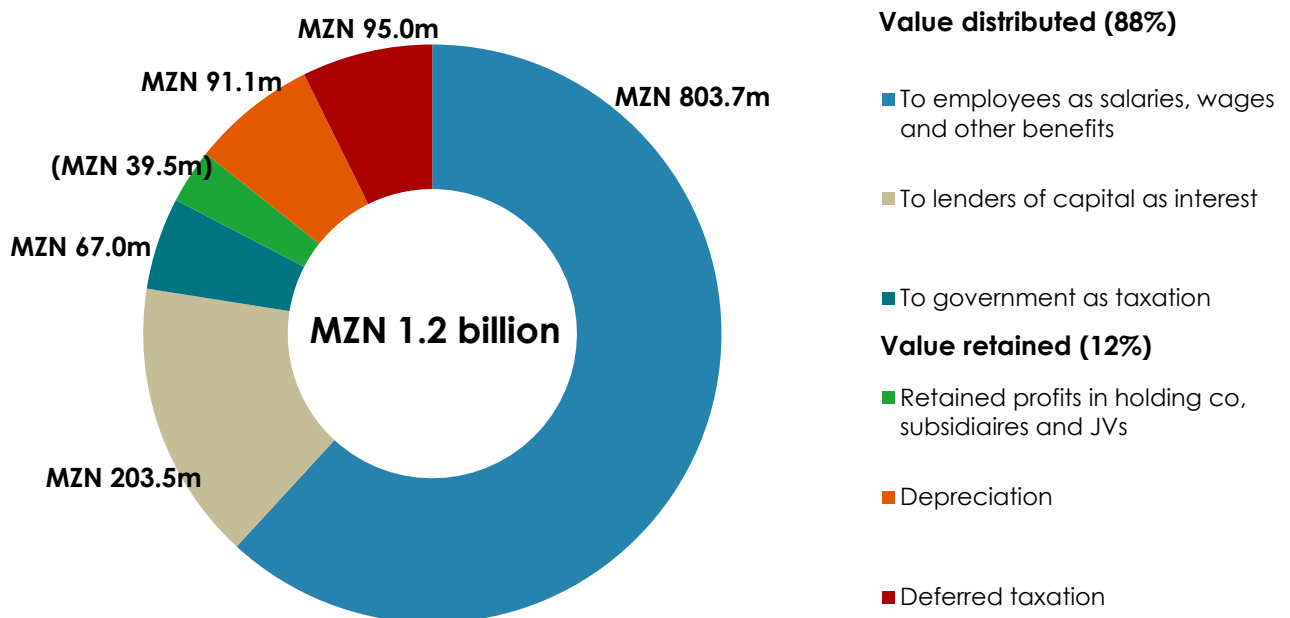
Guambe, heavily affecting sugar production in Mozambique, the past three years have presented challenges to the industry. Nevertheless, Maragra Açúcar SA has been able to generate the following economic impacts:

1. **Direct impacts**, through Maragra Açúcar SA's direct employment of workers as well as tax payments, interest spending, investments and other payments;
2. **Indirect impacts** in the value chain. A significant contributor to indirect economic impact is the large number of independent growers in Illovo's supply chain who deliver and are paid for their cane via cane supply agreements with Illovo's mills. Other indirect impacts include payments to other suppliers and distributors, as well as impacts on those selling Illovo Sugar Africa products or using them in their businesses;
3. **Induced impacts**, through spending by direct and indirect employees, leading to increased consumption and employment elsewhere in the economy. This also includes the employment and additional service providers operating on grower farms, which exist in the rural economy as an indirect result of the Illovo value chain and include the creation of Small to Medium-sized (SME) service providers, themselves also rural employers.

Direct economic impact

Maragra Açúcar SA's direct contribution to the economy of Mozambique, measured in terms of gross value added, was MZN1.2Bn in 2020/21. This number is calculated as the difference between revenues and outgoings and is a measure of the company's contribution to GDP. Of this, 88% was distributed to stakeholders – including employees, shareholders and the government which is higher than the 69% distributed in 2016/17. The largest part of this goes to employees as salaries, wages & benefits.

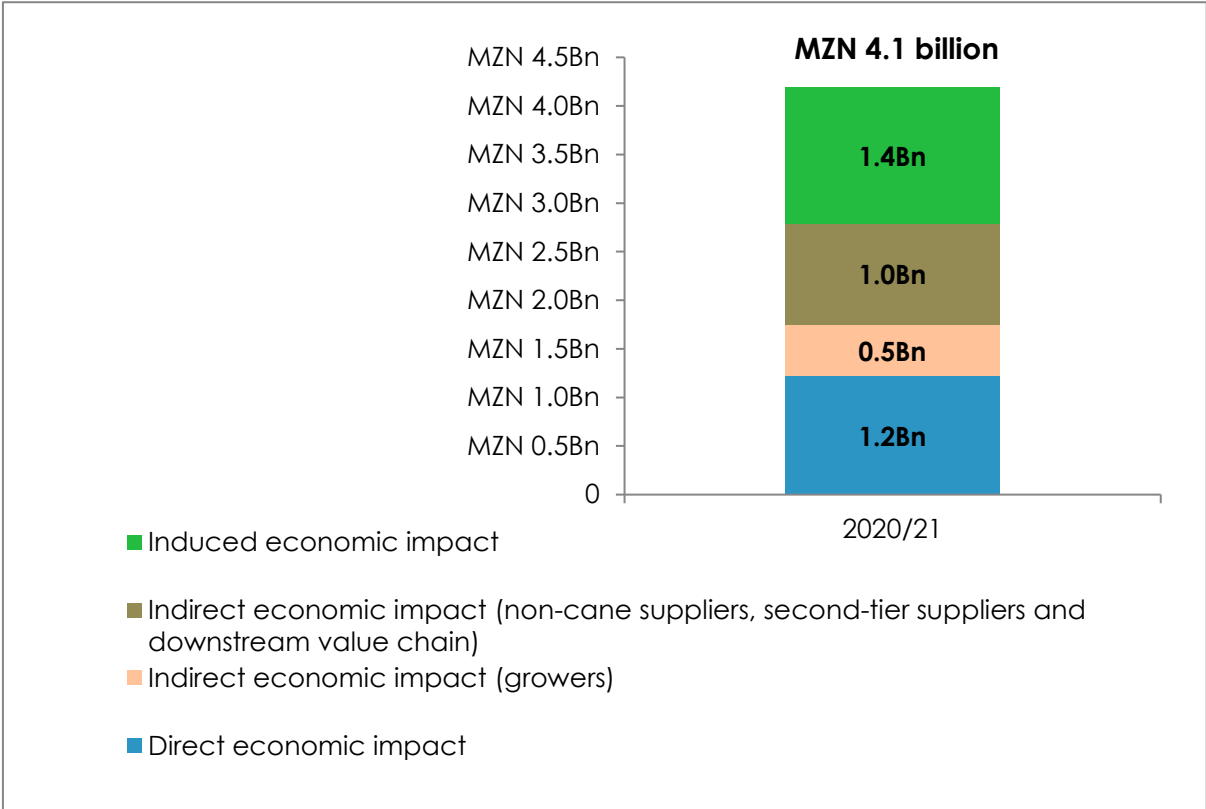
Figure 4: Maragra Açúcar SA's direct economic impact, 2020/21 (distribution of gross value added)



Total economic impact

Maragra Açúcar SA's total economic impact – including direct, indirect and induced impacts is estimated at MZN 4.2Bn for 2020/21.

Figure 5: Maragra Açúcar SA's total economic impacts in Mozambique (estimated), 2020/21

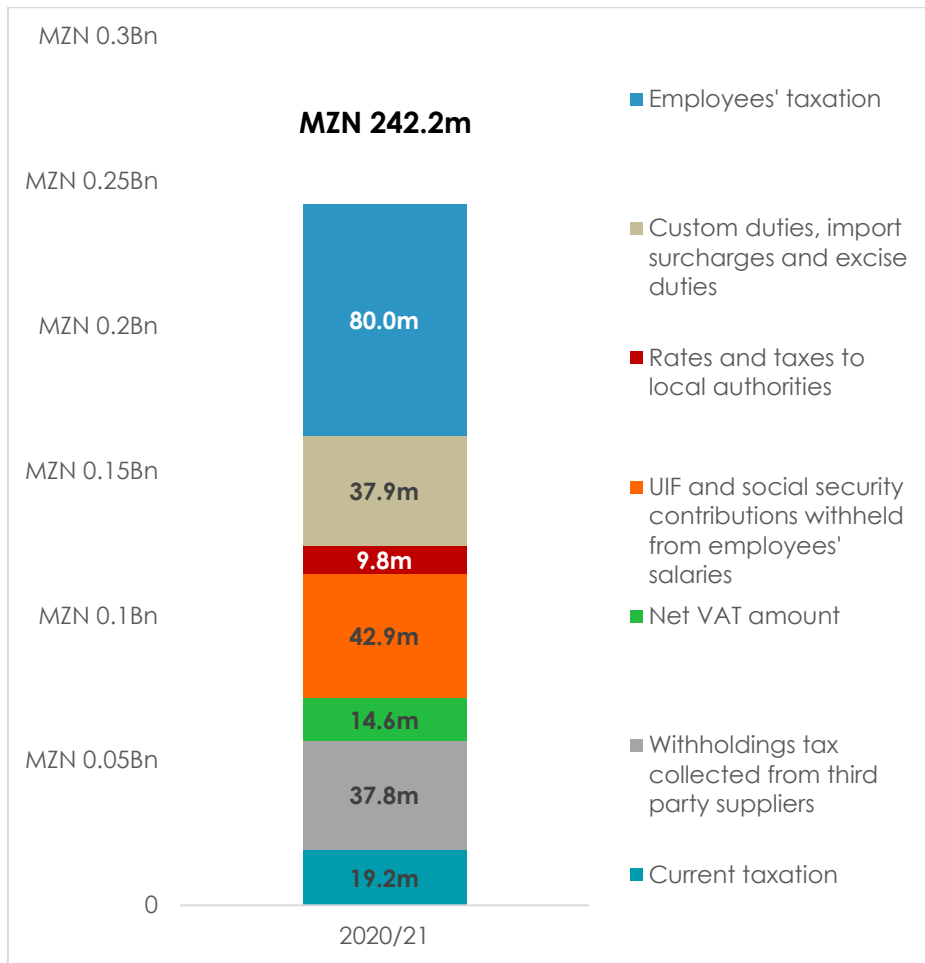


This MZN 4.2Bn total economic impact, when converted to ZAR for comparison with our last report, comes to R1.1Bn, a 10.2% increase on the R953.7m total impact reported in 2017.

Tax contributions

In 2020/21, Maragra Açúcar SA's total direct tax payments amounted to MZN 67.0m, while indirect taxes totalling MZN 175.2m were collected on behalf of the government. Indirect taxation includes employee tax, withholdings tax, VAT, Unemployment Insurance Fund (UIF) and other social security contributions withheld from employees' salaries. The total represents a 26% increase in total tax payments over the last four years.

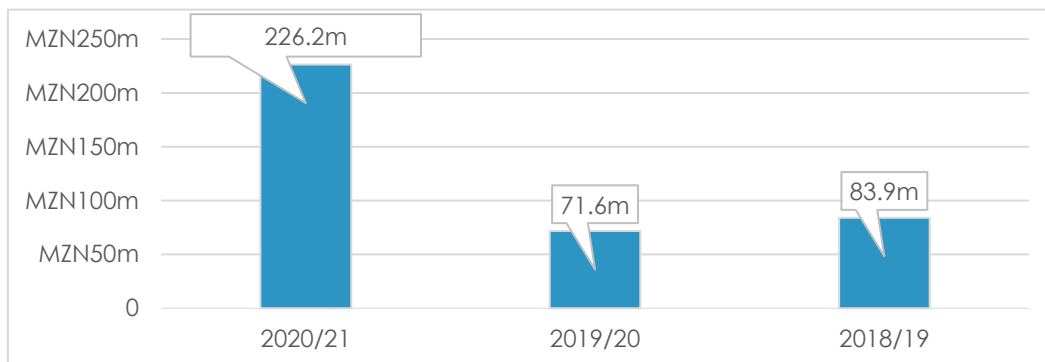
Figure 6: Maragra Açúcar SA's tax payments, 2020/21



Capital expenditure

Between 2016/17 and 2020/21, Maragra Açúcar SA has spent over MZN381.7m on capital investments. In particular, Maragra Açúcar SA's capital expenditure includes a major overhaul to a factory boiler, in addition to upgrades to agricultural drainage and flood protection infrastructure.

Figure 7: Maragra Açúcar SA's capital expenditure, 2018/19 – 2020/21



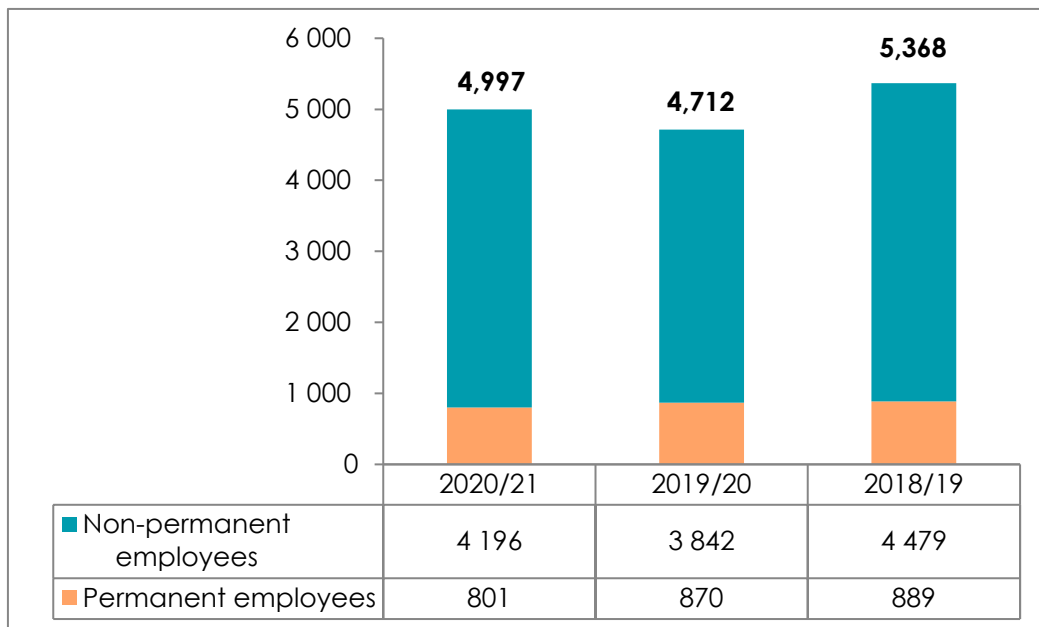
Employment

Mozambique's agricultural sector was hit particularly hard by COVID-19, leading to governmental attempts to protect jobs, and since 2018/19 Maragra Açúcar SA's total employment fluctuated only slightly. Our discussion with the company's human resources unit indicated that Maragra Açúcar SA is making a strong effort to look after both its employees and its growers, reflected by its status as a national 'Elite Employer'.

Spotlight: Maragra Açúcar SA wins Elite Employer award

Maragra Açúcar SA has been acknowledged for its positive treatment of its employees during the employer awards by Tempus Global Group. Out of 144 companies, Maragra Açúcar SA came out among the top of those selected to be Elite Employers in Mozambique. The award distinguished efforts towards four pillars: Compensation and Benefits, Career, Work Environment, and Culture. The outcome of the award is based on the National Survey of Benefits and Human Capital Management, the largest benefits study carried out in Mozambique.

Figure 8: Maragra Açúcar SA direct employment, 2018/19 - 2020/21



In 2020/21, Maragra Açúcar SA directly employed 801 permanent employees and 4,196 peak non-permanent/seasonal employees.

Maragra Açúcar SA paid a total of MZN 803.7m to employees in 2020/21, which is spread across direct salaries and wages and other benefits.

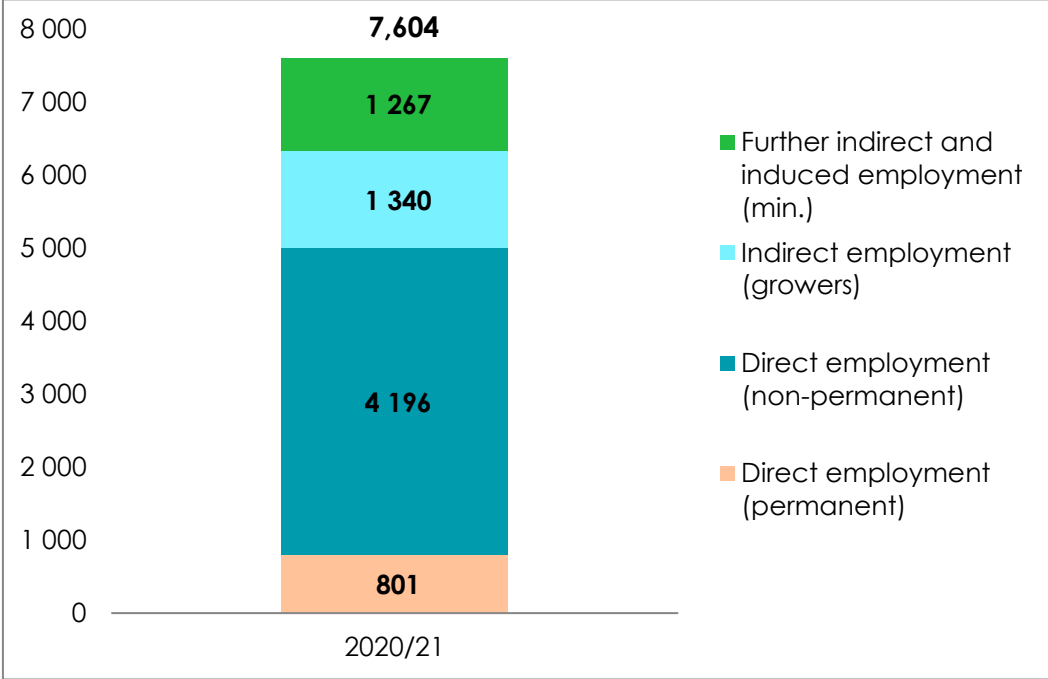
In addition to direct employees, 2,618 independent growers deliver their cane to Maragra, thereby contributing significantly to indirect economic impacts within Illovo's value chain. The business also contributes to further indirect and induced employment in Mozambique.

"Livelihoods have been improved significantly – some growers can send their children to private schools. Living conditions within the house have improved, and others have completed paying their debts."

- Gregorio
Grower & Cooperative Secretary

We estimate Maragra Açúcar SA is supporting the employment of at least 7,604 people in total in Mozambique, based on a conservative multiplier for the sugar industry. This means that for every direct employee of Maragra Açúcar SA, at least 0.5 other workers are supported through grower communities and in the wider economy.

Figure 9: Maragra Açúcar SA's total employment impacts in Mozambique (estimated), 2020/21



We estimate these direct jobs provided by Maragra Açúcar SA also contribute to supporting the livelihoods of 21,987 people once families and dependents are considered. This is based on an average household size of 4.4 in Mozambique.⁵ Maragra Açúcar SA's level of support will vary between households – for some, such as direct employees and growers, Maragra Açúcar SA may well be the main contributor to household income, while in others Maragra Açúcar SA's support will be a factor among many.

The total employment impact in 2020/21 decreased from an estimated 8,694 jobs in 2017, with the biggest contributing factor being the 38% fall in the number of seasonable agricultural employees engaged.

⁵ UN Department of Economic and Social Affairs (2022), Household Size & Composition Mozambique

FUTURE FACING CHALLENGES⁶

One challenge for Maragra Açúcar SA is maintaining momentum in its efforts to be an 'elite employer'. Having emerged from a period in which its own employees were on strike over working conditions and pay, to one where it is being rewarded for its market-leading treatment, the company should continue listening to, and hearing, the needs of its employees.

"Our working relationship [with Maragra Açúcar SA] is not bad, but if improved on an ongoing basis, it would benefit the growers a lot."

- Gregorio
Grower & Cooperative Secretary

This could also extend to growers, who despite not being explicitly employees of Maragra Açúcar SA, expressed to us that they would like to see the company communicate with them more, meeting their needs in a difficult period for agriculture.

⁶ [OECD/FAO \(2020\), OECD-FAO Agricultural Outlook 2020-2029](#)

Sustainable agriculture

Creating value from local agricultural resources in a responsible, sustainable manner provides the opportunity for multiple stakeholders to share in the beneficial outcomes of commercially orientated community projects. Through Illovo Sugar Africa's transfer of knowledge and its ability to facilitate community access to scarce resources, sugar cane becomes one of many agricultural crops contributing to rural economic growth.

Key pillar findings:
 Maragra Açúcar SA develops and promotes best practices in sustainable farming techniques, on its own cropland and in collaboration with growers. Through providing sustained demand, the company also provides market stability for growers to maintain sugar production and cultivate dependable livelihoods. The company also promotes circular economy principles through operation of its own facilities, for example by generating renewable electricity as part of sugar production processes.

However, there are challenges as both the company and its growers face unpredictable weather patterns, with increasing floods, cyclones, and other weather events linked to climate change risking agricultural productivity and livelihoods. Investment in climate-resilient infrastructure could help mitigate the risks of these events.

On top of the risks presented by weather events, growers struggle to maintain agricultural productivity due to rising costs of inputs, and shift towards more sustainable practices. Maragra Açúcar SA is already working with growers through its growing extension support programme to address some of the challenges they face, by providing access to bulk pricing of agricultural inputs, support with business training and administration, and increased frequency of payments to aid cashflow.

In FY 2021/22, in response to the damage caused to many small-scale growers' lands by the cyclones in 2021, Maragra Açúcar SA stepped in to address the indebtedness of many small-scale growers, taking on their commercial debt (which had been held through a cooperative) and writing off debts the small-scale growers had to Maragra Açúcar SA in respect of previous development and operational support. This has left a large number of small-scale growers free of debt and able to invest in recovering their land and taking climate resilient measures to ensure sustainable production.

Further focus areas for support may include contributing to long-term flood resilient infrastructure in the area, as well as sharing more knowledge around sustainable farming techniques.

6,290 ha
 of Maragra Açúcar SA-
 owned cropland

4,544 ha
 of grower cropland

2,618 growers
 in the supply chain

399,752 tonnes
 sugar cane output
 (Maragra Açúcar SA-
 owned)

279,314 tonnes
 sugar cane output
 (growers)

1,367 growers
 reached via
 development
 programmes

Maragra Açúcar SA's agricultural practices

Maragra Açúcar SA has influence not only over the agricultural practices on the land it manages but also over the growers whom it works with. Many of the potential environmental and social impacts from sugar cane farming relate to land-use change related to the conversion of land which may be used for other purposes (such as subsistence farming, or biodiverse wild habitats), to be used for sugar cane farming. For this reason, much of Illovo Sugar Africa's overall approach to improving farming sustainability is to focus on increasing vertical growth through achieving higher yields per hectare of existing cropland. This drives the positive social and economic impacts of sugar cane production while minimising additional environmental impacts from expanding land conversion.

Environmental management

In previous years, Maragra Açúcar SA has followed the Sustainable Sugar cane Farm Management System (SUSFARMS®) guidelines, developed by Illovo Sugar Africa, to influence its approach to sustainable farming. Since our last report in 2017, Maragra Açúcar SA has further developed its approach towards sustainability having achieved "silver level" status of its agricultural estate following an audit conducted under Version 3.0 of the Farm Sustainability Assessment (FSA) in 2022. The FSA is part of the Sustainable Agriculture Initiative Platform (SAI Platform) which is a global non-profit network and one of the primary global food and drink value-chain initiatives for sustainable agriculture, developing sustainable agriculture solutions through member-driven pre-competitive collaboration. Its solution, the FSA, enables businesses to assess, improve, and validate on-farm sustainability. Additionally, Maragra Açúcar SA has an environmental management policy which outlines guidelines on indigenous people, cultural heritage and biodiversity protection. This policy is regularly referred to and is audited every year by local governmental bodies.

Water use and crop irrigation

Mozambique is relatively water-rich, with Maragra Açúcar SA operating in a region of high rainfall with an annual average rainfall of 807mm⁷, with wet and dry seasons. As such, irrigation is supplementary and in the form of overhead sprinkler irrigation, with some drag line and semisolid sprinklers. While for some other Illovo Sugar Africa operations the move to drip irrigation has been identified as a near-term priority, our engagement with the agriculture team indicated that local soil conditions, with around 60-70% of soils being clay soils, and high rainfall patterns mean that Maragra Açúcar SA's cropland is more suited to furrow irrigation.

The primary water-related issue facing the region is the irregularity and unpredictability of weather patterns, including droughts, floods and tropical cyclones⁸, with the most recent event being the damage caused by tropical storm Ana (2022) and Tropical cyclone Eloise (2021), the latter of which caused severe flooding which led to significant crop losses for Maragra Açúcar SA's growers (see "Grower livelihoods and agricultural practices" section below). As highlighted in the previous 2017 report⁹, weather irregularities impact sugar cane production, with a variety of associated socio-economic impacts. During our engagement, the agricultural team indicated that the frequency of flooding affecting the company's region has increased in recent years. Historically, flooding has occurred every 10 years and dykes had been built around Maragra Açúcar SA's operations to deal with 10 yearly flood cycles. However, now flooding occurs in Mozambique on an almost annual basis.¹⁰ Interviews highlighted that investment in flood and cyclone-resistant water infrastructure, such as stronger dykes, is a key priority, especially following recent flood-related damages to the company's cropland and infrastructure.

⁷ [Ministério da Administração Estatal \(2005\), Perfil do Distrito da Manhica](#)

⁸ [Climate Change Knowledge Portal \(2022\), Mozambique Country Profile](#)

⁹ [Corporate Citizenship \(2017\), Maragra Açúcar SA Socio-Economic Impact Assessment](#)

¹⁰ [OCHA \(2022\), Mozambique: Protection Cluster - Factsheet on Climate Related Displacement](#)

In 2020/21, 99.8% of Maragra Açúcar SA's cropland was irrigated by various methods, with only 15.9 ha of cropland being rain-fed. During 2020/21, irrigation was split between overhead sprinkler drag line (57% of cropland) and overhead sprinkler semi solid (43% of cropland) (see Figure 3). Table 3 highlights the benefits of the various irrigation methods.

Figure 10: Maragra Açúcar SA-owned cropland area under different irrigation methods, 2018/19 - 2020/21

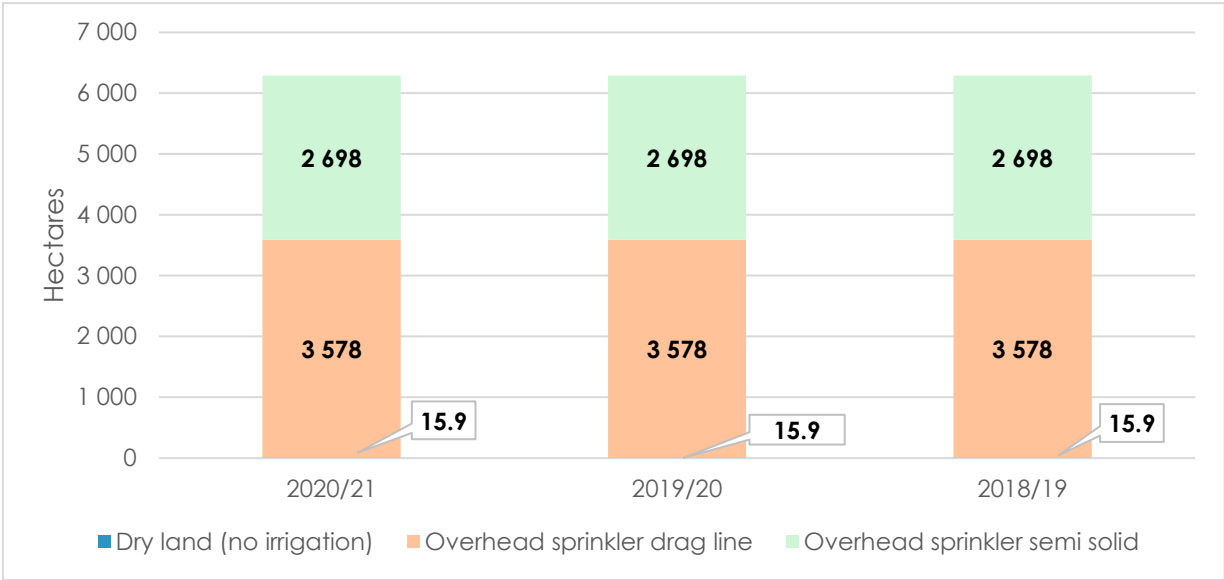


Table 3: Comparison between different irrigation methods

	Definition	Benefits	Limitations
Furrow irrigation ¹¹	Establish long surface trenches, making use of gravity to let water run down between crops on the ground	<ul style="list-style-type: none"> • Low-cost, low-tech method • Well suited to broad-acre row crops such as sugar cane 	<ul style="list-style-type: none"> • Risk of evaporation losses • Can distribute water unevenly across row crops • Can be labour-intensive
Pivot irrigation ¹²	Movable pipe structure rotating around a centre pivot, with water dripping from the top of the cane to the roots	<ul style="list-style-type: none"> • High efficiency • High uniformity • Ability to irrigate uneven terrain • Low capital, maintenance and management costs 	<ul style="list-style-type: none"> • Risk of evaporation losses • Can achieve uneven application of water to crops • Wind interference
Sprinkler irrigation ^{13,14}	Distribution of water through the pipe system, spraying the water into the air through sprinklers	<ul style="list-style-type: none"> • Easy to set up • Water efficient • Less land loss • High and frequent application • Automation 	<ul style="list-style-type: none"> • Risk of evaporation losses • High operating costs • Wind interference
Drip irrigation ¹⁵	Development of pipe system, running along with the soil to apply water on the roots of the crops	<ul style="list-style-type: none"> • No evaporation, highly efficient • Directs water and nutrients to plant root system • Precise and controlled application possible • Soil erosion and weed growth are reduced • No labour cost after development 	<ul style="list-style-type: none"> • Double the cost per acre than pivot irrigation • Can require disruptive/labour-intensive installation • Clogging of tubes can occur

Crop harvesting and the move to green-cane

Currently, Maragra Açúcar SA harvests much of its own sugar cane using cane burning methods followed by manual harvesting. Cane crops are burned to remove brownleaf from the crop without damaging any of the inner sugar content. Burning the cane enables cane cutters to harvest the cane stalks using cane knives. Without pre-burning, the cane must be stripped of its leaves and other plant material (called trashing) in order to facilitate infield loading and transport operations, and optimal processing of the cane in the factory. While efficient, the burning process creates air pollution that could be eliminated via mechanised green-cane harvesting. The cane burning process also emits some greenhouse gases, although these may be seen to be balanced out through carbon sequestration by the cane as it grows. It is recommended that Maragra Açúcar SA explores measuring and reporting the impact of these biogenic cycles in more detail in future, with reference to a methodology such as the Greenhouse Gas Protocol's emerging guidance for land sector and removals¹⁶.

Mechanised green-cane harvesting can offer various environmental benefits, primarily the reduction of air pollution from burning, the improvement of soil health through increased crop residues being left to decompose and return to the soil, and increased feedstocks for renewable

¹¹ [Greenmatters \(2020\), Furrow irrigation can help save water, but is it worth the labor?](#)

¹² [Waller & Yitayew \(2016\), Center Pivot Irrigation Systems](#)

¹³ [FAO \(2022\), Sprinkler irrigation](#)

¹⁴ [Artificial Plants \(2018\), 10 advantages and disadvantages of sprinkler irrigation system](#)

¹⁵ [Sharaf, B. \(2022\), Advantages and disadvantages of drip irrigation](#)

¹⁶ [Greenhouse Gas Protocol \(2022\), Land Sector and Removals Initiative](#)

energy production. A shift to mechanised harvesting would present a long-term risk around shifting employment patterns for seasonal cane cutters employed by the company and our engagement with the Agricultural team indicated that Maragra Açúcar SA is aware of this risk and would need to manage any such transition carefully in full cognizance of the potential social impact. Currently, no plans have been made to transition to green cane harvesting for these reasons.

Chemical inputs: pesticides and fertilizers

Maragra Açúcar SA currently uses selected chemical inputs for sugar cane farming, such as fertilizers and pesticides. The use of chemical inputs must be balanced between the need to increase yields without expanding land conversion, while also minimising negative impacts on the soil and runoff into waterways. Some key challenges Maragra Açúcar SA faces are seasonal pest outbreaks, with some pest types changing year on year. White grubs from the black maize beetle, followed by stalk borers, were highlighted during engagement with the agriculture team as the key pest during summer months, while in some years yellow aphid also becomes a problem which can require chemical management.

Our engagement with Maragra Açúcar SA indicated a number of processes are in place to monitor and reduce chemical inputs. This involves constant monitoring for disease outbreaks, soil testing to guide more precise application and increasing use of drones to apply chemicals with increased precision using GPS. However, continued exploration of alternative methods could help further reduce the need for chemical inputs. Maragra Açúcar SA is already exploring and implementing some alternative pest-control methods, such as the use of different pest-resistant cane varieties and altering the time of planting for increased resistance to seasonal pests. This involves planting cane at different times of the year when the cane can build up its resistance via a well-developed root system, before becoming susceptible to seasonal pest attacks.

There are also measures in place to reduce the amount of chemicals that are used and released into nearby environments. The agricultural water system is designed to drain all water used for irrigation back out into the main water source of the nearby Incomati river. Maragra Açúcar SA reduces chemical pollution by ensuring that fertilisation and irrigation do not occur too closely together, reducing the dispersal of chemicals with water runoff.

Grower livelihoods and agricultural practices

Grower livelihoods

Maragra Açúcar SA's supply chain includes 2,618 independent growers, who provide over 40% of the company's total sugar cane production, with the remainder coming from the company's own land. These independent growers include commercial growers (26), medium-scale growers (61) and small-scale growers (2,531). These small-scale growers are independent farmers within the areas surrounding the company mills.

Maragra Açúcar SA's purchasing from growers provides essential livelihood opportunities in rural areas. A cane growers cooperative, Cooperativa Hluvukani Varime Manhiça, interviewed as part of this report's engagement highlighted that sugar cane is especially beneficial as a source of income. Without sugar cane, farmers would likely be growing other crops such as cassava, sweet potato or maize which have fewer stable markets, require higher financial inputs and are less resilient to floods. As such, growing sugar cane for Maragra Açúcar SA provides an improved, more stable income than many alternatives in the region.

Rural poverty continues to be an issue in Mozambique, with ~75% of the country's rural population considered poor.¹⁷ While in urban areas poverty is decreasing, it is increasing in rural areas. As such, increasing agricultural productivity and income has been highlighted as an essential aspect

¹⁷ [World Bank Group \(2022\), Poverty & Equity Brief: Mozambique](#)

of reducing rural poverty over the next decade.¹⁸ This emphasises the importance of continued investment in agricultural productivity in the region.

As part of this report's engagement, several initiatives were identified whereby Maragra Açúcar SA aims to support growers' ongoing livelihoods, with a recent focus on providing enabling factors for growers to sustain their own agricultural businesses in the long-term. Initiatives in the past few years include writing off much of small-scale grower debts, to set a clean balance sheet; ensuring that a market is available for their outputs; and increasing the frequency of grower pay from monthly to weekly. These benefits to growers are also in the company's interest since they rely on long-term grower output to maintain a reliable supply of cane for production.

Figure 11: Contribution to total sugar cane production (%), 2020/21

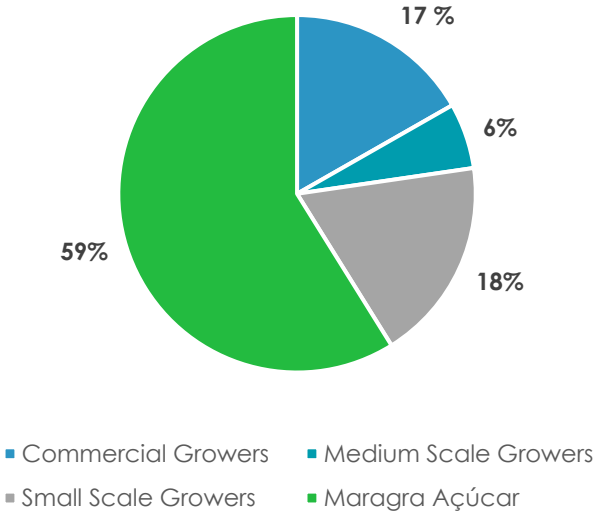
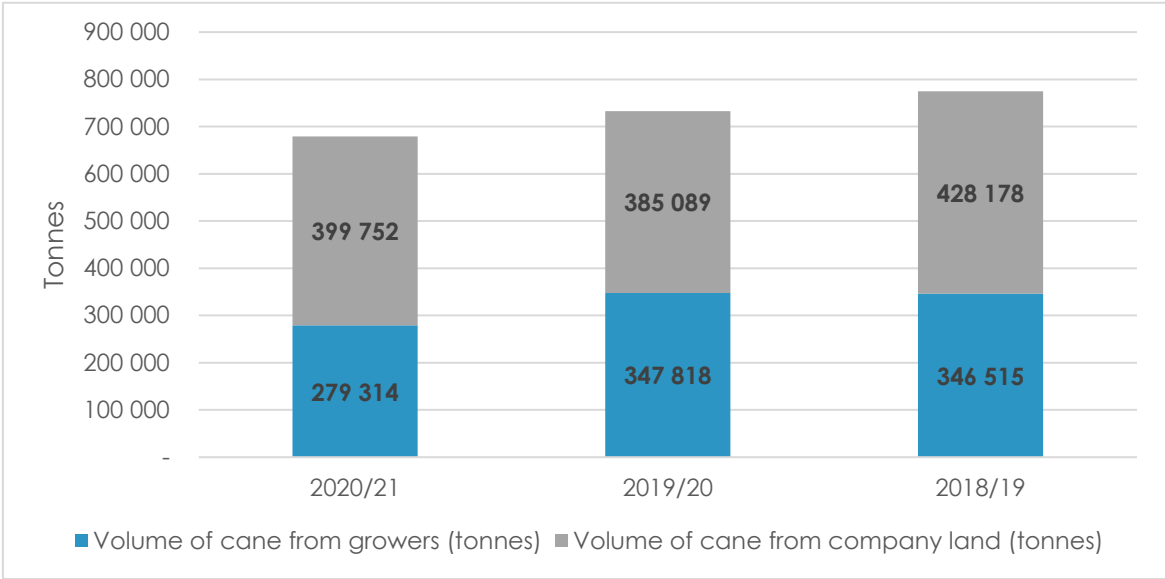
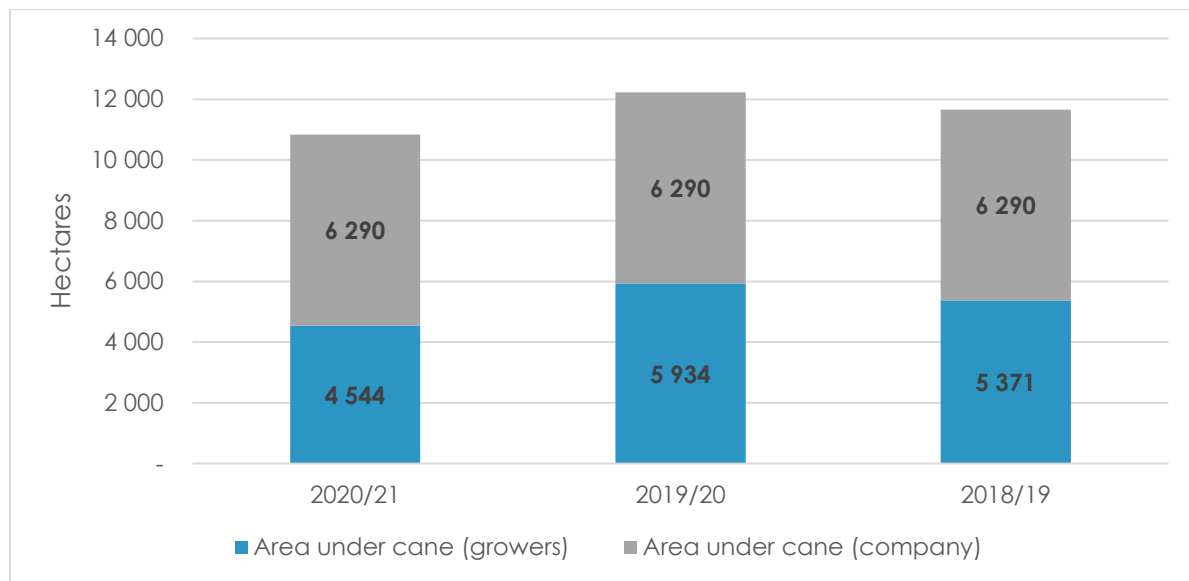


Figure 12: Volume of sugar cane from company and grower land, 2018/19 - 2020/21



¹⁸ World Bank Group (2020), *Cultivating Opportunities for Faster Rural Income Growth and Poverty Reduction*

Figure 13: Area of land under cane for both growers and company land, 2018/19 - 2020/21



Grower agricultural practices

Maragra Açúcar SA has a role in the community to not only provide employment but also to influence sustainable practices. Maragra Açúcar SA estimates that 1,367 growers benefited from its grower development schemes in 2020/21, the vast majority of whom were small-scale growers. In addition, MZN2,209,302 was invested in grower infrastructure, including drainage improvements for grower land, funding power supply to pump stations, maintenance of pumps used for irrigation, and maintenance of a cane loader.

Maragra Açúcar SA's business model relies on growers being able to continue farming high-yield sugar cane for the long term, to ensure a stable supply of cane to meet its factory capacity and production demand. It is therefore in Maragra Açúcar SA's interests to promote high-yield, sustainable agricultural practices among growers.

Our engagement indicated that financial and capacity-building support is provided to growers. Examples include the company providing resources such as drone usage for chemical inputs applications and training on business management. As the costs of agricultural inputs such as fertilisers and pesticides have been rising, presenting a financial challenge to growers, the company has also supported growers by sharing access to discounted prices on these inputs, which Maragra Açúcar SA obtains from major suppliers. Technical knowledge is shared through Maragra Açúcar SA's extension support programme, which employs officers to engage with growers; the number of support officers has grown from two to six in recent years.

The company's extension support programme also aims to deal with long-term structural challenges in the region, which impact both Maragra Açúcar SA and its growers' ability to farm productively. One key challenge is the risk of flooding, which has affected both parties' cropland areas severely in recent years. In early 2021, two consecutive weather events occurred in quick succession and led to severe crop losses for growers. Tropical Cyclone Eloise itself did not badly affect Maragra Açúcar SA's area directly but led to increased rainfall in South Africa, which reached the company's area in Mozambique around two weeks later via the Incomati River. Water levels were raised in rivers on either side of the company's growers' cropland area, flooding it from both sides. At this time, Tropical Cyclone Guambe also occurred in Mozambique, bringing more rainfall to this area. This event submerged 54% of growers' land underwater and led to almost half of the growers' cane being destroyed. Through our engagement, it was noted that losing a crop to weather damage is more financially punishing than losing a single year's harvest; since sugar cane can be cropped for 8-10 years using the same root system, this kind of crop damage represents a higher loss of capital expenditure on cane roots than an annual crop that

is planted using seed. In recognising the demotivating consequences of this event for growers, Maragra Açúcar SA has engaged with growers to help keep sugar cane an attractive option, through measures such as helping with access to practical requirements such as sourcing seed cane and helping to pay service providers such as cane cutters and haulers on growers' behalf, to reduce the administrative burden of farming.

Furthermore, to help address the structural challenge of ongoing flooding risks, Maragra Açúcar SA is aiming to work with the local government to upgrade local flood resistance infrastructure.

While the company's extension support programme is already providing many forms of assistance, it was noted in interviews with growers that no support was specifically focused on sustainable farming techniques, therefore this could be one area to further grow support for growers. Increasing sustainable agriculture knowledge sharing with growers through this extension support programme offers a significant opportunity for the company to optimise sustainable farming practices across the 4,544 ha of cropland currently managed by its network of growers.

FUTURE FACING CHALLENGES

A key challenge facing Maragra Açúcar SA's sustainable farming efforts is the threat of extreme weather events, exacerbated by climate change, that impact sugar cane production and livelihoods for both the company and its growers. On top of this, while Maragra Açúcar SA provides growers with the lowest agricultural input prices by sharing access to the same discounts that the company receives from major suppliers, input prices are still rising, threatening growers' ability to maintain agricultural productivity.

While agricultural input costs and weather patterns are out of Maragra Açúcar SA's control, the company could leverage tools such as its grower development schemes to provide focused training and support to encourage high-yield, sustainable agricultural practices among growers. This will allow Maragra Açúcar SA to increase growers' resilience to extreme weather events and in-turn protect cane yields. Maragra Açúcar SA may also continue its efforts to mitigate risks to productivity by increasing investment investing in water management infrastructure (such as dykes), or engaging with local partners to improve this, to decrease some of the impacts of flooding on crop yields.

Value and quality-driven industry

Building on Illovo Sugar Africa's 130-year success in sugar and downstream product manufacture on the African continent, while actively encouraging innovative commercial community opportunities aligned to Illovo Sugar Africa's core expertise, is a powerful combination invited by Africa's governments to unlock national growth in the countries in which Illovo Sugar Africa's businesses operate.

Key pillar findings:

Maragra Açúcar SA promotes circular economy principles as part of its operations, with the vast majority of its energy consumption coming from self-generated renewable electricity, using bagasse (a by-product of sugar processing). Maragra Açúcar SA has also exported some renewable energy to the local grid over the past three years. Future opportunities to further increase the environmental performance of operations could be to increase renewable energy generation and exports to the grid, and re-use operational water from the factory to be diverted for crop irrigation.

As the assessment conducted in 2017 attested to, Maragra Açúcar SA's treatment of employees continues to be value-driven. Key drivers are a stringent employment policy, funding benefits and ensuring a minimum wage above the Mozambican national average. Critically, Maragra Açúcar SA has made significant steps to engage positively with its workforce, ensuring their voices are heard.

We also found Maragra Açúcar SA's strategic focus and rising spend on domestic procurement since our last report to be a driver of positive impact around local Mozambican regions and stakeholders.

Environmental impact of operations

Maragra Açúcar SA drives sustainable best practices throughout its operations. This includes promoting circular economy principles and innovation within business operations, such as the generation and use of renewable, non-fossil fuel sources for energy production.



Energy use and generation

During 2020/21, 97% of Maragra Açúcar SA's energy use was sourced from renewable sources in the form of bagasse, a fibrous residue leftover after the process of crushing sugar cane, which the company harvests and uses as a renewable energy source to power its operations. The remaining energy was produced using coal and other non-renewable sources consumed in Maragra Açúcar SA including imported electricity from the national grid, diesel, liquid petroleum gas (LPG), and petrol.

All of Illovo Sugar Africa's sugar factories, including Maragra Açúcar SA's, generate renewable electricity from bagasse. During 2020/21, Maragra Açúcar SA's factory produced 120 829 MWh from this source. Of this, the majority was consumed to power the company's own operations, while 719 MWh were exported to the national grid (0.15% of total renewable energy generated). By producing its own renewable energy, Maragra Açúcar SA cuts costs and reduces reliance on the national grid.

Operational emissions

Maragra Açúcar SA currently measures its greenhouse gas (GHG) emissions from scope 1, 2 and some scope 3 activities. 97% of Maragra Açúcar SA's carbon footprint comes from scope 1 activities and this category is dominated by emissions from burning bagasse. While emissions from bagasse are here reported as the majority of Maragra Açúcar SA's overall footprint, research suggests that bagasse can be considered a "greenhouse gas neutral" renewable fuel, due to the carbon absorbed during photosynthesis of sugar cane in the field.¹⁹ The potential impacts of this greenhouse gas sequestration are not yet measured or reflected in Maragra Açúcar SA's emissions reporting. It is recommended that the company explores how to measure these impacts, for example using the Greenhouse Gas Protocol's Agricultural Guidance²⁰, or emerging guidance for land sector activities and carbon dioxide removals²¹.

In addition to bagasse, other emission sources include diesel and petrol fuel, emissions from burning biomass materials such as sugar cane and wood (scope 1); emissions from imported electricity (scope 2); and some fuel emissions from 3rd party transport and distribution (scope 3). Maragra Açúcar SA's total measured scope 1, 2 and 3 greenhouse gas emissions for 2020/21 were 173,144 tCO₂e. This was equivalent to less than 4% of Illovo Sugar Africa Groups' total greenhouse gas emissions in 2020/21.

Currently, Maragra Açúcar SA only measures emissions from selected scope 3 activities, limited to third-party transportation and distribution services. In future, it is recommended that Maragra Açúcar SA assesses its full scope 3 emissions in accordance with the GHG Protocol's 15 categories²², to understand the full climate impacts of its value chain, and associated climate-related risks and opportunities.

Maragra Açúcar SA is working towards improving boiler efficiency and reducing particulate matter emissions from the boilers. Currently, many of the boilers are older and run without scrubbers, meaning that boiler emissions currently contain particulate matter emissions. Long-term investments are needed to either purchase new boilers or add additional scrubbers.

¹⁹ [O'Hara & Mundree \(2015\), Cogeneration of sugarcane bagasse for renewable energy production](#)

²⁰ [Greenhouse Gas Protocol \(2022\), GHG Protocol Agricultural Guidance](#)

²¹ [Greenhouse Gas Protocol \(2021\), Update on GHG Protocol Carbon Removals and Land Sector Initiative](#)

²² [Greenhouse Gas Protocol \(2022\), Corporate Value Chain \(Scope 3\) Standard](#)

Figure 14: Maragra Açúcar SA GHG emissions by source over time (tCO2e), 2018/19 – 2020/21

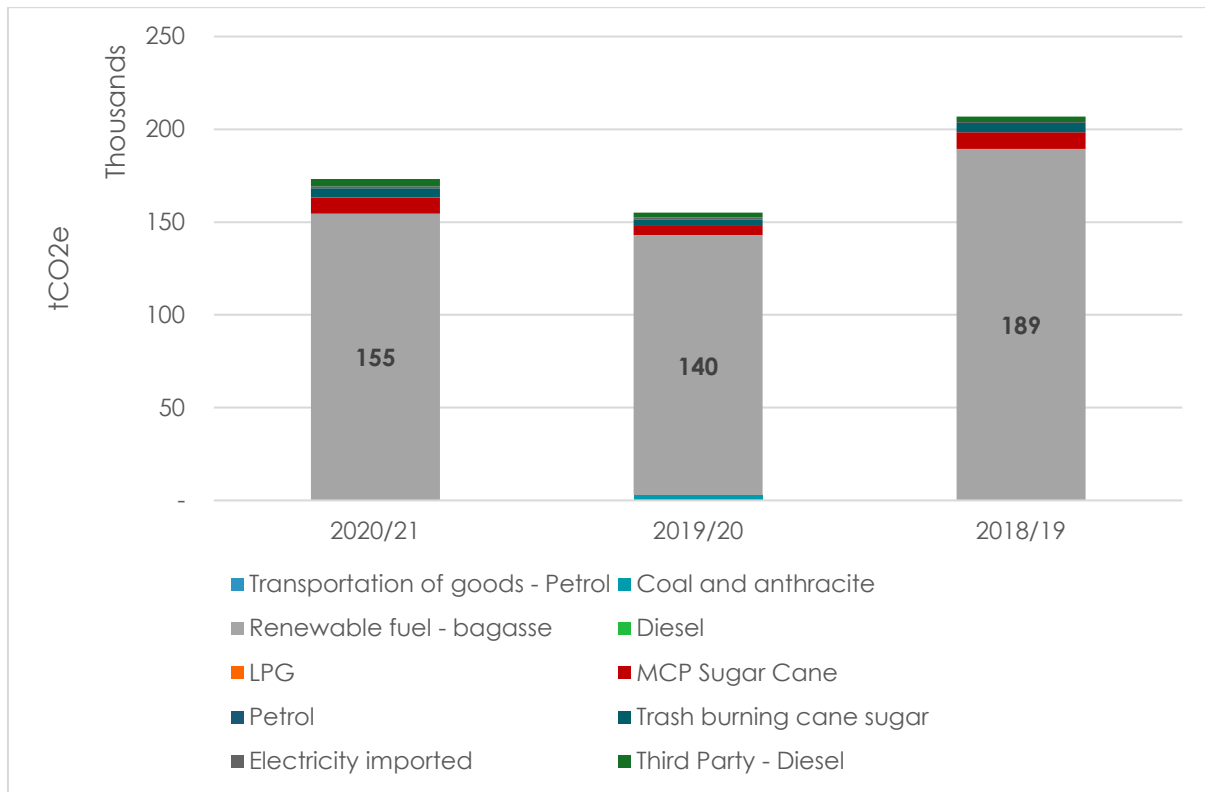
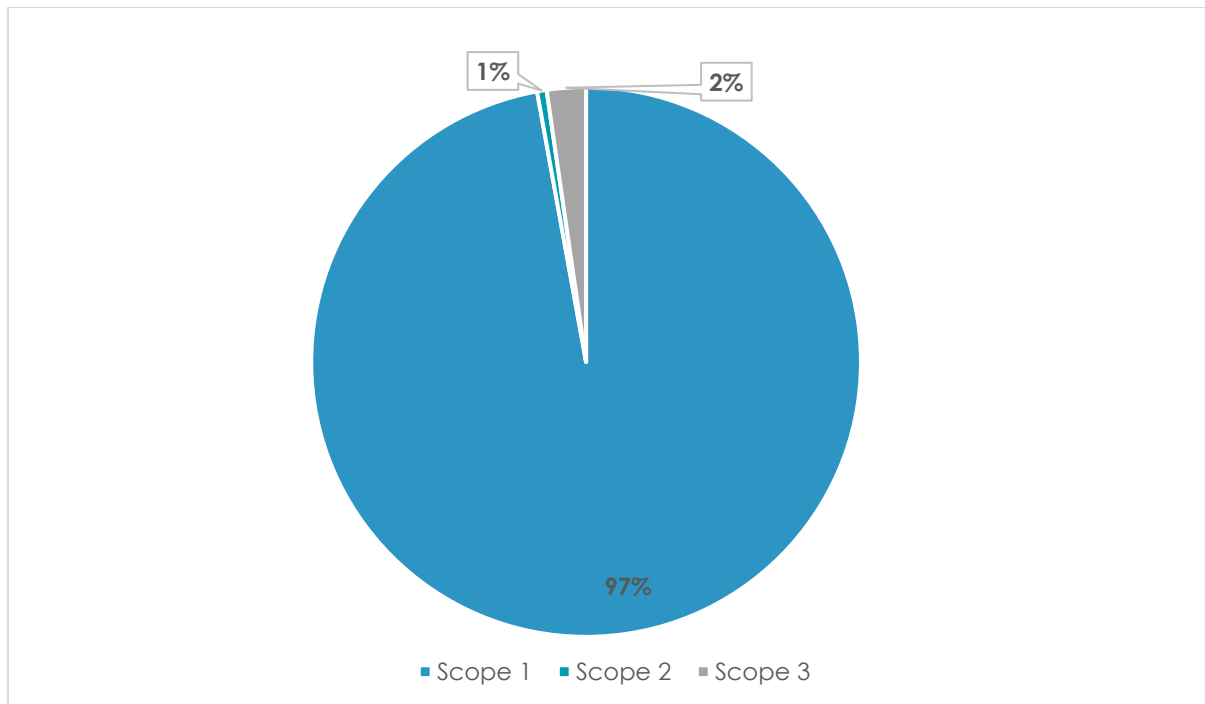


Figure 15: Maragra Açúcar SA's GHG Emissions by scope (tCO2e), 2020/21



Water use and discharge

Maragra Açúcar SA abstracts water from the nearby Incomati river, which is then used within its factory operations. Over 28,060 megalitres of water were abstracted during 2020/21. Most of this water is used in a closed circuit and is retained without being returned to the river. Water that is released from sugar cane during factory processing is also captured and reused towards

supplying the factory's water demands. Legal requirements mean that all effluent is tested before being discharged back to the main river source, to prevent water contamination. To further increase water efficiency in future, Maragra Açúcar SA has long-term plans to re-use any factory water for agricultural irrigation.

Operational waste

Many aspects of Maragra Açúcar SA's factory operations embody circular economy principles. During our engagement, Maragra Açúcar SA's agriculture team highlighted that there is little waste in the sugar cane industry, with only what cannot be reused being sent to landfill. Bagasse, which is produced from crushed and extracted sugar cane, is used for energy production; the filter presses are re-used; scrap metal is re-sold, and water is recycled within the factory. The growing local demand for waste plastics, for others to recycle, was noted by Maragra Açúcar SA's operational team, with plastic bags being collected from the factory by people from the local community.

Decent work and quality of jobs

As a direct employer of almost 5,000 people in Mozambique, Maragra Açúcar SA needs to ensure it is driving best practices to create high-quality jobs that attract and retain staff. The nature of the industry means there is a need for seasonal and contract workers alongside higher-skills roles such as engineers, technicians and business management professionals.

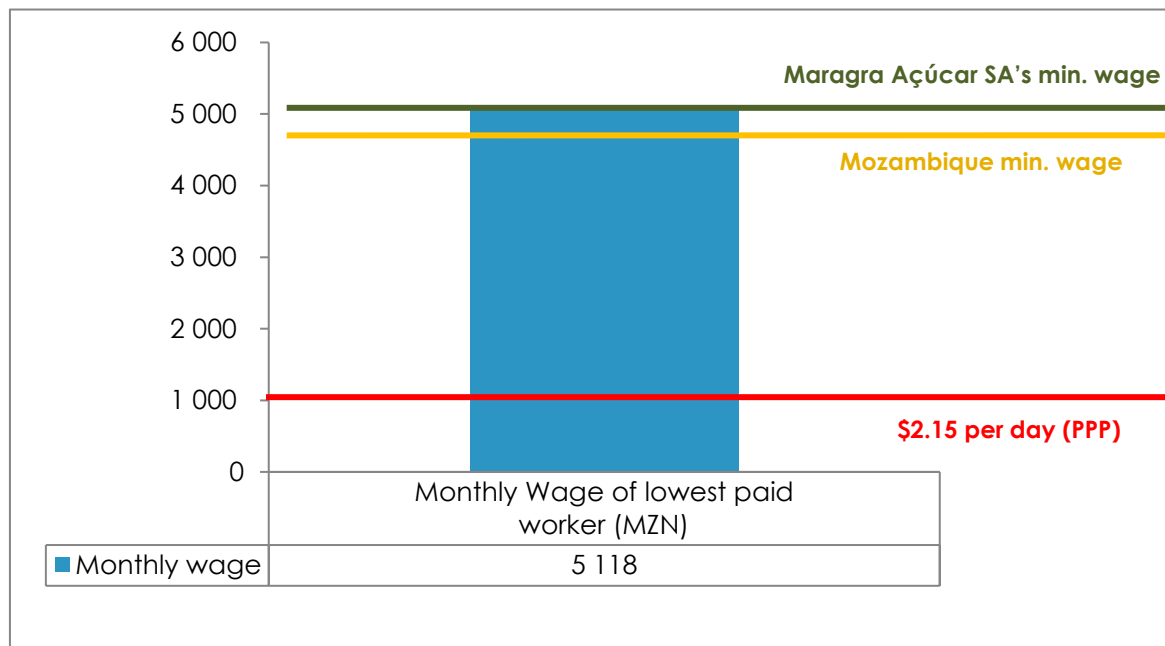


Minimum wage

Maragra Açúcar SA monitors salary levels to ensure that it is compliant with in-country legislative requirements and that its minimum wage exceeds Mozambique's minimum wage, as well as the \$2.15 purchasing power parity poverty line.²³

²³ [Knoema \(2021\), Mozambique - Purchasing power parity conversion factor for gross domestic product](#)

Figure 16: Maragra Açúcar SA's lowest wage against the national monthly minimum wage, 2020/21



Through established collective bargaining agreements with unions and in-house country dispute resolution mechanisms, employees can raise grievances through formal means. 77% of Maragra Açúcar SA's employees are unionised, down from 85% in 2016/17. Maragra Açúcar SA maintains a strong relationship with the local union leaders and makes concerted efforts to engage its employees to hear suggestions or grievances and to become a better employer.

Spotlight: Maragra Açúcar SA's employee engagement survey

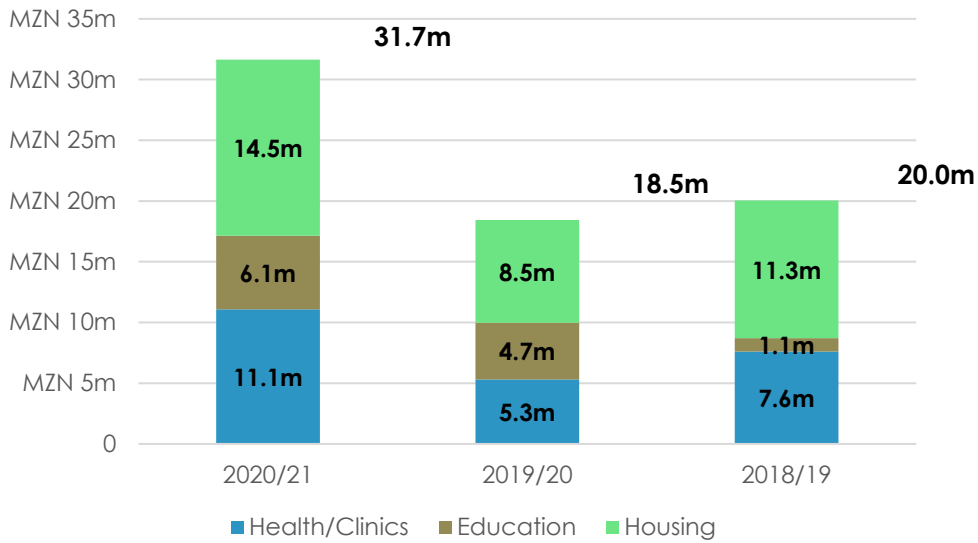
In partnership with Illovo Sugar Africa and AB Sugar, Maragra Açúcar SA has developed an employee engagement survey to receive feedback from all permanent employees across the different employee bands. To ensure all employees can respond, the company has actively reached out to employees by improving accessibility. By providing phones for employees who don't have access, giving guidance to difficult questions, translating the survey into the local languages and tracking responses with technology like QR codes, actions are being prioritised to make Maragra Açúcar SA a better place to work.

Following general unrest between 2017-2019, which saw striking workers in Maragra set fire to sugar cane, Maragra Açúcar SA has become a more flexible employer, proactively reaching out to hear and act upon the requests of local workers. Much more recently, as protests and industrial action were affecting peer sugar producer company Xinavane's plantation, Maragra Açúcar SA's approach to employee satisfaction (detailed in the spotlight above) has resulted in comparative stability in Maragra Açúcar SA. In both instances, clear communication with unions has demonstrated its ability to facilitate resolutions.

Employee Benefits

Maragra Açúcar SA employees are entitled to a number of different benefits in addition to salaries, including primary healthcare, pension funds and counselling.

Figure 17: Total spend on benefits offered to employees and their dependents, 2018/19 – 2020/21

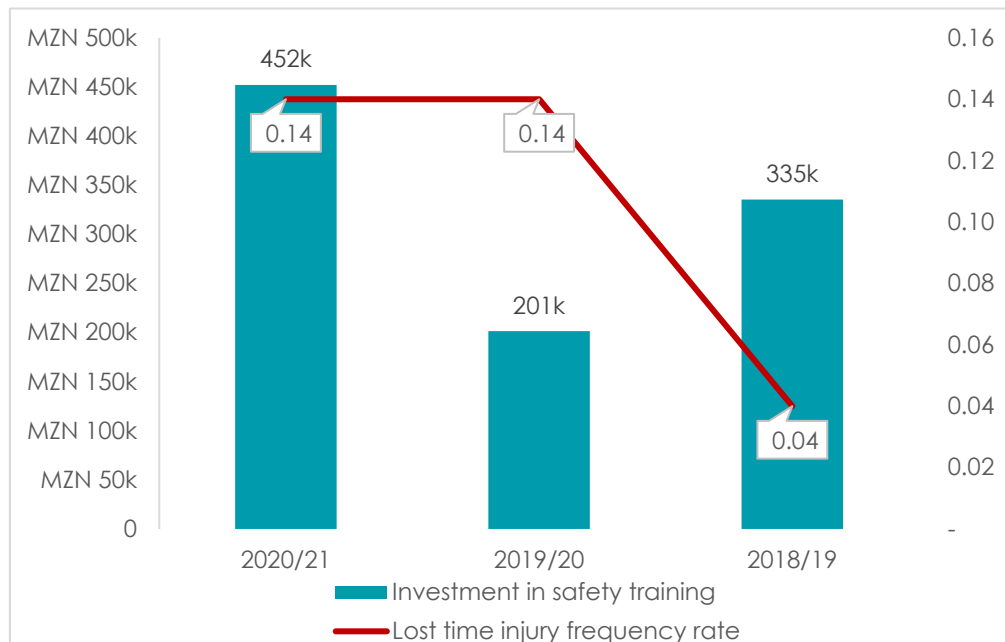


Safety training

Maragra Açúcar SA invested MZN 452.2k in safety training in 2020/21, more than double the previous year. The lost time injury frequency rate has remained the same overall, at 0.14 LTIs per 200,000 hours worked in 2016/17 with some fluctuations until 2020/21, which is still above the target of 0.09 set by the Group. That said, Maragra Açúcar SA did achieve well below this target in 2018/19.

One fatality was recorded by Maragra Açúcar SA in the period covered by this report. We did note from engagement with the company that this was not an operational fatality occurring during factory or agricultural work, but the victim of a criminal attack.

Figure 18: Maragra Açúcar SA's total investment in safety training (MZN) with LTIFR, 2018/19 - 2020/21

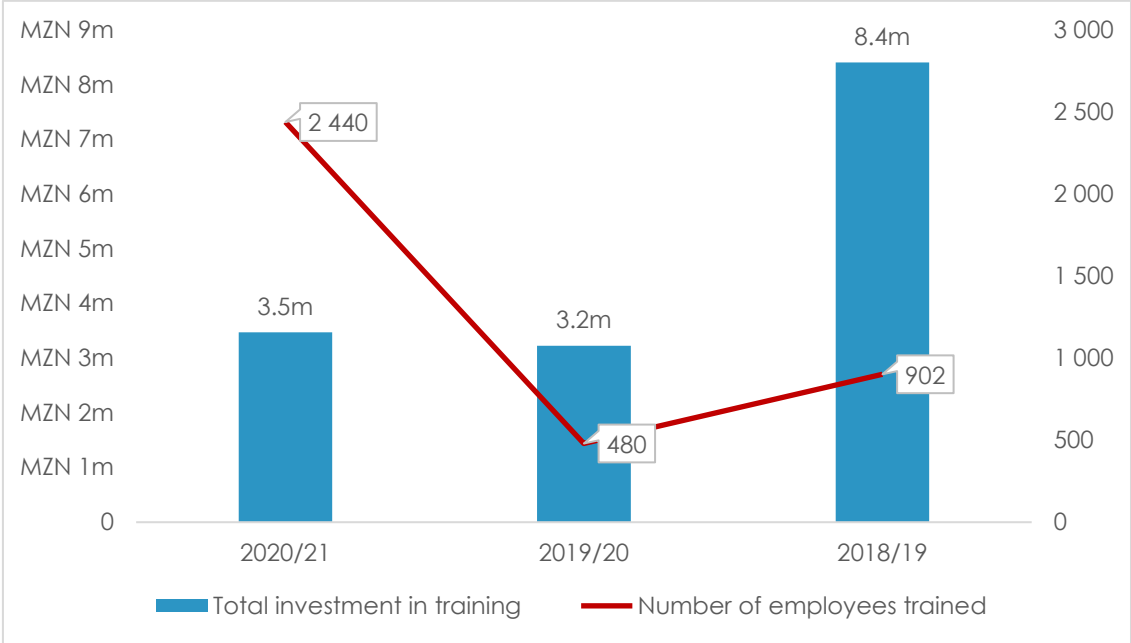


Other training & job opportunities

Maragra Açúcar SA also invests in training employees, including funding degrees that could support employees in their careers. Though the company used to cover 100% of a full-year

degree, this has recently been reduced to 75% cover. Many employees who have received degrees through Maragra Açúcar SA funding remain at the company after their studies. Maragra Açúcar SA invested MZN3.5m in training and development in 2020/21, involving 2,440 employees. As a percentage of payroll, investment in training has fallen over the last three years, from 1.5% in 2016/17 to 0.42% in 2020/21. One reason Maragra Açúcar SA provided for this was that with the implementation of its new operating model, it has significantly shifted its approach to learning and development and introduced the 70/20/10 model (70% of learning occurs on the job, 20% from learning from others, through interactions and 10% through formal learning) with a specific focus on on-the-job learning. Another driver for the decrease was COVID-19, as, during the pandemic, training interventions that were traditionally on a face-to-face basis were mostly held virtually to adhere to infection management protocols, which also resulted in reduced costs. In normal circumstances, employees or trainees and trainers would have to travel to Maragra.

Figure 19: Maragra Açúcar SA's total investment in training (MZN) and number of employees trained, 2018/19 - 2020/21



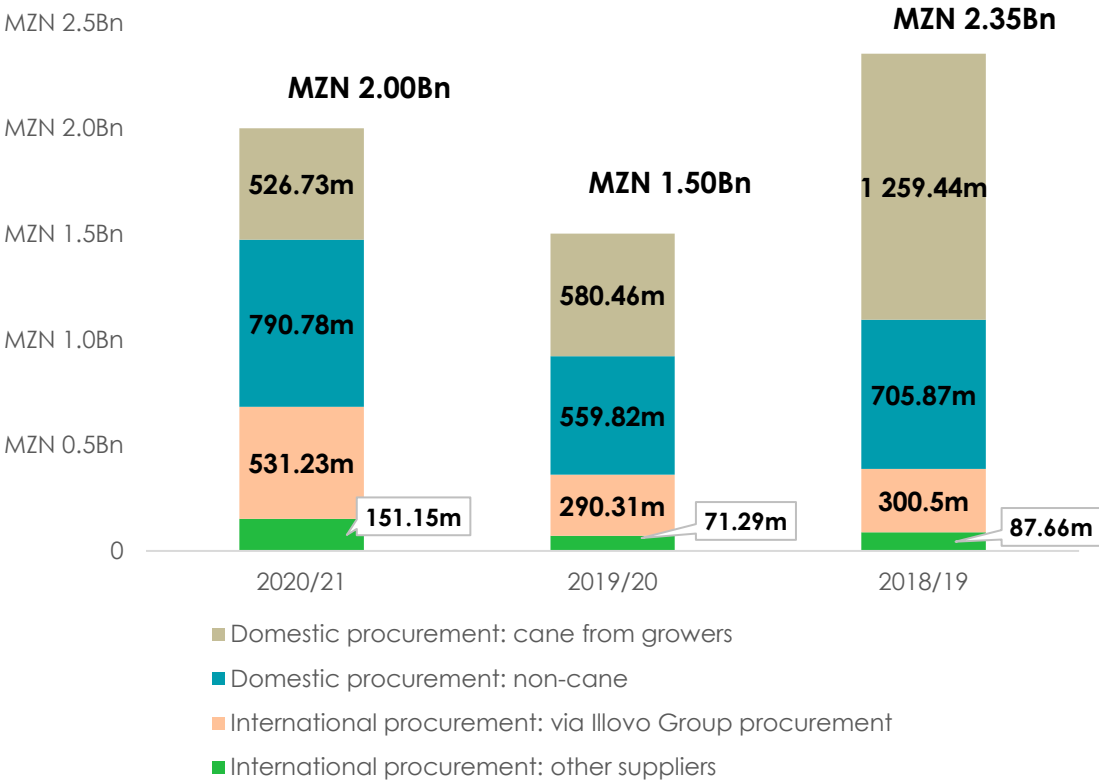
Maragra Açúcar SA has also concluded Internship Memoranda of Understanding (MoUs) with two public institutions, Eduardo Mondlane University and the Provincial Department of Justice and Labour. This has facilitated internship programmes for university students and vocational training students.

Value chain impacts

Procurement

In 2020/21, Maragra Açúcar SA spent MZN 526.7m with domestic cane suppliers and MZN 790.8m on domestic non-cane procurement. This constituted 65.9% of Maragra Açúcar SA's total supplier spending, the other MZN 682.4m being spent on international procurement. The chart below shows a slight 15% decline in overall spending since 2018/19, particularly in the amount spent domestically on cane, which was a result of the impacts of cyclone Eloise and tropical storm Guambe destroying some of the third-party growers' cane supply. We did note however that overall spending began to rebound from 2019/20 by 33%. We also noted a significant increase from the procurement figures reported in our 2016/17 report, and that this is an important way of generating economic opportunity and jobs in the supply chain.

Figure 20: Maragra Açúcar SA's supplier spending, 2018/19 – 2020/21



FUTURE FACING CHALLENGES

Maragra Açúcar SA's investment in training and other opportunities for employees has declined overall since 2017/18, including the cutting of funding for full degrees for employees. Upskilling employees is a tested way of supporting business in a value-driven manner and dips in funding now could lead to missed future opportunities.

Clear communication with workers yielded positive results in the region after a period of civil unrest, and while Maragra Açúcar SA has demonstrated its ability to resolve and prevent issues over the past few years, the ongoing pressures on the industry, particularly from climate change, mean these efforts must continue to mitigate any future risks.

Community connected

Collaborative and cooperative stimulation of economic activity, hand-in-hand with the people, civic structures and the governments of local communities, strengthens the growth and development of African nations.

Key pillar findings:

Maragra Açúcar SA's community impacts focus on supporting its Estate and the wider communities in areas such as health, education and infrastructure. However, poverty and social issues in Mozambique, are still very real in Mozambique's communities. In order to understand better its role within the community, greater engagement is needed. Collaboration with the local government could identify areas where Maragra Açúcar SA's could be most useful, versus those areas where the government is best placed to serve the community.



Human rights and labour standards

Given the rural nature and range of informal work settings that make up the sugar supply chain, it is challenging to gain insight into the working conditions of employees and the risks of child labour, can exist. Maragra Açúcar SA, as part of the wider Illovo Sugar Africa group, is committed to preventative measures against human rights abuses, including land rights, in line with the United Nations Global Compact (UNGC) and the United Nations Guiding Principles on Business and Human Rights (UNGP). This is applied to all suppliers and growers.

"Our policy is to recruit no-one below the age of 18. Child labour is a top priority for us."
- Julia Camuaza
Head of HR for Maragra Açúcar SA

Land rights

[Illovo Sugar Africa's Group Code of Conduct and Business Ethics](#) states that it is committed to respecting internationally recognised human rights and has adopted policies and practices to protect against human rights abuses, including land rights, in line with the United Nations Global Compact (UNGC) and the United Nations Guiding Principles on Business and Human Rights (UNGP). All suppliers and Group operations are required to follow both the Code of Conduct and the [Group Guidelines on Land and Land Rights](#) that specifically commits to a zero-tolerance approach to land grabs. This is monitored through impact assessments, stakeholder engagement through local authorities, providing technical and financial support to local partners and participating in programmes to redistribute land to the appropriate communities. During our engagement with stakeholders in Mozambique, we did not observe or hear of any issues associated with land usage and rights.

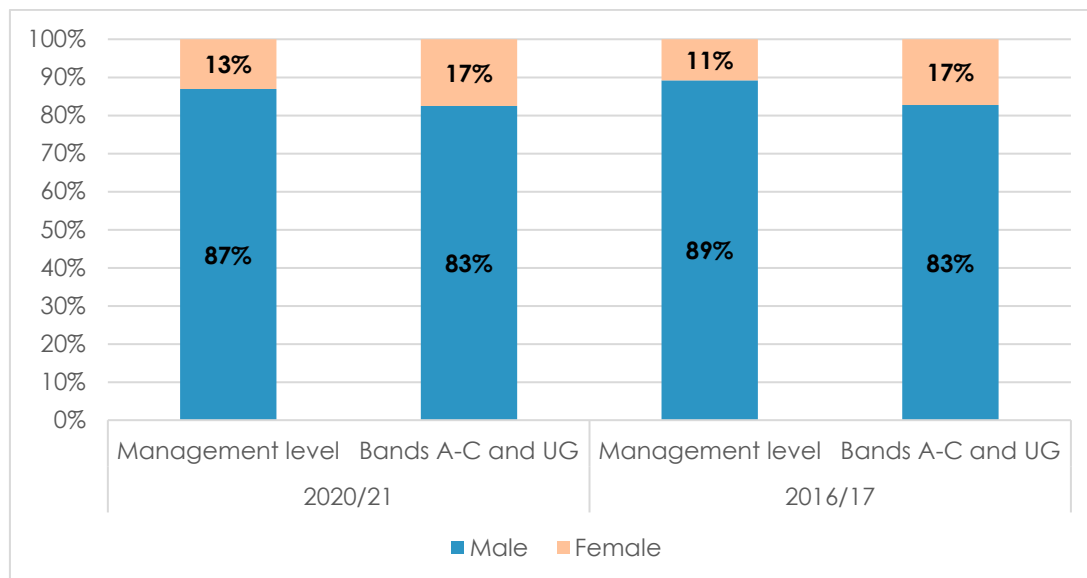
Through established collective bargaining agreements with unions and in-house country dispute resolution mechanisms, employees can raise grievances through formal means, called 'Speak Up'. 77% of Maragra Açúcar SA's employees are unionized, down from 85% in 2016/17.

Employee diversity & inclusion

In the workforce

Maragra Açúcar SA's permanent workforce is currently male-dominated. Women represent 17% of employees in bands A-C and UG and 13% of management positions.

Figure 21: Maragra Açúcar SA's permanent employees by gender, 2016/17 - 2020/21



This is contrasted with the Mozambican grower workforce, where women make up 70-80% of the workforce in local cooperative associations.

Nevertheless, Maragra Açúcar SA is beginning to discuss diversity, equity and inclusion (DE&I) as a corporate policy, such as giving preference to women who apply, especially for STEM-based roles. There is currently more of a gender balance in HR than in operations, but the company is beginning to make changes in this area. Despite these efforts, Maragra Açúcar SA recognises that further actions are required to encourage women to apply to positions and overcome the notion that the sector is only for men. At this time, there are no official female-specific hiring or career-development programmes.

"While there is no clear strategy on DE&I, executives are speaking about changes. I used to be the only woman among many men, but this is changing."

- Julia Camuaza
Head of HR for Maragra Açúcar SA

Community resources and services

Maragra Açúcar SA provides various benefits, resources and services for employees, the families of employees who live on the sugar estate, and the wider community outside of the Estate. Those on the estate receive various benefits while outside receive more limited access to benefits.

The Maragra Açúcar SA Estate

Maragra Açúcar SA has developed an estate which is home to roughly 2,500 people, with the company providing housing, community centres, security and utilities and providing support to the local school. Maragra Açúcar SA provides all permanent employees with housing with water and electricity. Housing benefits are based on the grade of the employees, for example, the estate has 1-, 2- and 3-bedroom houses, while senior employees living offsite receive a 14% housing allowance. Temporary employees such as cane cutters are also provided housing on the

Estate for the duration of their employment. This highlights the continued positive investment in Maragra Açúcar SA's employees.

Education

The estate is home to a government school which is further supported by Maragra Açúcar SA through the construction of two new classrooms built and a further 12 rehabilitated in the past five years. These efforts have helped over 2,600 pupils have classes closer to home and in better conditions, contributing to improved concentration spans and attendance. It also improves the productivity of Maragra Açúcar SA's employees, who do not have to travel far to take their children to school.

Women in the community

The company has provided support to women outside of the estate, with the company hosting a Women's forum in 2020. Following this, there was a wellness campaign wherein forum participants from the community engaged with female employees to encourage them to be open about cases of sexual harassment in the workplace. This represents an effort to get closer to the surrounding communities, which interviewees indicated is rare within the sugar industry.

Water in the community

Maragra Açúcar SA is planning the installation of water supply systems for three surrounding communities that will be disconnected from the current estate water supply. Construction of the first started in 2022, allowing community members to access water locally, as well as improving hygiene through the reduction of water-borne diseases. This has also helped promote good hygiene practices during the pandemic, as more people can wash their hands frequently.

Healthcare in the community

Maragra Açúcar SA has a Medical Services unit that runs a Primary health clinic open to all employees and their eligible dependents. Maragra Açúcar SA assists the nearby public Health Centre with ambulance emergency transfers, especially for children and pregnant women. In FY 2020/21 about 209 transfers were made to Manhiça District Hospital.

Maragra Açúcar SA established the Maragra Malaria Control Programme in 1996. At its inception it originally covered only the estate, however, coverage has expanded to a 10km radius, covering a population of roughly 20,000 inhabitants. It is now managed closely with the local government, with the Ministry of Health providing the insecticide for spraying. Other activities include the clearing of stagnant waters, health talks and the distribution of mosquito nets. These activities have seen a significant decrease in the number of malaria cases (see figure 21) and represent positive examples of Maragra Açúcar SA's collaboration with the local government.

Spotlight: COVID-19 Response

During the COVID-19 pandemic, the company established a COVID task force for clinical and non-clinical interventions. Once vaccinations were available, an in-house clinic was established with 80% of the workforce vaccinated within 3 weeks. As well, the company initiated a campaign to educate the broader community on COVID prevention and constructed a Transitional Isolation Ward for patients with moderate symptoms.

While sugar is seen as a possible health threat in many developed countries, in Mozambique it is an important source of dietary calories for the poor. In 2016, to help eliminate micronutrient malnutrition, particularly in children, the government implemented legislation requiring the fortification of basic foodstuffs, including sugar with Vitamin A.

Figure 22: Malaria cases diagnosed at Maragra Açúcar SA clinic (including employees, dependents and contractors attended), 2018/19 - 2020/21

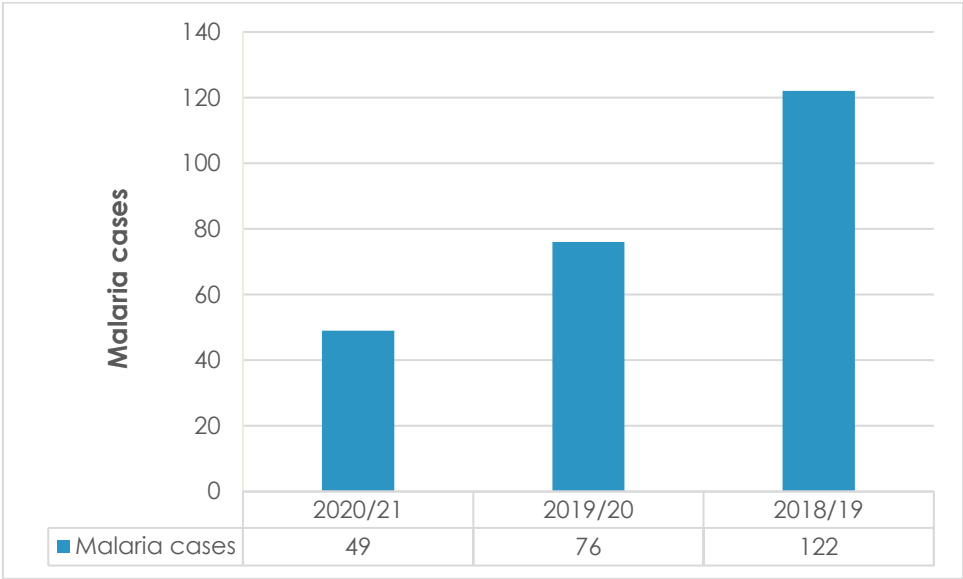
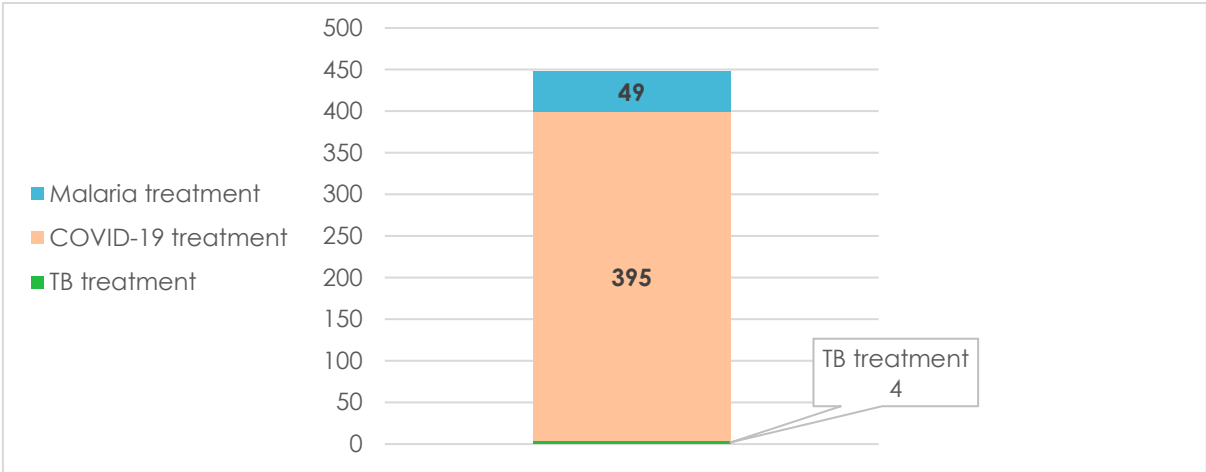


Figure 23: Maragra Açúcar SA's healthcare services by the number of people receiving treatment, 2020/21

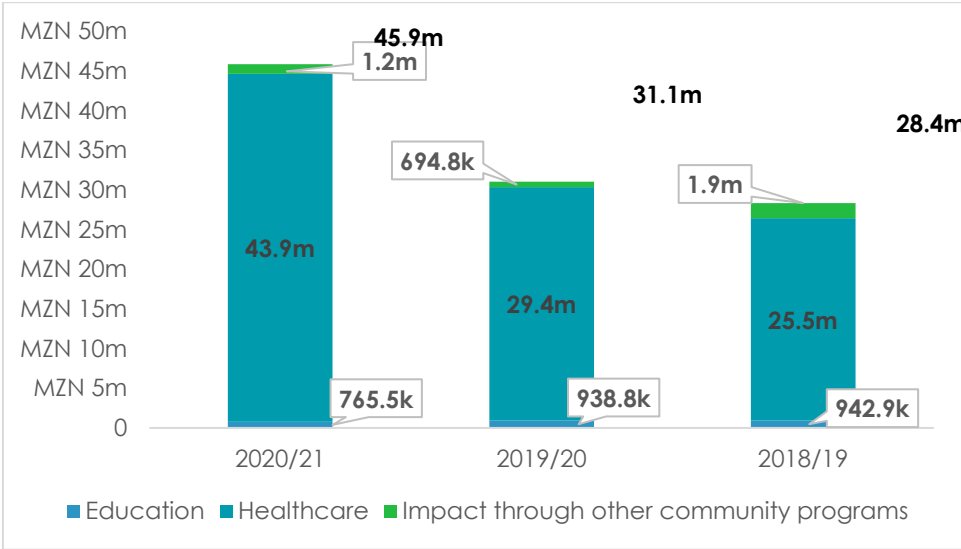


Inclusive stakeholder engagement

The company's communicative and collaborative relationship with the community extends to the local government officials. The company prioritises hiring locally and works collaboratively with the local government. Maragra Açúcar SA invests in the broader community beyond the estate, totalling MZN 45.9m in 2020/21. This investment is split between education, healthcare and other community programmes, particularly capacity building.

Additionally, this is a notable year-on-year increase in overall investment, from MZN 28.3m in 2018/19, with a major increase in spending on healthcare. However, we did note decreases in spending on education and other community programmes from 2018/19, likely due to a reprioritisation of healthcare in favour of COVID-19 treatment. Maragra Açúcar SA's implementation of any community social investment is done after a "needs assessment" which is usually conducted by the district and local government.

Figure 24: Community investment in infrastructure, education and healthcare, 2020/21



Tensions exist within the broader community as a result of poverty and social issues. Our interviews indicated that a major challenge for the company is sugar cane theft by the surrounding community who use it for their livelihood. As highlighted previously, ~85% of the country's poor reside in rural areas. This is an issue it is working on with the government, whom it has worked with previously on livelihood creation in the area. Community engagement and outreach could help the company to understand what the key issues are and how it can best support. However, challenges exist in identifying Maragra Açúcar SA's role in the broader community, in particular where its responsibility ends and that of the local government begins.

FUTURE FACING CHALLENGES

The biggest challenge we have identified for Maragra Açúcar SA in this pillar is its workforce diversity, especially in the permanent labour pool. The company does realise that change is required to shift the notion that sugar is a sector for men, but with just 17% of permanent employees being women, current efforts will need amplifying. Our engagement with Maragra Açúcar SA did make it clear that it is aware of the problem and women in existing management positions are keen to bridge this gap by giving women applicants preference. However, official policies should be considered to kickstart real change, particularly in light of the stigma some Mozambican women feel in applying for such roles.

Amid external pressures on Mozambican society, particularly in rural areas, Maragra Açúcar SA should maintain a collaborative approach to engaging with its local communities in order to solve or mitigate local challenges. The role of Maragra Açúcar SA, as a corporate entity within the region, brings responsibilities as a community custodian. As its overall community investment continues to rise, it should continue to engage with national government in order to play a larger role in effecting change in areas of education, infrastructure and healthcare.

Tensions also exist within the broader community as a result of poverty and social issues. Our interviews indicated that a major challenge for the company is sugar cane theft by the surrounding community who use it for their livelihood. Collaboration with local government could help to address these issues, however a challenge exists in understanding where the company's responsibility ends and local government begins.

Recommendations

Recommendation 1

Diversity in the workforce

We understand from discussions with Maragra Açúcar SA's HR that hiring more women is becoming a focus. However, given the consistently low representation of women in the workforce, particularly in management, we maintain that Maragra Açúcar SA should prioritise the delivery of social investment programmes focusing on women's empowerment, invest in specific education and training for female employees, suppliers and business partners and building partnerships with local organisations. This should encourage more female applicants and improve its organisational diversity.

Recommendation 2

Investment in climate-resilient infrastructure

Increasingly volatile and irregular weather patterns, with increased flooding, cyclones and other events are likely to only continue. This has historically impacted productivity and livelihoods. Maragra Açúcar SA could benefit from further investments in water-related infrastructure (e.g. dykes) to prevent some of the worst impacts of flooding and other weather events on agricultural productivity.

Recommendation 3

Increased engagement with growers

From our discussion with the secretary of a local growers' cooperative, who was himself also a grower, we discovered that Maragra Açúcar SA is a critical source of financial security for growers in the region, through its guaranteed purchase of sugar cane. This relationship could however be improved, with greater levels of communication between Maragra Açúcar SA and local growers. The most prominent suggestion was around offering local growers more training, which would not only improve their yield, thus supporting Maragra Açúcar SA, but equally improve growers' quality of life, allowing Maragra Açúcar SA to contribute to a reciprocated improvement in the community.

Annex 1: Methodological note

Overview of methodology

Corporate Citizenship's process for this project involved analysing financial and management information provided by each Illovo Sugar Africa (ISA) country team. This also included site visits to Tanzania and Zambia, to visit the operations and their surrounding communities, as well as interview senior management and key stakeholders affected by the business. The stakeholders interviewed varied by country but included sugar cane farmers, small-holder association representatives, employees, local suppliers, doctors, community groups and other beneficiaries of ISA's social investment spend. Corporate Citizenship also conducted its own desk-based research and analysis. Case studies and quotes are based on site visits and interviews. The data presented within this report is based on internal financial and management information provided by key personnel within ISA and has not been audited by Corporate Citizenship.

Exchange rates used

Data for each country are reported in local currency, while the group report uses only the South African Rand (ZAR). We have used exchange rates provided by ISA's group finance for each year where conversion is required.

	ABF Rates FY21	Budget Rates FY20	ABF Rates FY19	Budget Rates FY17
<i>MWK / Rand</i>	47.87	59.2	61.44	51.05
<i>ZMW / Rand</i>	1.115	0.942	0.831	0.708
<i>TZS / Rand</i>	151.83	159.85	174.77	172.58
<i>MZN / Rand</i>	3.99	4.43	4.79	4.86
<i>Rand / USD</i>	16.16	15.36	13.01	7.82

Estimating wider impacts

ISA has significant impacts on the economy and employment, not only through its direct operations but also through its value chain and the wider community. Its total impact falls under the following main categories²⁴:

²⁴ Note that in each case, "impact" refers to ISA's gross rather than net impact, and therefore does not take into account displacement (i.e., labour, land and capital are used by ISA which would otherwise have been used by other companies) or leakage (i.e. some indirect and induced spending will "leak" overseas). While both of these effects are important, they are not readily quantified, and are not usually included in impact assessments of this nature.

- **Direct** impacts, through ISA's direct employment of workers on farms and in factories, as well as investments, tax payments, interest spending, shareholder dividends and other payments;
- **Indirect** impacts in the value chain in Africa, through purchasing sugar cane from farmers, payments to suppliers and distributors, as well as impacts on those selling ISA products or using them in their businesses. Re-spending of the money paid by ISA generates further economic activity and employment;
- **Induced** impacts, through spending by direct and indirect employees leading to increased consumption and employment throughout the economy;
- **Secondary** effects, through infrastructure and other benefits provided by ISA to its local communities, such as building infrastructure, schooling and healthcare.

The scale and extent of these impacts mean that they can only be estimated. As far as possible, Corporate Citizenship has collected data directly from ISA, including specific information on local employment and spending with local suppliers. Secondary effects have been described qualitatively but have not been estimated, due to the large number of assumptions required.

Impact measurement

To estimate ISA's full macroeconomic impacts in each country, Corporate Citizenship conducted a thorough landscape review to identify new research and studies conducted since our last assessment. This was to gather information from various academic studies into the economic impacts of the sugar industry in southern Africa, including "multipliers" which estimate, for example, the amount of indirect and induced employment created per direct employee in the sugar industry.

The various multipliers referred to in this report are outlined below. While multipliers are useful tools, it should be stressed that their reliability depends heavily on the quality of the data available. They may also be context-specific, varying across countries and even within an industry in a specific country.²⁵ The studies published to date on multipliers in southern Africa have not covered every country considered in this report, and so some assumptions have had to be made regarding the other countries in which ISA operates.

In all cases, a range of multipliers from different sources has been used to inform calculations, in line with the recommendations of the International Finance Corporation.²⁶

The range of studies referred to is as follows:

- Conningarth Economists (2013), 'Growing the Sugar Industry in South Africa', *National Agricultural Marketing Council*.
- Department of Agriculture, Forestry and Fisheries (South Africa) (2011), 'A Profile of The South African Sugar Market Value Chain'.
- Hess et al. (2016), 'A sweet deal? Sugar cane, water and agricultural transformation in Sub-Saharan Africa'.
- Imani-Capricorn (2001), *The Socio-Economic Contribution Of The South African Sugar Industry: A report prepared for the South African Sugar Association*.

²⁵ [IFC \(2013\), IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction](#)

²⁶ [ibid.](#)

- Chikuba, Z. et al. (2013) 'A 2007 Social Accounting Matrix (SAM) for Zambia', *Zambia Institute for Policy Analysis and Research (ZIPAR)*.
- Cruz A. S. et al. (2018) 'A 2015 Social Accounting Matrix (SAM) for Mozambique', *WIDER Working Paper 2018/20*.
- Kaliba, A. R et al. (2008), 'Economic multipliers for Tanzania: implications on developing poverty reduction programs', *Global Trade Analysis Project (GTAP)*.
- Lea and Hanmer (2009), 'Constraints to Growth in Malawi', *The World Bank (Southern Africa Poverty Reduction and Economic Management Unit)*.
- Levin and Mhamba (2007), 'Economic growth, sectoral linkages and poverty reduction in Tanzania', *World Bank*.
- McCarthy and Owusu-Ampomah (2007), 'Study to assess the impact of sugar mills on the surrounding communities as well as the impact of the South African Sugar Association's social spend (Part 1: The Broader Socio-Economic Impacts Of The SA Sugar Industry – An Overview)'
- National Department of Agriculture (South Africa) (2006), *Commodity Profile: Sugar*.
- Oxford Business Group (2012), *The Report: South Africa 2012*.
- South African Sugar Association (2016), *Industry Directory 2016-17*.
- Kavese, K. & A. Phiri, (2020), 'Micro-simulations of a dynamic supply and use tables economy-wide Leontief-based model for the South African economy', *South African Journal of Economic and Management Sciences*, vol 232(1).
- Mulanda. S. (2020), 'Structural Characteristics of Zambia's Agricultural Sector and the Role for Agricultural Policy: Insights from SAM based Modelling', Stellenbosch University, South Africa.
- Phoofolo, M. L. (2018), 'Analysis of the economic impact of a disaggregated agricultural sector in South Africa: A Social Accounting Matrix (SAM) multiplier approach', Stellenbosch University, South Africa.

Impacts on GDP

The main method of estimating economic multipliers is by using macro- and micro-economic data and technical procedures to create a Social Accounting Matrix (SAM). We have identified three main studies which have applied this method to the sugar industry in southern Africa, described below:

- Conningarth Economists (2013) used a SAM-based model for South Africa in 2010, estimating the sugar industry's direct impact on South African GDP at R2,191 million, its indirect impact at R1,316 million and its induced impact at R2,287 million. This implies an indirect multiplier of 0.60 and an induced multiplier of 1.04 giving an overall multiplier (including direct, indirect and induced impacts) of 2.64.
- Kaliba et al. (2008) created a 2004 SAM for Tanzania in order to estimate economic multipliers for a number of sectors. The study found that agro-processing industries had the highest economic multipliers (greater than 3), while sectors with the lowest multipliers (at or close to 1) included export-oriented agricultural sectors, such as coffee, cotton, tobacco and cashew nuts. The multiplier estimated for sugar cane growing is 1.51 (including an indirect multiplier of 0.22 and an induced multiplier of 0.29), while the multiplier for the processed food sector is 3.10 (indirect 0.88, induced 1.22). The overall multiplier for the sugar industry as a whole is therefore assumed to be somewhere between the two.
- Phoofolo (2018) built upon a SAM for South Africa conducted in 2014, a more recent model than that of Conningarth Economists. His study quantified the economic impact of the

disaggregated agricultural sector within the South African economy using this SAM multiplier model, calculating a combined indirect and induced impact for financial stimulation in both the sugar crops (cane, beet, beet seeds etc.) and refined sugar sectors. These were 1.61 and 1.2 respectively, so when an average is taken between the two and aggregated with direct impact, the overall multiplier across both sectors is assumed to be around 2.4.

- Mulanda (2020) conducted a SAM-based multiplier analysis for Zambia, providing country-specific data not available for the previous impact assessment. His analysis produced a combined indirect and induced impact for the Zambian sugar cane sector of 1.4, making the overall multiplier (including direct impact), 2.4.

These multipliers, since they are based on the sugar industry on the whole, only account for forwards and backwards linkages with other industries, and so do not account for the multiplier effects of ISA's purchases of sugar cane from growers. In our reports, grower spending is therefore accounted for before the multipliers are applied.

The following table outlines the economic multipliers used in this report. These have been based conservatively on the findings of the studies outlined above. Looking at the most recent studies (2018, 2020), the average overall multiplier in the sugar sector is 2.4. Additionally, since the 2001 study by Imani-Capricorn referenced in the 2016/17 impact assessment, there has been a slightly decreasing trend in the induced multiplier across the countries analysed. We have therefore made a slight adjustment to the 2020/21 induced multiplier, reducing it by 0.1, bringing the overall multiplier to 2.4.

Direct multiplier	+	Indirect multiplier	+	Induced multiplier	=	Overall multiplier
1		0.6		0.8		2.4

While reliable studies for Malawi, Mozambique, or Eswatini are not available, the multipliers for these countries can be assumed to be roughly similar, but dependent on the proportion of domestic versus international procurement and sales in each country. Given that international procurement is often primarily in South Africa and other neighbouring countries, multipliers have not been adjusted. However, some leakage may not be accounted for.

Impacts on employment

As noted above, the sugar industry is relatively labour-intensive and creates significant opportunities for small-scale growers, meaning that it has high employment multipliers.

Levin and Mhamba (2007) use economic modelling in order to estimate the impact on employment and poverty of various industries in Tanzania. They find that overall, agriculture has the largest impact on employment of all sectors. Within the agricultural sector, sugar has the third-highest total employment multiplier, after cashew nuts and fishing. However, sugar also has the highest impact in terms of "pro-poor" (poverty-reducing) employment, and is also found to have one of the highest impacts of all industries on female employment.

We conducted additional desk-based research to identify any studies academia published after 2017 to supplement our analysis of employment multipliers in southern Africa. Several studies have estimated indirect and induced employment for the sugar industry, again mainly in South Africa, including an additional 2020 study. These are described below:

- Imani-Capricorn (2001) estimated direct employment in sugar cane farming, milling, refining and support institutions at 136,671, and indirect employment in upstream and downstream

industries at 118,000 (using 2000 figures from the Board on Tariffs and Trade). This implies an indirect employment multiplier of 0.86.

- Conningarth Economists (2013) offer two alternative sets of figures:
 - Their own SAM-based model gives direct employment (including small- and large-scale farms; mills; and industry support organisations) of 93,990, indirect employment of 7,356 and induced employment of 11,663, giving an indirect employment multiplier of 0.08 and induced of 0.12 (giving a combined multiplier of 0.2).
 - Meanwhile, figures provided by the South African sugar industry put direct employment at 106,796 and indirect/induced employment at 21,915, giving a similar combined indirect/induced multiplier of 0.21.
 - The difference between these two sets of multipliers is due to the assumptions used to estimate farm employment. The industry used a figure of 0.23 jobs per hectare under cane, whereas Conningarth Economists assumed a more conservative figure of 0.17 per hectare.
- Kavese & Phiri (2020) offered a revised set of figures for the agricultural sector in South Africa as a whole, estimating the indirect multiplier to be 1.119 and the induced 0.345. While their analysis gave a regional breakdown of different employment multipliers, including KwaZulu-Natal, they were not specified to be agriculture and have not been considered.
- South Africa's National Department of Agriculture (2006) estimates that the sugar industry directly employs 85,000 people and indirectly employs a further 265,000, implying an indirect employment multiplier of about 3.12. The total figure of 350,000 jobs has been widely quoted, including in subsequent reports by the South African Sugar Association and Department of Agriculture, Forestry and Fisheries, as well as by McCarthy and Owusu-Ampomah (2007), Conningarth Economists (2013) and Hess et al. (2016). However, the methodology used to arrive at the figure is not made clear. McCarthy and Owusu-Ampomah (2007) state that it was calculated using the Imani-Capricorn (2001) GDP multiplier of 3.2, rather than an employment multiplier. It has therefore not been used in this report.

After reviewing the studies gathered from both our 2017 and 2021 reports, we noted that there was little change overall to employment multipliers in the southern African sugar sector. Our reports, therefore, continue to use the Conningarth Economists' (2013) SAM-based multipliers in order to give a conservative estimate of indirect and induced employment. As with the economic multipliers, these have been applied to ISA's own employment in each country, plus estimates of employment through growers.

Direct multiplier	+	Indirect multiplier	+	Induced multiplier	=	Overall multiplier
1		0.2		0.86		2.06

Impacts on dependents

The sugar industry's impact on livelihoods does not end with those whom it employs. The poor, rural areas in which the sugar industry is primarily based means that there is a significant impact on workers' dependents (i.e., immediate and extended family).

The following table shows data on average household sizes, taken from the national statistics of each country. Where possible, figures are for the region(s) in which ISA operates. In the case of

Eswatini, no national data sources are available, so a figure has been taken from the World Health Organisation.

Country	Region	Average household size ²⁷
Malawi	Rural	4.3
Mozambique	Maputo City	4.4
South Africa	KwaZulu-Natal	3.3
Eswatini	National average	4.7
Tanzania	Morogoro Region	4.9
Zambia	Southern Province	5.1

²⁷ Sources for each country can be found in the corresponding country report.